

No. \_\_\_\_\_

COURT OF APPEALS, DIVISION II  
OF THE STATE OF WASHINGTON

In re Personal Restraint Petition of  
Heidi Charlene Fero

**DECLARATION OF  
HEIDI CHARLENE FERO**

I, Heidi Fero, being competent to testify regarding the matters stated herein, declare under oath as follows:

1. I have spent years in prison for a crime that I did not commit. I do not know for sure what happened to Brynn Ackley on the night of January 7, 2002, but I know that I did not hurt her.

2. During my trial, I sat in disbelief as the State's medical experts said that I did horrible things to Brynn. I never hurt Brynn, and I have never hurt any other child. It would have been completely against my nature to hurt Brynn. I have always been a compassionate and gentle caregiver, not the monster that the prosecutor made me out to be. Because I do not believe that this came through adequately at trial, I describe below my background and nature.

3. I also describe below my experience in prison. Even though I know that I did not hurt Brynn, I have tried to make my experience in prison as positive as possible. I have maintained very close ties with my family and community, have not had any disciplinary problems, and have tried to be a role model and mentor for other inmates.

4. I do not have any medical training, and it is impossible for me to keep up with the medical research on shaken baby syndrome. But, I am thankful that the new research proves what I have known all along—that I did not hurt Brynn.

5. Before the night that Brynn went unconscious at my house, many friends and neighbors had trusted me to watch over their children. I always treated those children with patience, care, and respect, never violence. There has never been an instance, other than with Brynn, where someone has thought I harmed a child.

6. My method of disciplining children has always been to try to talk through issues with them and, if that doesn't work, use time-outs or remove privileges. I do not hit or spank children, and I never hit, spanked, or physically harmed Brynn in any way.

7. My friends and family have often looked to me for advice on parenting. For example, my brother, Kristian Burch, asked me for advice on dealing with his daughter's tantrums. I have experience—from raising

my own children and watching other children—dealing with tantrums and crying kids. Although I certainly empathize with crying children, I have never gotten angry or lost my temper with them.

8. I would never hurt anyone, let alone a child. The prosecutor argued during my trial that I "lost it" and hurt Brynn, but I did not "lose it" that night and I have never "lost it" in any other situation.

9. I did not lose my temper with Brynn, but I no doubt seemed hysterical on the 911 call, to the paramedics, and to the police. I was extremely upset by what had happened. Although I didn't know then, and don't know now, who or what hurt Brynn, I was horrified when she went unconscious. I was scared for her and her family, and I did not know what to do. I don't remember ever being in such a terrifying situation before then.

10. Although I was distraught over Brynn's condition, I was not angry or frustrated with her that night. Before this case, nobody ever criticized me for getting angry, whether with adults or with children.

11. After the prosecutor accused me of hurting Brynn, the state took my children away. After conducting a full investigation, DSHS decided that I was not a danger to my children and returned them to me.

12. When I arrived at the Washington Corrections Center for Women (WCCW) in 2006, I was terrified that I would lose my 3 children.

Although this whole ordeal has been very hard on me and my family, I've done everything within my power to be a loving and supportive mother.

13. Being a parent from prison has been a huge challenge. To stay connected with my children, I have worked with WCCW, my family, my children's schools, and others to create a network, or "village," to help me parent from prison. It has been especially challenging over the last year or so. I was diagnosed with breast cancer in January of 2013. I went through 12 weeks of chemotherapy and 6 weeks of radiation therapy, and a mastectomy, and was in the hospital for a week. My treatment successfully ended in July of 2013.

14. Because of this network, I actively participate in my children's lives. I talk with and see my children as much as I can, and try to do everything I can to make sure their lives are as normal as possible. I participate in their parent-teacher conferences, read to them at night, and help them with their homework. I'm involved in Rachel's Girl Scout troop, which has one sleepover a year at the facility, and I've helped Rachel sell cookies. I have also been granted permission to have extended family visits. These are 48-hour visits on-site at WCCW that happen every six to eight weeks. To get this privilege, you have to remain major infraction-free for a year, and only 10% of inmates qualify. The privilege

can be suspended for an infraction, and suspensions can last for between 90 days and five years. I have never been suspended.

15. I've drawn on my experience setting up this network to help other mothers in prison. I am a core-council member and founder of The Women's Village (a brochure for the program is attached as Exhibit A). The Women's Village supports inmates as they try to change their lives and community in positive ways. The Women's Village has been featured in "The Daily Communique," a Department of Corrections newsletter (the article is attached as Exhibit B – I am in the picture at the bottom right). Last year, I had the opportunity to speak with First Lady Inslee, Secretary Warner, Deputy Secretary Pacholke and others about The Women's Village, and attach a "Memo of Appreciation" for my efforts as Exhibit C.

16. I am also the leader of the Family Support sub-council of The Women's Village. That sub-council facilitates parenting groups, hosts workshops, and creates and supports other ways to build positive family relationships.

17. In addition to my work with The Women's Village, I am a senior facilitator for the "Mom's" group, which is a 2 1/2 hour orientation for mothers just arriving at WCCW. The orientation supports building healthy relationships with children and their caregivers, and encourages communication and honesty.

18. I'm also the facilitator and co-creator of "Finding Your Voice" and "Create A New You," workshops that are designed to encourage and foster growth and change among women who struggle with issues like low self-esteem and anger.

19. Additionally, I'm the senior facilitator for National Parenthood Initiative/Moms Involving Dads/Inside Out Moms, a class that teaches communication skills to help inmates and caregivers deal with parenting issues. I've attached a thank-you letter I received for this work as Exhibit D.

20. Through all of these programs, I have helped numerous women stay connected with their children despite incarceration. Many of these women have written me letters of thanks, and I've attached four examples. (Exhibits E, F, G, & H).

21. While I have spent as much time as possible focusing on my family and helping other inmates stay connected to their families, I have also taken college course work to prepare me for my eventual release. I completed a Sociology 101 course through Ohio State University, received certifications in HIPPA and Case-Aid through the State Department of Health and Human Services, and taken courses in Technical Design (computer-aided drafting) and Ornamental Horticulture and Design through Tacoma Community College.

22. I have not caused any trouble since coming to prison, and my disciplinary record is excellent.

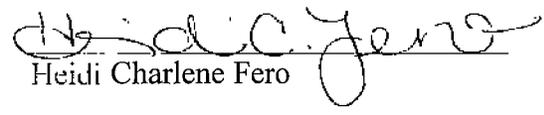
23. I did not hurt Brynn, and I know that I should not be in prison. However, I have tried to make the best of this situation by caring for my children, supporting other inmates, and improving myself while here. I want nothing more than to be completely reunited with my family, and pray that the new medical evidence discussed in my personal restraint petition helps you see the truth of my innocence.

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DECLARED under penalty of perjury according to the laws of the State of

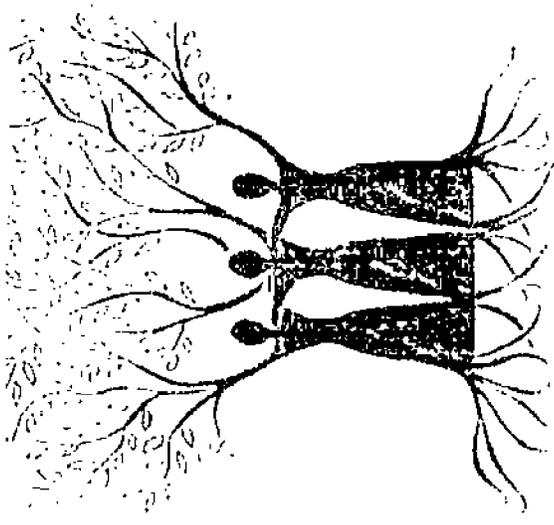
Washington, this 5<sup>th</sup> day of ~~March~~<sup>May</sup>, 2014, at

Gig Harbor, Washington.

  
Heidi Charlene Fero

# **Exhibit A**

# The Women's Village



**Mission Statement:** To encourage & foster an atmosphere of change in our community, by harnessing our unique strengths, together as individuals to create a new culture based on the pursuit of personal excellence!

The Women's Village is a group of individuals who support a set of common values and who are committed to change, both in ourselves and in our community. Anyone who is committed to supporting The Women's Village values can be a member of The Women's Village. The following are a list of values that we have chosen to ascribe to and what they mean to us.

**Respect:** to set personal and social boundaries and make our expectations clear, live and lead by example, pick up after ourselves, avoid other's drama, treat others as we wish to be treated, take care of ourselves mentally and physically, and to practice good hygiene.

**Honesty:** being and living free from deception have high moral standards for self and others take responsibility for our thoughts and actions, ensure that my words match my actions.

**Compassion:** feel for the suffering of others, accept others, understand they hurt the same way that I do, be aware that there are many ways to respond to any given situation, be kind to self and others, be conscious of others distress.

**Diversity:** awareness that different cultures and perspectives exist, accepting that everyone has something to contribute, accepting and including those who are different from myself.

**Self Empowerment:** the freedom to be me, to realize and experience my full potential, enrich my life through my interactions with others, recognize and apply life lessons of

others, understand and embrace that discipline is freedom.

**Education:** embrace learning and growth, willingness to expand my experience, willingness to change my perspective about the world around me, develop myself mentally, emotionally, physically and spiritually, be well informed, challenge my values, commit to follow through with what I begin, put into action what I learn.

**Usefulness:** Employment of action or talent, make a benefit from what already exists, put resources to work, maintain a balance of internal and external energies in my actions.

## **The Village Sub Councils:**

We discovered that as we started to make changes in our lives for the better, we were passionate about being a part of something bigger than just ourselves. We developed what we refer to as sub councils, which are small groups that pertain to a specific area surrounding that passion. We currently have 9 sub councils and as time goes on and more people join The Village our hope is that this number will grow as we become more aware of others and their passions as well. There are certain criteria one must meet to become a part of a sub council the following is a list of the sub council's and those criteria.

**Education:** The education team will seek out village members who have skills and or formal education and will be willing to help other offenders with educational needs They will work with offenders who have learning disabilities to help them achieve their goals.

**Peer Support:** The peer support team will have two levels of support in the form of village guides and peer mentors. Guides are temporary sponsors that will help offenders who

need assistance in dealing with the realities of prison life. They will be available to give information and answer questions or to direct offenders in the direction to get their questions answered. Peer mentors are village members who have had training to deal with specific issues like domestic violence and can be a support system for offenders that need it. They will work directly with mental health staff to provide this type of support.

**Environmental:** The environmental team will create sustainable programs and get women involved in creating a sustainable environment. They will create opportunities for women to get involved in recycling and teach others to do the same.

**Morale building:** This team will bring back a sense of order and respect within the institution by promoting a positive change in the way women deal with their feelings.

**Health & Wellness:** This team will facilitate wellness classes to include physical health, nutrition, mind, body and spirit.

**Violence Reduction:** This team will gauge the environment within the institution and come up with ways to reduce the violence.

**Re-Entry:** This team will facilitate programs that will help with the re-entry process like job readiness classes, resume workshops and dressing for success.

**Spirituality:** This team will give individuals a chance to explore their beliefs and learn how to apply them to life.

**Family Support:** This team will help to facilitate parenting groups, create positive ways to build on family relationships, and host workshops gauged around family dynamics.

## **Exhibit B**



## The Daily Communique

### The Women's Village: A Source of Change for Incarcerated Women

By Rowlanda Cawthon, East Team Leader, Communications

Principles behind the mantra, "It takes a village to raise a child," have been adopted by a group of dedicated offenders at the Washington Corrections Center for Women. Both offenders and staff at the prison wanted to foster a positive community environment and propel women to shift their thinking, so they formed the Women's Village group to develop an approach that would change the prison culture.



Associate Superintendent Margaret Gilbert, center, joins offenders at Washington Corrections Center for Women who are hoping to change the culture of the prison through a new approach called Women's Village.

With the cuts to offender programming, the women realized the need to tap existing resources to foster a sense of growth, collaboration and commitment.

"The Women's Village has been a great way for the women to really start thinking about their lives and how they can influence each other," said Associate Superintendent Margaret Gilbert. "We've managed to get some staff on board and we are certain this project can change the culture of the prison."

The mission of the Women's Village is, "To encourage and foster an atmosphere of change by harnessing our unique strengths together as individuals and to create a new culture based on the pursuit of personal excellence."

The term Women's Village was created by Psychology Associate Robert Walker and offenders developed the purpose, values and structure of the program.

"The project offers the women a unique opportunity to share their personal experiences

and knowledge to inspire each other to change and make positive contributions to the community in which they all live — the prison,” said Walker.

A village council serves the Women's Village in an advisory and governing capacity to provide leadership and direction. There are ten women on the council who work incredibly hard to create a healthier prison atmosphere. Their criminal backgrounds vary as do their custody levels, but this doesn't hinder their unified commitment.

Jeannette Murphy who has been incarcerated for 28 years firmly believes that the Women's Village is a practical resource.

“One goal of the village is to keep the women busy,” said Murphy. “If we can help keep the women busy and assist them in finding their passion, we can address problems before they escalate and greatly reduce violence. We can work together to prevent another Jayme Biendl incident from occurring where we live.”

As the project evolved, the women unanimously agreed that they needed to identify their passions and create work opportunities around what genuinely made them happy. This resulted in the formation of nine sub-councils that serve as a means to get women engaged in something bigger than themselves.

- **Violence Reduction Team** – Responsible for gauging the prison environment and identifying ways to reduce violence.
- **Health and Wellness Team** – Facilitates wellness classes to include women's health, nutrition and daily health routines.
- **Educational Team** – Assist offenders with their educational needs and work with offenders who have learning disabilities to help them achieve their goals.
- **Environmental Team** – Creates sustainable programs and get women involved in creating a sustainable environment.
- **Peer Support Team** – Help offenders who need assistance in dealing with the realities of prison life. Peer mentors also work directly with mental health staff.
- **Morale Building Team** – Bring back a sense of order and respect within the prison by promoting a positive change in the way women deal with their feelings.
- **Reentry Team** – Facilitates programs that will help with the reentry process including but not limited to job readiness classes, resume workshops and dressing for success.
- **Spiritually Team** – Gives women a chance to explore a variety of beliefs and become more in tune with their own, whatever they may be.
- **Family Support** – Facilitates parenting groups, create positive ways to build on family relationships, and host workshops centered on family dynamics.

Each team is lead by a council member who has a sincere passion for the work required. Women interested in the Women's Village must officially become a village member by participating in three orientations, two accountability circles, and committing to engage in two self-help groups or classes offered at the prison.

The orientations are lead by the council members and staff, and give an overview of the purpose and values of the Women's Village. The women are also given an opportunity during orientation to develop personal goals that will enable them to create a vision of who they are and who they are becoming. Accountability circles provide the women with an opportunity to meet regularly to discuss issues or problems they are facing, to set goals to address these issues, and to brainstorm ways to accomplish the goals.

**"We are a group of women who want more for ourselves and we want the women around us to feel the same way,"** said Offender Renee Curtiss. "Having women believe in you and hold you accountable is the key to changing attitudes and behaviors, and that's what we are all about."

The values of the program are respect, honesty, compassion, diversity, self-empowerment, education and usefulness. These beliefs have been the driving forces behind the members' ability to assist offenders in transitioning from intensive management unit to less restrictive custody, developing recycling and gardening programs, and simply getting women to be a source of change for each other within prison walls.

**Do you like this story?**

**The idea was submitted by a staff member at Washington Corrections Center for Women! If you know of a story that would make a great Daily Communiqué article, please email the communications unit.**

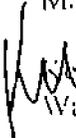
# **Exhibit C**



STATE OF WASHINGTON  
**DEPARTMENT OF CORRECTIONS**  
**WASHINGTON CORRECTIONS CENTER FOR WOMEN**  
9601 Bujacich Road NW • Gig Harbor, Washington 98332 • Tel (253) 858-4200

July 26, 2013

**TO:** Heidi Fero DOC #891886  
MSU

**FROM:**  Kevin Mauss, Associate Superintendent of Programs  
Washington Corrections Center for Women

**SUBJECT: Memo of Appreciation**

I want to recognize your efforts in providing First Lady Inslee, Secretary Warner, Deputy Secretary Pacholke and other guests such a memorable impression of The Women's Village. In addition to your programming and work schedule, you spent extra time preparing for this event and making it a huge success. You are greatly appreciated.

You have made a positive investment with your time and work with both active and aspiring members of The Women's Village to assist in creating a positive environment for yourself and others.. Thank you for your dedication, commitment and willingness to share your time and resources working with the offenders at the Washington Corrections Center for Women as a Council member of The Women's Village.

Your efforts do not go unnoticed.

KM:km  
cc: Counselor  
Central File  
File

## **Exhibit D**

# CARTER Design

## "Community Involvement"

December 1, 2013

This letter of appreciation is hereby granted to Heidi Fero for co-facilitating another Inside Out Moms / Moms Involving Dads. This six-week course is geared to educate and assist moms in building a healthy and positive family environment. One of the primary goals is to reduce recidivism and ultimately eliminate incarceration within their families. The curriculum is focused on redefining the family structure from a distance through Involvement, Consistence, Awareness, and Nurturing among other critical tools for children to be successful. Co-facilitators are examples for other incarcerated parents to strengthen father-child, mother-child, care-giver child relationships.

As a co-facilitator, there are times when you have shared a personal moment and may have put yourself in a vulnerable situation, yet your focus was on helping someone else. Furthermore, as a co-facilitator, in your current environment, you continue to persevere for others and can be viewed as a role model.

"Carter-By-Design" Community Involvement" is working to help families' rebuild relationships, absent parents connect with their children, and support parents' develop a village to help nurture their children. Carter-By-Design "Community Involvement" believes in the power of serving people and communities to start building a better world today, to ensure a stronger community tomorrow.

"Fruit of the Spirit" Galatians 5:21

Thank you,



Patrick Carter  
Program Director - Facilitator  
Carter-By-Design "Community Involvement"

# **Exhibit E**

October 18, 2011  
Oh-yut-lah-mah Keating #876615  
Washington Corrections Center for Women  
9601 Bujacich Rd NW  
Gig Harbor, WA 98332-8300

Subject: Character Letter for Heidi Fero

Dear Sir or Madame:

My name is Oh-yut-lah-mah Keating. I am 35 years old and I am currently incarcerated at the Washington Corrections Center for Women in Gig Harbor, WA. I have lived and worked with Mrs. Fero for approximately five years and have become close with her and her family.

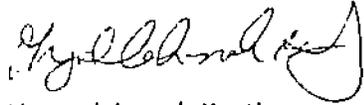
I know that Ms. Fero is here for 1<sup>st</sup> degree assault against a minor. I know that prison has impacted Heidi's life in a myriad of ways, some positive, some negative. Not only has she had to shed some preconceived notions about the type of people who come to prison, but Heidi has also come to understand how it is that she could positively affect others in her same situation. One of Heidi's biggest fears was also one of her biggest strengths: her family. She was afraid that due to her incarceration that she would lose her place in her family unit and that her influence in the lives of those she loves would be diminished. This prompted her to be an avid supporter of all family oriented programming within the facility. By her example, she taught other women that they each could build, maintain, and strengthen their family and community ties even in the face of adversity.

Before I got to know Heidi I had some very strong negative ideas about women that were here for similar crimes. I had no understanding or empathy for someone who could hurt a child. Being friends and roommates with Heidi changed my perspective about not only people who have been convicted of child crimes, but also the reality of a lifestyle with which I have no previous experience. Her example showed me that in my own life, I have the power to be a positive influence in the lives of my children and my husband. There are many women here who have had a bad familial history, and had no way to see life and family from the perspective that Heidi has, but since I've had the opportunity to meet her family, I realize that she had the type of upbringing that enabled her to look at things in a much more healthy and balanced way.

I know that in this experience in Heidi's life, she has learned so many valuable lessons. I know that she has become more aware of the plight of abused children, and how desperately advocates are needed to speak for those who don't usually have a voice. I didn't know her before she came to WCCW, but because of her incarceration, I know that she will not be silent when another's life is in danger. She has taught me that it is always acceptable to be the best person that one can be.

Thank you for taking the time to consider what I have to say and if you have any questions or concerns please feel free to contact me at the above address.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Oh-yut-lah-mah Keating'. The signature is fluid and cursive, with a large, sweeping flourish at the end.

Oh-yut-lah-mah Keating

# **Exhibit F**

10/26/2011

Dear Sir or Madame.

My name is Theresa Matheson and I am currently incarcerated at the Washington Corrections Center for Women (WCCW). I am writing concerning my friend and colleague Heidi Fero.

I first met Heidi at a *Toastmasters* meeting in 2006. We were both looking for ways to better communicate and were fortunate that the institution we were at offered *Toastmasters* as a programming opportunity. During this time, I had developed and was facilitating an orientation for women first arriving in prison called the *Mom's* group. The program had grown and we were looking for inmates that could effectively and compassionately convey the message of realistic hope to mothers who were incarcerated.

Heidi was submitted as a possible facilitator and was accepted in 2008. Heidi and I worked together not only in the *Mom's* group, but also co-facilitated the *Finding Your Voice* and *Create a New You* communication workshops. These workshops were created and facilitated by inmates for inmates, and focused on such topics as: self esteem, active listening, dreams and goals, choosing and changing values, and recognizing anger styles.

Heidi was an engaged and valuable asset to our team from the start. She used her experience as a mother to help other mothers and offered vital contributions to the formation and implementation of the communication workshops.

I also had the great opportunity to work with Heidi developing and implementing the Women's Village at WCCW. We developed the concept and worked hard to create the organizational structure along with twelve other dynamic and passionate women. I have included some information about the Women's Village so you might better understand this exciting community building project we have undertaken.

I feel fortunate that Heidi has been apart of my life. She has exemplified to me how to be a better mother and a better person. She cares deeply for her family and for the families of others. She shows this caring in tangible ways as she leads the family support sub council through the Women's Village. Her creative leadership has enabled many families to connect in ways that would not have been possible without her.

I am honored to call Heidi my friend as I am sure are all who have been lucky enough to get to know her. I believe that Heidi has grown and changed during her time at WCCW. She has gained a better understanding of those who come from different backgrounds and embraces diversity in a new way. She has a compassion for disadvantaged populations and desires to foster change in her community upon her release. I know that Heidi needs to be with her family and I feel it is a gross miscarriage of justice that she is even incarcerated.

I hope this letter helps Heidi in some small way. Please feel free to contact me if I can assist in any further way.

Sincerely,

A handwritten signature in black ink, appearing to read 'Theresa Matheson', written in a cursive style.

Theresa Matheson  
#810424 KB24  
9601 Bujacich Rd NW  
Gig Harbor, WA 98332

# **Exhibit G**

To whom it may concern: ... 06/15/11

I am writing this letter on behalf of my good friend Heidi Ferro. I have had the pleasure of knowing Heidi for over 3 years and throughout that time she has shown herself to be an honest, dependable, creative, family-oriented, caring individual. She is calm even in the toughest of situations, and practical even when it seems like the world is falling apart.

Heidi regularly steps up to the plate when things need to get done. She will organize projects, find volunteers, and stay up all hours of the night to see it all to completion. If she says she's going to do something it inevitably gets done, most of the time exceptionally well. She doesn't complain about helping out, even when there is no compensation or even a pat on the back for her. She is truly a good human being in her heart, not just for show.

When it comes to being a parent, Heidi has not only devoted herself to truly staying connected with her children despite being incarcerated, but also to helping other women learn how to reach out to their own children and sustain the mother-child bond. She has often

given me advice and helped brainstorm ideas of how to connect with my daughter. Her dedication inspires so many to be better parents and not give up hope regardless of their circumstances.

I feel lucky to have met Heidi. My life has been changed for the better by all that we have shared. She is an extraordinary woman and mother, and sets a high example for all of us to live up to.

Sincerely,

Alyssa Knight

# **Exhibit H**

Dear Whom it may concern:

June 19, 2011

My name is Marriam Oliver, currently incarcerated at WCCW. I'm writing this letter on behalf of Heidi Fero. In 2007 is when Heidi and I became acquainted with each other. Ever since, we have been very close friends, also former roommates. Being locked up for the past 10 years, there has been very few inmates that have made a huge impact on my life that way Heidi has. Heidi's passion, drive and determination are the first words best to describe Heidi as my first impression of her. The passion she has demonstrated to help the other mothers behind bars. Constantly giving them the encouragement to be an active role in their children's lives. Heidi is always putting her best foot forward to come up with new innovated ideas to help other mothers equip and prepare themselves while they are locked up and upon release. If there is a will or way to help mothers and children, trust and believe Heidi will find it to make things happens. Heidi's passion not only drives her to encourage other mothers, but make herself not only available to her friends, but any inmate that may need a "pick me up." I am always observing Heidi being kind and open-minded to people that would be avoided at all cost because they considered "different" than her typical set of friends. She will stand against her friends in the defense of what is right for all, which is; Treating others the way you would like to be treated- Respect. That's another great thing that I look up to Heidi about. She truly isn't a crowd follower, but clearly and positive role model. She stands strongly for her beliefs, even when she is standing alone. Heidi ceases to amaze me that she doesn't express any ill will against the justice system or the victim's family. Heidi continues to look at this journey as a way to find her purpose in life, than carry it out so this time locked up will not go in vain. It will be bittersweet to see Heidi leave, but the life changing impression she has made on my life will never be forgotten.

Sincerely,



Marriam Oliver

No. \_\_\_\_\_

COURT OF APPEALS, DIVISION II  
OF THE STATE OF WASHINGTON

In re Personal Restraint Petition of  
Heidi Charlene Fero

**DECLARATION OF  
DR. JANICE OPHOVEN**

I, Dr. Janice Jean Ophoven, M.D., being competent to testify regarding the matters stated herein, declare under oath as follows:

1. I am a medical doctor and am board-certified in anatomic pathology and forensic pathology. During my nearly 40-year career as a doctor, I have served in numerous capacities in the field of forensic pathology, such as a medical examiner, medical director and forensic pathologist. I am currently an independent consultant providing forensic pathology services, focusing primarily on cases involving allegations of child abuse and neglect. I have a special interest and expertise in co-called “shaken baby syndrome” or “abusive head trauma” cases in which violent shaking is alleged to be the cause of serious injury or death of a child. A copy of my curriculum vitae, detailing my education, experience, publications, written and oral testimony and other pertinent qualifications is attached as Exhibit A.

2. I was retained in this case to review and analyze the materials provided, conduct research into the current state of medical knowledge regarding abusive head trauma/shaken baby syndrome, and to evaluate the medical testimony provided in Ms. Fero's trial in light of recent advances in medical knowledge regarding abusive head trauma/shaken baby syndrome. I reviewed the testimony of the medical experts during Ms. Fero's trial, as well as medical records provided by counsel.

3. Brynn Ackley was 1-½ years old when she arrived to hospital on January 7, 2002, unresponsive with evidence of complications of head injury. She was admitted with a diagnosis of nonaccidental injury and treated for left subdural hematoma, significant left to right shift and probable infarction of most of the left cerebral cortex. Multiple bruises to the face were noted and a non-displaced left tibial spiral fracture was documented. She was taken emergently to the OR for left craniotomy. Diffuse cerebral edema was present and retinal hemorrhages were noted.

4. I am familiar with the medical literature regarding abusive head trauma and shaken baby syndrome.

5. According to the testimony of the prosecution's medical experts at trial, an adult violently shook Brynn, causing Brynn's subdural hematoma, cerebral edema and retinal hemorrhages. Additionally, they testified that Brynn would have lost consciousness almost immediately after being

shaken; therefore, they concluded that Brynn was shaken shortly before 9 p.m., when Heidi Fero was the only adult in the house.

6. Based on the medical records, my review of the literature, and my experience as a pediatric forensic pathologist, and as explained more fully below, it is my opinion that much of the medical testimony presented during Ms. Fero's 2003 trial is no longer scientifically valid in light of recent advances in the medical community's understanding of the natural, accidental and non-accidental causes of cerebral edema, subdural hematoma and retinal hemorrhages.

7. Additionally, based on the above materials and my experience as a forensic pathologist, it is my opinion that Brynn suffered a traumatic brain injury, although it cannot be determined from the existing medical evidence whether the injury was accidental or non-accidental, or whether it was caused by an adult or a child. From the medical evidence, and as explained more fully below, it cannot be determined exactly when Brynn suffered her injuries. However, the conclusion offered by the prosecution experts at trial that Brynn suffered her injuries shortly before the 10 p.m. 911 call is not supported by current medical literature. It is more likely that Brynn suffered her injuries between 12 and 24 hours before she arrived at the hospital.

#### **New Medical Literature Since the 2003 Trial**

8. It is now generally accepted that a broad range of phenomena, including accidental falls from a very short height, could cause injuries like Brynn's. P. Barnes, *Imaging of Nonaccidental Injury and the Mimics: Issues and Controversies in the Era of Evidence-Based Medicine*, 49 RADIOLOGIC CLINICS OF N. AM. 205 (2011).

9. In fact, examples of similar injuries from short (30 inch) falls leading to injuries significantly worse than Brynn's exist in the literature. S. Denton & D. Mileusnic, *Delayed Sudden Death in an Infant Following an Accidental Fall: A Case Report with Review of the Literature*, 24 AM. J. FORENSIC MED. & PATHOLOGY 371 (2003). Particularly striking from that example is that the child appeared completely symptom-free for about 72 hours after the fall that led to his death.

10. Additionally, it is now generally accepted that a short fall, such as a fall from a chair, can cause cerebral edema, subdural hematoma and retinal hemorrhages. A child is more than capable of causing such injuries, and examples of children injuring other children (whether accidental or not) exist in the literature. GT Lueder *et al.*, *Perimacular Retinal Folds Simulating Nonaccidental Injury in an Infant*, 124 ARCH. OPHTHALMOLOGY 1782 (2006).

11. Finally, it is now generally accepted that a child can be lucid, and appear essentially symptom-free (at least to a layperson) for up to 72 hours

after suffering injuries that manifest as cerebral edema, subdural hematoma and retinal hemorrhages. K.B. Arbogast *et al.*, *Initial Neurologic Presentation in Young Children Sustaining Inflicted and Unintentional Fatal Head Injuries*, 116 PEDIATRICS 180 (2005).

12. In 2003, many medical professionals believed that if a child presented with a triad of symptoms, including cerebral edema, subdural hematoma and retinal hemorrhages, that was exclusively diagnostic of abuse by violently shaken. Although there was some controversy about the mechanism of injury—some studies suggested that shaking alone generated sufficient force to cause the injuries while others suggested that shaking alone was insufficient and that a concurrent impact was necessary—there was little dispute in the medical literature that either shaking alone, shaking plus impact, or major accidental trauma were the only causes of the triad of symptoms.

13. In fact, the American Academy of Pediatrics (“AAP”) issued a position paper in 2001 stated categorically that the “constellation” of injuries, meaning cerebral edema, subdural hematoma and retinal hemorrhages, “does not occur with short falls, seizures, or as a consequence of vaccination.” American Academy of Pediatrics, Committee on Child Abuse and Neglect, *Shaken Baby Syndrome: Rotational Cranial Injuries—Technical Report*, 108 PEDIATRICS 206-

210 (2001). Instead, the AAP stated that that the injuries were the result of such violent shaking “that individuals observing it would recognize it as dangerous and likely to kill the child.”

14. Also in 2001, the National Association of Medical Examiners (“NAME”), of which I am a member, issued a position paper stating that shaking caused diffuse axonal injury (which led to cerebral edema), subdural and subarachnoid hematoma or hemorrhages and retinal hemorrhages. That paper noted that “[s]tudies in children with nonaccidental head injuries also indicate that they show an immediate decrease in their level of consciousness at injury. Individuals sustaining diffuse brain injury of moderate to severe degree become symptomatic immediately.” M.E. Case *et al.*, *Position Paper on Fatal Abusive Head Injuries in Infants and Young Children*, 22 AM. J. FORENSIC MED. & PATHOLOGY 112-122 (2001).

15. In the 10 years since the AAP and NAME position papers were published, significant advances in the medical understanding of head trauma in children have cast significant doubt on the theory that shaking alone, or even shaking plus impact, causes cerebral edema, subdural hematoma and retinal hemorrhages. In 2009 AAP, noting that “advances in the understanding of the mechanisms and clinical spectrum of injury associated with abusive head trauma compel us to modify our terminology

to keep pace with our understanding of pathologic mechanisms,” issued a new paper that acknowledged that “mechanisms and resultant injuries of accidental and abusive head injury overlap” and that medical diseases can mimic the symptoms that AAP previously believed to be caused solely by violent shaking. American Academy of Pediatrics, Committee on Child Abuse and Neglect, *Abusive Head Trauma in Infants and Children*, 123 PEDIATRICS 1409-11 (2009).

16. Although “shaken baby syndrome” and “abusive head trauma” are medically-controversial terms, it is now generally accepted in the medical community that an ever-widening array of natural and accidental events can cause the symptoms once thought to be diagnostic of shaking baby syndrome. The causes of these injuries can be grouped into five categories: vascular, congenital, infections, metabolic and traumatic. For traumatic causes, it is now generally accepted that it is impossible to distinguish—based on the diagnostic triad—between traumatic injuries that were caused accidentally and those that were caused intentionally.

17. Additionally, each of the individual components of the diagnostic triad are much more strongly correlated with events other than shaking. For example, retinal hemorrhages have been recently observed in infants with meningitis. J.P. Lopez et al., *Severe Retinal Hemorrhages in Infants*

*with Aggressive, Fatal Streptococcus Pneumoniae meningitis*, 14 J. AM. ASSN. FOR PED. OPHTHALMOLOGY & STRABISMUS 97 (2010).

18. It is now generally accepted in the medical community that a child can have a lucid interval of up to 72 hours after suffering an injury that results in cerebral edema, subdural hematoma and retinal hemorrhages. The scientific explanation for a period of consciousness following head impact is related to complex intracranial physiology commonly referred to as intracranial equilibrium. Adjustments in intracranial pressure and volume occur over time to preserve normal circulation [perfusion] to the brain cells. When intracranial equilibrium fails, perfusion ceases, consciousness is lost, and cardiopulmonary collapse develops.

#### **Brynn Ackley's Injuries**

19. Nothing in the materials that I reviewed suggested that there were vascular, congenital, infectious or metabolic causes for the cerebral edema, subdural hematoma or the retinal hemorrhages that Brynn had on the night of January 7, 2003. However, I note that Brynn's treating physicians appear to have very quickly decided that Brynn was abused, and did not develop and perform differential diagnosis testing. Because her treating physicians did not perform diagnostic tests to rule out other potential causes of Brynn's symptoms it is not possible for me to assess whether any of them caused Brynn's symptoms. Therefore, my review

focused on whether there was any basis, in light of the whole medical record and current medical literature, to conclude that Brynn was violently shaken.

20. In my opinion, and in light of the recent medical literature, there is no scientific basis to conclude, to a reasonable degree of medical certainty, that Brynn was violently shaken. The medical record suggests that Brynn suffered a traumatic injury of uncertain origin, and it is impossible to tell when that injury occurred. However, the cerebral edema, subdural hematoma and retinal hemorrhages are consistent with the injuries that could occur from a short (less than 3 foot) fall or from injuries caused by a child. Moreover, the medical evidence and literature does not support the conclusion that Brynn was violently shaken.

21. In fact, because of the advanced state of the cerebral edema that Brynn presented with when she first arrived at the hospital, it is much more likely that she was injured more than 12 hours before arriving at the hospital. Theoretically the time window for Brynn's injury is as far out as 48-72 hours. There is no scientific evidence in this case to support the opinion that the injury occurred shortly before 911 was called.

22. The older shaken baby syndrome literature hypothesized, without supporting evidence, that shaking a small child caused severe rotational and acceleration/deceleration on the brain. It was believed that these

forces caused the brain to move around inside the skull, so much so that individual nerve cells tore. This injury, called Diffuse Axonal Injury (DAI), is often found in people that have suffered major trauma.

23. Recent medical literature shows that DAI is rarely, if ever, present in cases of non-accidental trauma in children. Instead, there is growing support for the hypothesis that lack of oxygen to the brain, or hypoxia/ischemia, is the mechanism for causing cerebral edema and not, as was asserted at trial, axonal shearing. Rather, it is the loss of oxygen to the brain and subsequent cell death. Recent medical literature suggests that this process takes well more than 12 hours to reach the levels observed in Brynn's first CT scan.

24. Based on the new medical evidence regarding lucid intervals and the mechanism and timing of the development of cerebral edema, I have concluded, to a reasonable degree of medical certainty, that Brynn was injured at least 12 hours before her first CT scan, which would have been before Brynn was dropped off at Heidi Fero's house. Moreover, the medical testimony in the trial of Heidi Fero is scientifically unsound. The medical evidence does not support the theory that Brynn was injured by "shaking", or that she was injured within an hour or two of being rushed to the hospital.

25. The new medical evidence presented above directly contradicts the positions of the prosecution's experts at trial. In my opinion, the opinions of Dr. Lukschu, Dr. Gorecki, Dr. Ockner, and Dr. Bennett are no longer generally accepted within the medical community.

26. According to the records I reviewed, Brynn began receiving medical care from paramedics at about 10 p.m. on January 7, 2002. She was transported to Southwest Medical Center. Brynn's condition at the time she began receiving care, but specifically at the time she arrived at Southwest Medical Center, is not consistent with an injury that occurred acutely in the preceding hour. When Brynn arrived at the hospital, she was in extreme decline. A CT scan conducted shortly after her arrival showed advanced edema, or brain swelling. It is clinically improbable that a child would have this degree of brain swelling from an injury occurring just an hour before, as claimed by the prosecution.

27. The medical evidence is also inconsistent with the manner of injury alleged by the prosecution. There were no signs that Brynn was tightly gripped by her shoulders or otherwise while being shaken, and no signs of whiplash or other neck injuries associated with rapid acceleration and deceleration. There has not been scientific/biomechanical evidence to verify that shaking a child Brynn's size and age could generate sufficient force to produce the medical findings in this case.

28. The trial testimony of the ophthalmologist, Dr. Shawn Goodman, was scientifically incorrect. Dr. Goodman testified that trauma is the only explanation for the hemorrhaging in Brynn's eyes. The actual mechanism for retinal hemorrhage is not understood and can occur in a variety of conditions. Years ago, the presence of retinal hemorrhages was thought to be a confirmatory finding for the theory of shaking as a cause of brain damage in child abuse cases. Unfortunately, this medical symptom was only associated with shaking in retrospect, and without a scientific basis.

29. Recent literature has called into question the use of this finding to support a theory of shaking. There is currently no scientific model to explain why retinal hemorrhages would or can be associated with abusive shaking. It is now well known that retinal hemorrhages are found in natural deaths, as well as accidental and nonaccidental deaths. Causes of retinal hemorrhages include coagulopathy (bleeding disorder), infection and increased intracranial pressure. Brynn's cerebral edema would have caused increased intracranial pressure, meaning that the retinal hemorrhages were a byproduct of Brynn's cerebral edema, not an independent injury diagnostic of child abuse. The intracranial pressure also would fully account for the intracranial bleeding.

30. The medical records establish that Brynn suffered from cerebral edema, potentially from lack of oxygen to the brain, or hypoxia. It is

worth noting that the old model used to explain how shaking damaged the brain – that the extreme acceleration and deceleration of the brain caused the axons of nerve cells to shear – is no longer generally accepted.

Instead, some medical experts that continue to believe that shaking a child can cause cerebral edema believe that the shaking damages nerves in the neck that lead to the diaphragm. E.W. Matshes *et al.*, *Shaken Infants Die of Neck Trauma, Not of Brain Trauma*, 1 ACADEM. FORENSIC PATHOLOGY 1 (2011). The diaphragm controls breathing. The article proposes that the damaged nerves impair the child's ability to breathe, which cause a lack of oxygen (hypoxia) in the brain. Hypoxia is well known to lead to cerebral edema, but the mechanism operates much more slowly than diffuse axonal injury was thought to. It is noteworthy that over 40 years after “shaken baby syndrome” was first hypothesized, researchers are still struggling to identify the mechanism by which shaking an infant can cause cerebral edema, subdural hemorrhages and retinal hemorrhages.

31. Typically, brain swelling following serious brain damage peaks at 48 to 72 hours. Brynn already had significant brain swelling by the time she arrived at Southwest Medical Center. It is difficult to say whether her swelling was peaking when she was first examined, but in my opinion the amount of swelling indicates that whatever caused Brynn's cerebral edema

took place many hours, and perhaps days, before Brynn arrived at the hospital.

32. Based on the information provided, it does not appear that the medical providers involved in this case or those involved in determining the cause of Brynn's injuries made a serious effort to gather all of the pertinent information or create a differential diagnosis to explain the finding that Brynn was violently shaken. Instead, based on the testimony and reports of the medical providers, it appears that the providers concluded, shortly after Brynn arrived at the hospital, that she was the victim of child abuse. I found no evidence of any effort by any of the relevant medical professionals to create a differential diagnosis – a list of all potential causes supported by the information gathered – much less evidence of an attempt to do so before rendering opinions.

33. Findings in the case that I believe are very important to the forensic analysis include:

- a. History that Brynn was irritable, less active and had trouble walking when she arrived to Heidi's residence on January 7, 2002. These symptoms point to possible increased intracranial pressure.
- b. Several bruises were noted at bath time.

c. While Heidi was bathing her son, another child [Kaed, age 4 ½] had access to Brynn and may have been injuring Brynn. A four year-old toddler most certainly has the potential to cause serious injuries to a younger child.

34. The causes of brain damage, and specifically cerebral edema, can be grouped into five categories: vascular; congenital; infectious; metabolic; and traumatic. In this case, there was mainly evidence of traumatic injury, but I did not find any evidence that any of the other potential causes were explored. Because the medical professionals did not gather evidence regarding other potential causes and circumstances of Brynn's injuries, it is not possible at this time to prove or disprove that Brynn suffered from some non-traumatic condition that led to or exacerbated her brain injuries.

35. Based on the available medical information, it is my opinion that Brynn's injuries are consistent with hypoxic brain injury following accidental trauma. It is difficult to tell exactly when the trauma occurred, but the available medical evidence rules out the possibility that it occurred in the hour or two before Brynn arrived at Southwest Medical Center.

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DECLARED under penalty of perjury according to the laws of the State of

Washington, this 5<sup>th</sup> day of May, 2014, at

Minneapolis. Minnesota.

  
Dr. Janice Ophoven

# EXHIBIT A

**Janice Jean Ophoven, M.D.**  
**Curriculum Vitae**

**Date and Place of Birth:** January 21, 1947, Minneapolis, MN

**Education:**

Undergraduate Education:

1960-1964 Alexander Ramsey High School, Roseville, MN  
1964-1969 BS - University of Minnesota, Minneapolis, MN

Medical Education:

1967-1971 MD - University of Minnesota, Minneapolis, MN

Post Graduate Education:

6/71-6/72 Internship, Department of Pediatrics, University of Minnesota, Minneapolis, MN  
7/75-6/76 Residency, Pediatrics, Department of Pediatrics, University of Minnesota, Minneapolis MN  
7/75-12/79 Residency, Anatomic Pathology, Department of Laboratory Medicine and Pathology, Specialty Training – Pediatric Pathology, University of Minnesota, Minneapolis, MN  
1978-1979 Fellowship in Pediatric Pathology, University of Minnesota, and Minneapolis Children's Medical Center, Minneapolis, MN  
1/80-12/80 Fellowship in Forensic Pathology, Hennepin County Medical Examiner's Office, Minneapolis, MN

**Medical School Honors:**

1971 Upjohn Award - Student most likely to make an important contribution to medicine, awarded by faculty upon graduation.  
1970-1971 Member of Disadvantaged Student Selection Committee.  
1970-1971 Medical School Class Vice President.

**Additional Training:**

General Pediatrics internship and residency training, University of Minnesota

**Medical Licensure:**

Minnesota - 1974 to Present  
Missouri - 1973 - 1974

**Board Certification:**

American Board of Pathology - 1981

American Board of Forensic Pathology - 1981

American Board of Quality Assurance and Utilization Review - 1988

**Professional Experience:**

- 1/81-present Independent Consultation in Pediatric Forensic Pathology
- 09/03-3/10 Forensic Pathologist, St. Louis County Medical Examiner's Office  
Assistant Coroner / Medical Examiner
- 5/03- 10/12 Contract Forensic Pathologist, Minnesota Regional Coroner's Office  
Assistant Coroner / Medical Examiner for the Counties of: Houston,  
Carver, Chisago, Dakota, Fillmore, Goodhue, and Scott
- 6/91-2003 Principal consultant and owner, The Crackleberry Group (Healthcare  
Consulting)
- 1/02-11/03 Forensic Pathologist, Midwest Forensic Pathology  
Assistant Coroner for the Counties of: Anoka, Crow Wing, Meeker, Mille  
Lacs and Wright
- 8/94-3/97 Vice President for Medical Policy, Allina Health Care
- 1/89-6/96 Medical Director of Quality Management, St. Paul Children's Hospital
- 5/89-1992 Deputy Medical Examiner, Hennepin County Medical Examiner's Office,  
Minneapolis, MN
- 1/88-10/88 Director of Medical Review, Health Risk Management, Inc. (Managed  
Health Care), Minneapolis, MN
- 4/85-6/88 Director, St. Paul Children's Hospital Laboratories, St. Paul, MN
- 1/81-3/85 Associate Director, St. Paul Children's Hospital Laboratories, St. Paul,  
MN
- 1/80-12/80 Forensic Pathology Fellowship, Hennepin County Medical Examiner's  
Office, Minneapolis, MN
- 7/75-12/79 Anatomic Pathology Residency, Department of Laboratory Medicine and  
Pathology, Specialty Training - Pediatric Pathology, University of  
Minnesota, Minneapolis, MN
- 7/75-6/76 Residency, Department of Pediatrics, University of Minnesota,  
Minneapolis, MN
- 1/75-6/75 Private Practice, Group Health (Health Maintenance Organization)  
Minneapolis/St. Paul, MN
- 1/73-9/74 Private Practice in Pediatrics, Sedalia, Missouri; also consultant for Rural  
Health Care Delivery Program funded by American Academy of  
Pediatrics

**Memberships:**

- Pediatric Pathology Society
- Ramsey County Medical Society
- Minnesota Medical Association
- American College of Physician Executives
- American Medical Association
- National Association of Medical Examiners
- American Academy of Forensic Sciences

**Areas of Special Interest:**

- Pediatric Forensic Pathology.
- Special areas of interest: MSBP, infanticide, infant apnea and suffocation, head injury / shaken infant.
- Changing Environment of Medical Care with Emphasis on Clinical Quality, Health Care Systems Analysis and Policy.
- Developmental and Gestational Pathology.
- Pediatric Laboratory Medicine.
- Pediatric Hematopathology.
- Pediatric Pulmonary Disease.

**Appointments:**

- Committee Member, MN Department of Health, Division of Family Health - *Infant Death Investigation Guidelines: To Investigate Sudden, Unexplained Deaths of Infants 0 – 24 months of Age. A Guide for Emergency Medical Services, Law Enforcement and Medical Examiners/Coroners.* Fall 2002
- Child Mortality Review Panel, Minnesota Department of Human Services. 1987 to 1999
- Co-chairman Guidelines Subcommittee Governor's Task on Violence. 1996
- Forensic Consultant to Midwest Resource Center for Child Abuse. 1987 to 1995
- Quality Assurance Director, St. Paul Children's Hospital, St. Paul, MN. 1982 to 1995
- Peer Review and Quality of Care Standards & Guidelines, Senior Consultant, Medicolegal Management, Morrison, CO. 1989 to 1994
- Pediatric Forensic Consultant and Deputy, Hennepin County Medical Examiner's Office, Minneapolis, MN. 1986 to 1994
- Executive Committee, Medical Staff, St. Paul Children's Hospital, St. Paul, MN. 1982 to 1994
- Invited member: Physician Advisor - PMDRG's National Association of Children's Hospitals and Related Institutions, Alexandria, Virginia. 1991 to 1992
- Ramsey County Medical Society Board of Trustees, Hospital Based Physician Representative. 1990 to 1992

- Physician Advisor Board and Physician Advisory Council on Quality. Health One (Hospital Management Corporation) Minneapolis, Minnesota. 1989 to 1991
- Invited member: Task Force on Quality Care and Invited member: Council on Research and Information, National Association of Children's Hospitals and Related Institutions, Alexandria, Virginia. 1989 to 1991
- Invited workshop participant: Special Issues of Child Abuse. Invited presentation: Identification of the Perpetrator in Child Abuse: The Medical Perspective. American Association of Forensic Scientists, National Meeting. Cincinnati, Ohio. February 1990
- Chair - Medical Services Committee, Ramsey County Medical Society. 1986 to 1988
- Board of Directors, Ramsey County Medical Society, St. Paul, MN. 1986 to 1988
- Practice Committee, Pediatric Pathology Society. 1986 to 1988
- Physician Coordinating Committee, Blue Cross and Blue Shield. 1986 to 1988
- Small Area Variations Advisory Committee, Blue Cross and Blue Shield. 1986 to 1988
- Medical Practices and Planning Committee, Minnesota Medical Association, 1984 to 1988
- Clinical Medical Director, St. Paul Children's Hospital, St. Paul, MN. 1982 to 1988
- Consultant and speaker for KTCA (public television) educational production, Newton's Apple. 1982 to 1988
- Clinical Assistant Professor, University of Minnesota, Department of Laboratory Medicine and Pathology. 1986
- Secretary and Board of Trustees Member, Minnesota Medical Association. 1986
- SGPC Perinatal Protocol Contributor. 1985 to 1986
- Regional Forensic Pathologist Representative to National Center for Missing and Exploited Children. 1984 to 1986
- Minnesota Society of Clinical Pathologists - Professional Relations Committee. 1984 to 1986
- Chairman of Minnesota Medical Association Subcommittee on Organ Transplantation. 1984 to 1986
- Consultant with Dr. Jocelyn Hicks for District of Columbia Hospital Re: Laboratory consolidation project with St. Christopher's Hospital, Philadelphia, PA. Spring 1985
- Executive Committee Member, Study Group of Complications of Perinatal Care, Pittsburgh, PA. 1984 to 1985
- Visiting Faculty to Mayo Clinic, Lectureship on Issues in Pediatric Laboratory Medicine. September, 1984

**Research:**

- Investigation of childhood injury and child abuse
- Physician Engagement and Participation in Health Care Redesign/Medical Reengineering. 1987 to present
- Nutritional Assessment of the Neonate. 1984 to 1989
- Histopathologic alterations of tracheobronchial respiratory epithelium in high frequency jet ventilation. 1983 to 1989
- Burroughs-Wellcome Exosurf project group: Tracheobronchiopulmonary Morphometric Analysis - Study Pulmonary Pathologist for 10 institutional protocol. 1987 to 1988
- Multifactorial computer analysis of histopathologic classification of lung tumors. Veterans Administration Hospital, Minneapolis, MN. Abstract presented IAP meetings February 1980. 1978 to 1980.
- Bile Acid Research, Gastroenterology Laboratory, University of Minnesota, Minneapolis, MN. June – September 1967; June – September 1968

**Past Responsibilities:**

- Principal and Chief Medical Officer of the Crackleberry Group. Independent consultants in Health Care: Credentialing, External Peer Review Design, Clinical Guidelines Development, Medical Staff Transformation, Process Reengineering, Conflict Management
- Vice President for Medical Policy, Allina Health Care System. Includes system wide health care policy strategies, credentialing, outcomes, guidelines, clinical process improvement, and physician participation in quality initiatives.
- Medical Director of Quality Management Department. Includes the development, coordination and management of quality assessment, utilization review and risk management of the Medical Services at St. Paul Children's Hospital.
- Management of laboratory services, consultation in pediatric laboratory medicine and pathology in private practice at a teaching pediatric hospital.
- Multiple hospital and organized medicine committee responsibilities with special interest in quality assessment and improvement.
- 24-hour hospital and Midwest Resource Center responsibilities for coordinating laboratory evaluation and directing documentation of child abuse and neglect.
- Teaching responsibilities including Phase D students and pediatric residents - a formal extension of the Hennepin County Medical Center Pathology, Ramsey County Medical Center Pathology and University of Minnesota Laboratory Medicine and Pathology training programs.
- Director of Medical Review at Health Risk Management, a full service company specializing in managing health care costs. Duties included: Recruiting, managing and training medical staff; criteria development; case management program development; Quality Assurance Development and Implementation; medical information resource development and dissemination.
- Assistant Coroner / Medical Examiner at Minnesota Regional Coroner's Office

**Current Responsibilities:**

- Consultation service in Forensic Pathology with emphasis on child abuse and neglect.
- Research and education in child abuse and neglect. Audiences to include physicians, clinical staff, local law enforcement, medical and legal groups.

### **Bibliography:**

1. Barnes PD, Krasnokutsky MV, Monson KL, Ophoven J. Traumatic Spinal Cord Injury: accidental versus nonaccidental. *Semin Pediatr Neurol*, 2008 Dec;15(4):178-84; discussion 185.
2. Ophoven J, Childhood Head Trauma: The Forensic Approach, In: *Forensic Sciences* (Cyril Wecht ed., Bender & Co. Inc.) Publication 313;46:25F-1-25G-81. Published November, 2008
3. Ophoven J. Childhood Head Trauma: The Clinical Approach. In: *Forensic Sciences* (Cyril Wecht ed., Bender & Co. Inc.) Publication 313;46:25F-1-25G-81. Published November, 2008
4. Ophoven J. Pediatric Forensic Pathology Chapter 17. In *Forensic Pathology in Pathology of the Fetus and Newborn*, 2<sup>nd</sup> ed. Enid Gilbert-Barness, Elsevier, 2007
5. Ophoven J. Forensic Pathology in *Pathology of the Fetus and Newborn*, ed. Enid Gilbert-Barness, Mosby, Philadelphia, 1997.
6. Study Group for Complications of Perinatal Care (SGCPC): Perinatal Autopsy Protocol: A Model, Armed Forces Institute of Pathology, 1994.
7. Ophoven J: Pediatric Forensic Pathology in *Pediatric Pathology*. eds. T. Stocker, L.P. Dehner, Lippincott Pub. Philadelphia 1991
8. Ophoven J: Pediatric Forensic Pathology Handbook - An Annotated Bibliography with Commentary. 1988, revised 1989.
9. Tuna I, Bessinger F, Ophoven J, Edwards J: Acute Angular Origin of Left Coronary Artery from Aorta: An Unusual Case of Left Ventricular Failure in Infancy. *Pediatric Cardiology* 10:39-43, 1989.
10. Amarnath U, Ophoven J, Mills M, Murphy E, Georgieff M: The Relationship Between Decreased Iron Stores and Neonatal Hypoglycemia in Large-for-dates Newborn Infant. *Act Paed Scand*. Submitted September 1988
11. Georgieff M, Chockalingam U, Sasanow S, Gunter E, Murphy E, Ophoven J: The Effect of Antenatal Betamethasone on Cord Blood Concentrations of Retinol-Binding Protein, Transthyretin, Transferrin, Retinol and Vitamin E. *Journal of Pediatric Gastroenterology and Nutrition*. Accepted, August 1988.
12. Georgieff M, Amarnath U, Murphy E, Ophoven J: Serum Transferrin Levels in the Longitudinal Assessment of Protein-Energy Status in Preterm Infants. Submitted to the *Journal of Pediatric Gastroenterology*, January 1988.
13. Velasco A, Ophoven J, Priest J, Brennom W: Paratesticular Malignant Mesothelioma Associated with Abdominoscrotal Hydrocele. *Journal of Pediatric Surgery* 23:11 (1988) 1065-1067
14. Chockalingam U, Murphy E, Ophoven J, Weisdorf S, Georgieff M: Cord Transferrin and Ferritin Levels in Newborn Infants with Prenatal Uteroplacental Insufficiency and Chronic Hypoxia. *Journal of Pediatrics* 1987; 111:283-6
15. Mammel, Ophoven, Lewallen, Gordon, Sutton, Boros: High-frequency ventilation and tracheal injuries. *Pediatrics* 1986; 77:608.
16. Boros, Mammel, Lewallen, Coleman, Gordon, Ophoven: Necrotizing tracheobronchitis: A complication of high-frequency ventilation. *Journal of Pediatrics*, 1986.

17. Georgieff, Sasanow, Mammel, Ophoven, Pereira: Cord Pre-Albumin Values in Newborn Infants: Effect of Prenatal Steroids, Pulmonary Maturity and Size for Dates. *Journal of Pediatrics* 1986; 108:972-976.
18. Tilleli J, Ophoven J: Hyponatremic Seizures as a Presenting Symptom of Child Abuse. *Forensic Science International*. 30 (1986) 213-217.
19. Chockalingam U, Murphy E, Ophoven J, Georgieff M: The influence of gestational age, size for dates, and prenatal steroids on cord transferrin levels in newborn infants. *Journal of Pediatric Gastroenterology and Nutrition*. Accepted.
20. Georgieff M, Chockalingam U, Sasanow S, Gunter E, Murphy E, Ophoven J: The effect of antenatal betamethasone exposure on nutritional protein and fat-soluble vitamin levels in premature newborn infants. Submitted to *Lancet*.
21. Whitley C, Langer L, Ophoven J, Gilbert E, Gonzalez C, Mammel M, Coleman M, Rosenberg S, Rodrigues C, Sibley R, Horton W, Opitz J, Gorlin R: Fibrochondrogenesis: Lethal Autosomal Recessive Chondrodysplasia with Distinctive Cartilage Histopathology. *Amer J of Med Gen*, 1985; 19:265-275.
22. Boros, Mammel, Coleman, Lewallen, Gordon, Bing, Ophoven: Neonatal High-Frequency Ventilation: Four years experience. *Pediatrics* 1985; 75:657.
23. Ophoven, Boros, et. al. Tracheobronchial histopathology associated with high-frequency jet ventilation. *Critical Care Medicine*, July 1984; 12:829-832.
24. Gorlin, Langer, Ophoven, Gilber, Mammel, Coleman, Rosenbery, Rodrigues, Hirton, Opitz, Whitely: Fibrochondrogenesis: A Recently Recognized Chondrodysplasia. Presentation at American Society of Human Genetics - Virginia, 1983; *Am J Genetics* 35:91A, 1983.
25. Mayer JE, Ewing SL, Ophoven J, Sumner HW, Humphrey EW: Influence of histologic type of survival after curative resection for unidentified lung cancer. *Journal Thoracic and Cardiovascular Surgery*. 1982; 84:641.
26. Ophoven J: Infectious mononucleosis: Part 2. Serologic Aspects. *Lab Med* 1979; 10:203.
27. Dehner LP, Sibley RK, Sauk JJ Jr., Vickers RA, Nesbit ME, Leonard AS, Waite DE, Neeley JE, Ophoven J: Malignant melanotic neuroectodermal tumor of infancy. A Clinical, pathologic ultrastructural and tissue culture study. *Cancer* 1979; 43:1389-1410.

#### **Abstracts & Presentation:**

1. OCDLA Seminar, "Child Maltreatment in SBS Cases and the Medical Examiner's Perspective," Norman, OK., June 23, 2011
2. CHU National Conference, "Infant Death Investigation-The Forensic Pathologist's Perspective," April 7, 2011
3. California Death Penalty Seminar, "Child Victims in Homicide and Sexual Assaults," Monterey, CA., February 19, 2010
4. New Jersey Public Defenders, "How to Review Forensic Evidence in a Child Case," Trenton, NJ., June 3, 2010
5. Alabama Criminal Defense Lawyers Association, "New Developments in SBS and Head Trauma," Birmingham, AL., January 30, 2009
6. CPDA Seminar, "Medical Evidence and Child Sexual Misuse," Palm Springs, CA, December 5, 2008
7. Sixth Annual Crown Defense Conference, "Child Abuse Investigations: A Pathologist's Approach" September 18, 2008

8. Alabama Criminal Defense Lawyer's Association, "Child Sex Abuse: Pediatric Forensics" June 21, 2008
9. California Public Defender's Association, "Medical Examinations/Medical Evidence in Sexual Assault" December 01, 2007
10. National Criminal Defense Lawyer's Association. "Issues in Child Sexual Misuse" August 03, 2007
11. Annual EBMS Meeting. "Forensic Pediatric Pathology – Case Review in Traumatic Brain Injury" May 11, 2007
12. Texas Criminal Defense Lawyer's Association. "Understanding the Scientific Evidence in Sexual Homicides" September 20, 2006
13. Public Defenders of Dakota County. "The Forensic Autopsy Report – A Navigator's Perspective." August 04, 2006
14. CACJ/CPDA Capital Case Defense Seminar. "Scientific Evidence in Sexual Homicides" February 19, 2006
15. University of San Diego School of Law. "Investigate your Case; CSI for Lawyers... Childhood Injuries" January 28, 2006
16. Iowa Public Defender Agency. "An Approach to Sexual Injury Physiology" June 22, 2005
17. Iowa Public Defender Agency. "Head Injuries in Childhood; An Evolving Challenge" June 22, 2005
18. North Memorial Hospital: Long Hot Summer Conference. "Unexpected Child and Infant Death: Is It Always Abuse?" March 5, 2005.
19. CACJ/CPDA Capital Case Defense Seminar. "Scientific Evidence in Sexual Crimes." February 20, 2005.
20. CACJ/CPDA Capital Case Defense Seminar. "Head Injuries in Childhood: An Involving Challenge." February 19, 2005.
21. Minnesota Bureau of Criminal Apprehension Training and Development – Death Scene Investigation. "Basics of Child Abuse and Infant Deaths." February 3, 2005.
22. California Public Defender Agency Sexual Crimes Seminar. "Understanding Child-Victim Physiology." October 23, 2004.
23. Minnesota Division International Association for Identification. "Childhood Death Investigation: Unexpected/Unexplained Childhood Deaths." September 16, 2004.
24. St. Louis County Medical Examiner's Office. "Childhood Death Investigation: Unexpected/Unexplained Childhood Deaths." March 8, 2004.
25. CACJ/CPDA Capital Case Defense Seminar. "Head Injuries in Childhood: An Evolving Challenge." February 14, 2004.
26. MN Women Physicians' Retreat. "The Child and Forensic Medicine: A reflection on children in crisis." Co-presented with Susan Roe, MD. October 4, 2003.
27. MN Bureau of Criminal Apprehension. Child Abuse Investigation. "Forensic Pathology of Child Abuse." April 16, 2003
28. 6<sup>th</sup> Annual LaCrosse Children Maltreatment Conference. "Trauma and the Abused Child" and "Munchausen Syndrome by Proxy." April 4, 2003.
29. Chippewa Valley Technical College Investigators' Annual In-service. "Child Abuse and Neglect" presented by Janice Ophoven, MD and Susan Roe, MD. December 12, 2002.

30. South Carolina State Child Fatality Advisory Committee. Child Fatality Conference - Investigating and Prosecuting Fatal Child Maltreatment. "Forensic Pediatric Autopsy." September 25, 2002
31. Midwest Forensic Pathology. Forensic Nursing III. "Overview of Child Abuse, Vulnerable Adult Abuse, and Domestic Violence." February 28, 2002; May 24, 2002
32. MN Bureau of Criminal Apprehension. Child Abuse Investigation. "Forensic Pathology of Child Abuse." April 17, 2002
33. MN Forensic Pathology, PA. 3<sup>rd</sup> Annual All Deputy Coroner Meeting. "Munchausen Syndrome by Proxy." April 6, 2002
34. MN Bureau of Criminal Apprehension. Death Scene Investigation Training and Development. "Identifying the Details: Shaken Baby Syndrome and Munchausen Syndrome by Proxy." February 5, 2002
35. Stearns Benton County Child Protection Agency. "Shaken Baby Syndrome - Challenges and Implications." April 27, 2001
36. St. Cloud Hospital. Physicians' Forum. "Shaken Baby Syndrome." March 2, 2001
37. Partners Healthcare Consulting. "Moving into the Driver's Seat – Physician's Guide to Controlling their Future." Invited speaker: "Navigating the Road to Effective Care Management." October 5, 2000
38. MN Bureau of Criminal Apprehension and Ramsey County Medical Examiners' Office. Midwest Homicide Investigative Conference. "A Practical Approach to the Investigation of Child Abuse Homicide." September 7, 2000
39. Niagara County Child Fatality Team Training. Keynote Presentation. "The Investigation of Fatal Child Abuse from the Medical Perspective." June 20, 2000
40. The Alaska Academy of Trial Lawyers 4<sup>th</sup> Annual Litigators' Conference. "Science and the Law – Out of the 'Frye'ing Pan." April 2000
41. South Carolina Law Enforcement Division. "The Investigation of Fatal Child Abuse from the Medical Perspective." October 1999.
42. Minnesota Bureau of Criminal Apprehension, Child Abuse II Seminar, May 1999.
43. Invited Speaker *Health Care Forum, Managing Change* October 1997.
44. Invited Speaker *Masters 7 Conference for Advanced Death Investigation, Munchausen's Syndrome by Proxy*, St. Louis, MO. July 1997.
45. IHI Workshop with B. Bushick MD, Measurement and Integrated Health Care Systems, workshop presentation, December 1995.
46. The Investigation of Infant Deaths: An Interdisciplinary Symposium, "Coroners / Medical Examiners and Pathologists: Bridging the Roles", June, September 1994
47. Women in Medicine: Finding a Balance - invited keynote speaker and workshop presentations, Breckenridge Colorado, August 1994
48. BCA Law Enforcement Training Seminar, Forensic Issues in Child Abuse, Spring 1994, St. Cloud, MN
49. Development and presentation of three-day workshop with focus on responsibilities in data management and credentialing. Medical Staff Transformation, Middletown Regional Hospital, Middletown, Ohio, March 1994
50. Design and Focus External Peer Review with Medical-Legal Management Inc. 1985-to 1994

Evansville, Indiana

Jacksonville, Florida  
Boston, Mass.  
Amarillo, Austin, Fort Worth, Texas  
St. Jose, California

51. Invited Participant, Minnesota Bar Association Annual Trial Lawyer Course, Expert Witness. Bemidji, MN. 1986, 1987, 1988, 1992, 1993, 1994
52. ATLA National Conference - The Catastrophically Injured Infant, Nov 13-14, 1993, Reframing the Causation Issue into a Forensic Context, Atlanta, GA
53. California Ambulatory Surgery Association Research Group, Model for Clinical Guidelines - Best of Practice Model, Lake Tahoe, Fall 1993
54. Colorado Medical Society Woman's Section, The Role of Fear in Health Care Politics, Fall 1993, Snowmass, CO
55. Alaska Trial Lawyers Association, Annual Meeting, full day workshop on Medical Legal issues in Child Abuse, Fall 1993, Anchorage Alaska
56. APQC [American Productivity and Quality Center] "Achieving Results Through Benchmarking" - Benchmarking Week - May 19, 1993, Washington, DC. *Developing "State of the Art" Guidelines for Pediatric Care*
57. Sixth Annual John I. Coe Symposium, Placental and Perinatal Pathology, April 16, 1993, Forensic Issues in Perinatal Medicine Minneapolis, MN
58. Quality Challenge Award Recipients on behalf of the Children's Hospital of St. Paul, MedisGroups National Meeting, April 1993, Washington, DC
59. MediQual National Symposium "Insight", Spring 1993, Washington DC, 2 workshops *MedisGroups and Clinical Guidelines The National Pediatric Network*
60. Development and Implementation - 2 day Clinical Guidelines Exercise, Presbyterian St. Luke's Hospital, Denver Colorado, 1993
61. Multiple Medical Staff Seminars / Presentations on MedisGroups and Health Care Quality including Alliant Health Care Systems, Louisville, KY 1993
62. National Association of Medical Examiners Annual Conference, Milwaukee, WI, Forensic issues in Child Abuse, A Review, Fall 1992
63. Wisconsin Children's Hospital, Annual Retreat, Full day workshop on Medical Staff Transformation, Fall 1992
64. MediQual National Symposium, April 1992, Workshop, Recruiting Physician Participation in Data Management and Clinical Guidelines, Spring 1992, Saddlebrook, Florida
65. Quality Assurance in Anatomic Pathology, Lab Medicine and Pathology Grand Rounds, University of Minnesota, 1992
66. MediQual National Symposium, Spring 1991, Data and Peer Review, Hilton Head, SC
67. Invited Workshop Presentation: Pediatric Forensic Pathology: Wisconsin State Death Investigators Course. Sponsored by the Milwaukee County Medical Examiner, Milwaukee, Wisconsin. Fall 1990
68. Invited Workshop Presentation: Pediatric Forensic Pathology Issues. Sponsored by LCM Laboratories. Sioux Falls, SD. April 1990
69. Invited workshop participant: Special Issues of Child Abuse. Invited presentation: Identification of the Perpetrator in Child Abuse: The Medical Perspective. American Association of Forensic Scientists, National Meeting. Cincinnati, Ohio. February 13, 1990.

70. Invited Workshop Presentation. Pediatric Forensic Pathology at the American Academy of Pediatrics, Orlando, Florida, March 14, 1989.
71. Invited Workshop Presentation, Pediatric Forensic Pathology at the Society for Pediatric Pathology, San Francisco, California, March 5, 1989.
72. Invited Workshop Presentation, Pediatric Forensic Pathology at the Society for Pediatric Pathology, Washington, D.C., February 1988.
73. Georgieff M, Amarnath U, Landon M, Mills M, Ophoven J: Newborn Iron Status of Infants of Diabetic Mothers (IDMS). Ped Res. Submitted and Accepted, December 1987.
74. Chockalingam U, Murphy E, Ophoven J, Georgieff M: Transferrin (TF) and Ferritin (FE) as Markers of Uteroplacental Insufficiency (UPI) in Newborn Infants. Ped Res Submitted Nov 1986. Published April 1987.
75. Chockalingam U, Murphy E, Ophoven J, Georgieff M: Decreased Iron Status in Symptomatic Large-for-Gestational Age (LGA) Infants. Ped Res Submitted Nov 1986. Published April 1987.
76. Georgieff M, Chockalingam U, Murphy E, Ophoven J: Effects of Short and Long-term Prenatal Steroids on Nutritional Proteins in Premature Neonates. Accepted for presentation and published, April 1987.
77. Chockalingam U, Murphy E, Ophoven J, Georgieff M: The Influence of Perinatal Asphyxia on Rapid-turnover Proteins in Newborn Infants. Ped Res Submitted Nov 1986. Published April 1987.
78. Chockalingam U, Murphy E, Ophoven J, Georgieff M: Effects of Short and Long-term Prenatal Steroids on Nutritional Proteins in Premature Neonates. AACC Submitted and Accepted, January, 1987.
79. Chockalingam U, Murphy E, Ophoven J, Georgieff M: Cord Transferrin (TF) and Ferritin (FE) as Markers of Uteroplacental Insufficiency (UPI) in Newborn Infants. AACC Submitted and Accepted, January 1987.
80. Chockalingam U, Murphy E, Ophoven J, Georgieff M: Rapid-Turnover Serum Proteins (RTP) to Evaluate Protein Status of Preterm Infants. AACC Submitted and Accepted, January, 1987.
81. Chockalingam U, Murphy E, Ophoven J, Georgieff M: Association of Decreased Ferritin Levels to Hypoglycemia in Large-for-Gestational Age Infants. American College of Nutrition 28th Annual Meeting. Submitted to Blood, 1987.
82. Mammel M, Ophoven J, Gordon M, Taylor S, Boros S: Tracheal Injury Following High-frequency Oscillation in Laboratory Animals. Ped Res Submitted November 1986.
83. Chockalingam, Murphy, Ophoven, Georgieff: The Affect of Gestation Age Size for Dates and Prenatal Steroids on Cord Transferrin Levels in Preterm and Term Infants. Submitted to the 27th Annual American Nutritional College Meeting, September 1986. Accepted.
84. Chockalingam, Murphy, Ophoven, Georgieff: Influence of Preneonatal Steroids on Nutritional Markers in Premature Infants: Submitted to the 27th Annual American Nutritional College Meeting September 1986. Accepted.
85. Invited Course Participant. University of Indiana: Issues in Child Abuse and Neglect. Indianapolis, Indiana 1986.
86. Georgieff, Sasanow, Mammel, Ophoven, Periera: Prenatal Steroids and Lung Maturity and Size for Dates Affect Neonatal Prealbumin Levels. Ped Res 20; 4(1986) 138A.
87. Georgieff, Sasanow, Mammel, Ophoven, Periera: Prenatal Steroid Administration Enhances Liver Protein Synthesis in Preterm Neonates. Clin res 3; 1(1986) 138A.

88. Invited Speaker, American Academy of Forensic Sciences Workshop on Sexual Abuse in Children, 1986.
89. Mammel M, Ophoven J, Gordon M, Sutton M, Boros S: Proximal Tracheal Inflammation with Three Different High-frequency Ventilators. Clin Res 1985; 33:148A.
90. Lewallen P, Boros S, Mammel M, Coleman M, Ophoven J: Neonatal High-frequency Jet Ventilation: Benefits and Risks. Clin Res 1985; 33:148A.
91. Ophoven J, Tilelli J: Abstract: Hyponatremic Seizures as a Presenting Symptom of Child Abuse. Presented to Conference on Forensic Pediatric Pathology. June, 1985.
92. Ophoven J, Leverone J, Moen T: Abstract: Congenital Idiopathic Subglottic Stenosis Presenting as Sudden Infant Death Syndrome. Presented to Conference on Forensic Pediatric Pathology. June 1985.
93. Invited Workshop Participant. American Academy of Forensic Sciences; Child Sexual Abuse. New Orleans, 1985.
94. Ophoven J, Mammel M, Coleman M, Boros S: Necrotizing Tracheobronchitis; A New Complication of Neonatal Mechanical Ventilation. Laboratory Investigations vol. 52, 49A 1985. Presentation at IAP Meetings, 1985.
95. Lectureship on Issues in Pediatric Laboratory Medicine. Mayo Clinic September, 1984
96. Lewallen P, Boros S, Mammel M, Coleman M, Ophoven J: Neonatal High-frequency Jet Ventilation: Four Years Experience. Clin Res 1984; 32:814A.
97. Mammel M, Ophoven J, Gordon M, Sutton M, Boros S: High-frequency Ventilation Produces Inflammatory Injuries in the Proximal Trachea. Clin Res 1984; 32:815A.
98. Dehner, Ophoven, et. al.: Unusual Presentation of Childhood Rhabdomyosarcoma. Presented at Pediatric Pathology Meetings. February 1983.
99. Ophoven J, Mammel M, Gordon M, Boros S: High-frequency Jet Ventilation: Tracheobronchial Histopathology. Clin Res 1983; 31: 142A.
100. Ophoven J, Mammel M, Gordon M, Boros S: High-frequency Jet Ventilation: Tracheobronchial Histopathology. Pediatr Res 1983; 17: 386A.

No. \_\_\_\_\_

COURT OF APPEALS, DIVISION II  
OF THE STATE OF WASHINGTON

In re Personal Restraint Petition of  
Heidi Charlene Fero

**DECLARATION OF  
DR. PATRICK BARNES**

I, Dr. Patrick David Barnes, M.D., being competent to testify regarding the matters stated herein, declare under oath as follows:

1. I am a pediatric neuroradiologist and am board certified in Diagnostic Radiology and Neuroradiology. A pediatric neuroradiologist specializes in the use of x-rays, computerized tomography (CT), magnetic resonance imaging (MRI), and other radiological techniques to diagnose diseases and conditions of the central nervous system, neck, or head in children and infants. I am a Professor of Radiology at Stanford University Medical Center and Chief of Pediatric Neuroradiology and Medical Director of the MRI/CT Center at the Lucile Salter Packard Children's Hospital. I have practiced and taught on head injury in children for thirty five years, and have published over one hundred articles, reviews, and

book chapters on this subject. My curriculum vitae is attached as Exhibit A.

2. I was retained in this case to review and analyze the materials provided, conduct research into the current state of medical knowledge regarding “shaken baby syndrome,” and to evaluate the medical testimony in Heidi Fero’s trial in light of recent advances in medical knowledge regarding shaken baby syndrome.

3. I am a past member of the Child Abuse Task Force, Society for Pediatric Radiology, and was Chair of the Task Force from 2007-2008. I am also co-founder of the Child Abuse Task Force and a member of the child abuse SCAN team for the Lucile Packard Children’s Hospital, Stanford University Medical Center and Santa Clara Valley Medical Center.

4. In addition to my teaching and research responsibilities, I review approximately 20 CT scans and MRIs a day. After reviewing the images, I provide the radiology findings and a differential diagnosis, *i.e.*, possible causes for the findings, to the treating doctors. In cases involving possible child abuse, these findings are correlated with the laboratory tests, medical records and caretaker and investigator reports in order to distinguish between accidental trauma, non-accidental trauma, and natural causes.

5. Since Heidi Fero's trial, the differential diagnoses, or assessment of alternative explanations, for radiological findings previously associated with non-accidental pediatric head trauma have greatly expanded and now include a variety of accidental and natural causes. The application of evidence-based medicine has further established that the scientific basis for shaken baby syndrome and similar diagnoses is very limited. Some of the basic tenants of these diagnoses have been disproven by research in biomechanics, neuropathology, and radiology.

6. Also since Ms. Fero's trial, research has established that children who suffer trauma, whether accidental or non-accidental in origin, have a significant chance of remaining lucid (conscious and aware) for extended periods of time—up to 3 days or more—after suffering trauma.

7. The opinions I express herein are held to a reasonable degree of medical certainty, based on the medical record provided to me by counsel, and are based on my clinical, teaching, and research experience in pediatric neuroradiology over the past thirty years.

### **Evolution in Understanding Pediatric Head Injury**

8. Over the past decade, many longstanding beliefs on pediatric head injury (including shaken baby syndrome) have been disproven, and alternative causes for findings previously attributed to abuse have been identified. We also learned that it is not possible to time injuries as

precisely as previously believed. I recently published, with several others, a summary of the evolution in thinking on shaken baby syndrome, which is now called abusive head trauma. Keith A. Findley, Patrick D. Barnes, David A. Moran & Waney Squier, *Shaken Baby Syndrome, Abusive Head Trauma, and Actual Innocence: Getting it Right*, 12 HOUS. J. HEALTH L. & POLICY 209 (2012).

9. Shaken baby syndrome is a hypothesis first advanced by Dr. John Caffey in 1946, and that gained traction in the early 1970s as a way to explain three conditions (subdural hemorrhage or subarachnoid hemorrhage, retinal hemorrhage and brain swelling) in children who showed no signs of external head injury. By the late 1990s, pediatric head-injury literature consisted primarily of pediatric and pediatric radiology articles that considered the "triad"—subdural or other hemorrhages within the skull or brain, retinal hemorrhages and brain swelling—to be pathognomonic for shaken baby syndrome. Pathognomonic means that particular symptoms are unique to a particular disease or condition and can reliably support the diagnosis. The theory was that shaking caused subdural or subarachnoid hemorrhage by rupturing the bridging veins between the brain and saggital sinus, and caused traumatic injury to the axons in the brain (called diffuse axonal

injury, or DAI). DAI purportedly caused swelling of the brain (cerebral edema).

10. By the late 1990s, this theory was virtually universally accepted by the medical community, including my own practice, and it was relatively uncommon for physicians and scientists to question it. Based on this theory, I wrote many articles in support of shaken baby syndrome and often testified for the prosecution. In 1997, I was the pediatric neuroradiology expert for the prosecution in the Boston "nanny" case, in which Louise Woodward was convicted of causing Matthew Eappen's death by shaking. In 1998, I co-authored the chapter on head injury in *Imaging of Child Abuse* (PK Kleinman, ed., 2d ed. 1998), a standard text on this subject. In preparing the chapter, we reviewed the literature but did not assess the quality of the evidence.

11. During this period, doctors routinely testified that the force necessary to cause a subdural or subarachnoid hemorrhage in an infant or child was equivalent to the force from a high speed motor vehicle accident or a fall from a multi-story building. Since then, several literature reviews have established that there is no scientific or evidentiary basis for this testimony.

12. Over the past decade, many doctors—including myself—have changed their testimony and beliefs to bring them into accord with the

scientific evidence and standards of evidence-based medicine. In this affidavit, I provide a brief overview of the developments in this area. My articles contain more extensive discussions and citations to the relevant literature.

13. I have testified on many occasions. Earlier in my career, I primarily testified as a fact witness or expert witness for the prosecution, as I did in the Woodward case. However, most of my recent expert testimony has been on behalf of defendants accused of abusing children. For example, I offered testimony in the *Edmunds* case in Wisconsin, in which Audrey Edmunds was granted a new trial based in part on my testimony regarding advances in medical research since her original trial. The opinions I offered in that case are consistent with the opinions I offer here.

#### **New Research on Pediatric Head Injury**

14. Much of the progress in this field has been based on the advent of evidence-based medicine, which is now the established standard in medicine. In evidence-based medicine, all practices and diagnoses are reviewed for quality of evidence. To do this, the medical literature is categorized based on its scientific methodology and biostatistical significance.

15. To support a standard or guideline, the quality of the evidence must fall within Levels I or II. Level I requires research with control groups and appropriate statistical analysis and seeks to establish a 95% level of certainty. Level II requires a somewhat lower level of proof. Levels III and IV consist largely of opinion articles and hypotheses. While these materials may be useful, their limitations must be clearly understood and disclaimers on the quality of evidence provided, particularly if used in diagnosis or courtroom testimony.

16. The advent of evidence-based medicine has had a profound impact on the diagnosis of pediatric head injury. Since 1998, I have served on two panels that have assigned quality of evidence ratings to over a hundred articles in the area of injury to the immature brain. One panel addressed head trauma in children under two years of age; the other addressed fetal and neonatal brain injury. Similar reviews have found that there was no evidence base for much of the child abuse literature, and that there was an urgent need to bring this literature, which had remained essentially unchanged for decades, into conformity with other areas of medicine, which have become increasingly research-based and scientific.

17. The first major evidence-based review of the literature on shaken baby syndrome ranked the literature from the 1960s through 1998 based on the standards of evidence-based medicine. Mark Donohoe, Evidence-

Based Medicine and Shaken Baby Syndrome: Part I: Literature Review, 1966-1998, 24 AM. J. FORENSIC MED. PATHOL. 239-42 (Sep. 2003). None of the articles reviewed for that study rose above Level III, with most falling in Level IV (that is, the articles were opinion pieces and hypotheses).

18. The review characterized the evidence as analogous to an inverted pyramid, with a small data base consisting largely of poor quality research, retrospective in nature and without appropriate controls, spreading to a broad body of somewhat divergent opinions. The review concluded that there was no support in the literature for the commonly held opinion that subdural and retinal hemorrhages in an infant were strong evidence of shaken baby syndrome.

19. In 2004, Dr. Patrick Lantz published a case report and literature review on retinal hemorrhages. The case report described an accidental crush injury that produced findings previously viewed as pathognomonic of shaken baby syndrome. After reviewing the literature on retinal hemorrhages, Dr. Lantz concluded that the literature does not provide evidence-based support for the conclusion that particular retinal findings are specific for shaken baby syndrome or child abuse. P .E. Lantz *et al.*, *Perimacular Retinal Folds from Childhood Head Trauma*, 328 BRIT. MED. J. 754 (2004). Since then, Dr. Lantz has reported that retinal

hemorrhages are found at autopsy in a wide range of natural and accidental deaths.

20. As various reviews have noted, much of the earlier literature on non-accidental head injury in children was based on circular reasoning. Since the triad (subdural hemorrhage, retinal hemorrhage and brain swelling) was considered to be pathognomonic of child abuse, a child who presented with the triad (or sometimes with a portion of the triad) was automatically classified as "shaken" or "abused." These diagnoses were then used to validate the theory and to diagnose other "shaken" or "abused" children. Once this circularity is removed, the lack of an evidence base is apparent.

21. Although it has been known that many conditions, including dehydration, whooping cough, and glutaric aciduria (type I), can cause subdural hemorrhage, doctors have often diagnosed shaken baby syndrome or abusive head trauma with little further inquiry into the child's symptoms, history, or laboratory reports. In many cases, subsequent reviews establish that the child's collapse was preceded by illness, infection, respiratory distress, airway obstruction, birth injuries, or accidental trauma that would explain the findings.

22. As it became increasingly clear that there was little or no evidence base for shaken baby syndrome and similar theories, the medical

profession began looking outside the child abuse literature to the literature in other fields, including biomechanics (effect of physical forces on the human body), brain findings (neurosurgery, neurology, neuroradiology and neuropathology), and forensic pathology (cause and manner of disease and/or death). Some of this literature was available before Ms. Fero's trial, but it was not widely read or applied by clinicians or child protection teams. As a practical matter, it is very difficult to review or keep up with the research in these specialties, particularly since the research often precedes the published literature by some years.

23. Since it is not possible to summarize the advances in the literature in these areas in a single affidavit, I will provide a brief summary by category.

*Biomechanical Literature*

24. In 1987, the classic biomechanical study on shaken baby syndrome concluded that shaking does not generate sufficient force to create a subdural hemorrhage under established injury thresholds, and that the force from impact—even on soft surfaces—was approximately 50 times the force from shaking. The authors therefore suggested that the syndrome might be more accurately characterized as "shaken-impact" syndrome.

A.C. Duhaime *et al.*, *The Shaken Baby Syndrome, a Clinical, Pathological, and Biomechanical Study*, 66 J. NEUROSURGERY 409 (1987).

25. Recent research has confirmed that short falls can cause the findings previously associated with abuse and that shaking would cause serious neck injury before it created subdural hemorrhages. J. Plunkett, *Fatal Pediatric Head Injuries Caused by Short-Distance Falls*, 22 AM. J. FORENSIC MED PATHOLOGY 1 (2001); A.K. Ommaya *et al.*, *Biomechanics and Neuropathology of Adult and Pediatric Head Injury*, 16 BRIT. J. NEUROSURGERY 220 (2002); M.T. Prange *et al.*, *Anthropomorphic Simulations of Falls, Shakes, and Inflicted Impacts in Infants*, 99 J. NEUROSURGERY 143 (2003); W. Goldsmith & J. Plunkett, *A Biomechanical Analysis of the Causes of Traumatic Brain Injury in Infants and Children*, 25 AM J. FORENSIC MED. PATHOLOGY 89 (2004); F. Bandak, *Shaken Baby Syndrome: A Biomechanics Analysis of Injury Mechanisms*, 151 FORENSIC SCI. INT'L 71 (2005).

26. While the biomechanical research is sometimes criticized on the ground that it is not possible to conduct experiments using live babies, this research uses the same techniques (animal tests, crash dummies, and computer simulations) used to set safety standards for car seats and play equipment. It would therefore receive a higher evidence-based ranking than the literature on shaking.

#### *Neuropathology Literature*

27. Shaken baby syndrome was based on the belief that shaking caused traumatic injury to the axons throughout the brain (known as diffuse axonal injury, or DAI). However, the first reliable evidence-based neuropathology studies on abusive head trauma found that the brains of children who were reportedly shaken or intentionally injured did not show traumatic DAI. Instead, these brains showed hypoxic-ischemic axonal injury, or lack of oxygen to the brain (i.e. hypoxic-ischemic DAI). J.F. Geddes *et al.*, *Neuropathology of Inflicted Head Injury in Children I: Patterns of Brain Damage*, 124 BRAIN 1290 (2001); J.F. Geddes *et al.*, *Neuropathology of Inflicted Head Injury in Children II: Microscopic Brain Injury in Infants*, 124 Brain 1299 (2001).

28. Dr. Geddes also found that the thin subdural hemorrhages often found in allegedly abused children were similar to those found in fetuses or newborns who died natural deaths, suggesting that there are nontraumatic causes for such findings. J.F. Geddes *et al.*, *Dural Hemorrhage in Non-traumatic Infant Deaths: Does it Explain the Bleeding in "Shaken Baby Syndrome"?*, 29 NEUROPATHOLOGY & APPL. NEUROBIOLOGY 114 (2003).

29. Noting that whooping cough had traditionally been associated with subdural hemorrhage, Dr. Geddes and Dr. Talbert, a biomechanical engineer, later used computer simulations and whooping cough records to

confirm that paroxysmal coughing can cause subdural hemorrhages. J.F. Geddes and D.G. Talbert, *Paroxysmal Coughing, Subdural and Retinal Bleeding: A Computer Modeling Approach*, 32 NEUROPATHOLOGY & APPL. NEUROBIOLOGY 625 (2006).

*Ophthalmology Literature*

30. Ophthalmologists and other doctors sometimes testify that retinal hemorrhages, or certain types of retinal hemorrhages, are characteristic or even pathognomonic of shaken baby syndrome. There is no evidence-based research for these theories. Since the retina and its coverings are extensions of the brain and the dura, the differential diagnosis for retinal hemorrhages is similar to the differential diagnosis for subdural hemorrhages, and includes a wide array of natural and accidental causes, including increased intracranial pressure. A recent presentation at the American Academy of Forensic Sciences confirmed that retinal hemorrhages are linked to advanced cardiac life support with short term survival and/or cerebral edema of any etiology. E. Matshes, *Retinal and Optic Nerve Sheath Hemorrhages Are Not Pathognomonic of Abusive Head Injury*, AM. ACAD. FORENSIC SCIENCES Abstract G 1 (February 24, 2010).

*Radiology Literature*

31. Although shaken baby syndrome is closely associated with a radiologist, Dr. Caffey, radiology has had a very limited ability to confirm or refute this theory. For decades, the only imaging tools were x-rays and CT scans, which are relatively nonspecific. With the advent of magnetic resonance imaging (MRI), which has been used on a regular basis since the mid-to-late 1990s, radiologists have been able to pinpoint the pattern of injury more precisely. Because MRI is more accurate, we now routinely order MRIs to supplement CT scans. The earlier this is done, the more likely it is that we will be able to provide accurate information on the pattern of injury and timing.

32. With MRI, we learned that many of the diagnoses we had been making using CT scans were incorrect, and that conditions viewed as diagnostic of child abuse are also found in accidental trauma and natural conditions. We also learned that CT scans do not reliably indicate the location of the hemorrhage, that is, whether it is in the brain, within a vessel (e.g. thrombosis), or in the subdural or subarachnoid space, and that the timing parameters for hemorrhages are much broader than previously believed. Before MRI, radiologists often timed hemorrhages shown on CT scan fairly precisely, e.g., within hours or days. However, with MRI, we found that these timing parameters were often incorrect. CT scans also missed older hemorrhages, some of which were weeks or months old and

may have been subject to re-bleed. There are apparently no MRI images of Brynn Ackley's injuries.

33. Radiology studies have also confirmed that 25-46% of asymptomatic newborns have subdural hemorrhages similar to those seen in allegedly abused children. C.B. Looney *et al.*, *Intracranial Hemorrhage in Asymptomatic Neonates: Prevalence on MR Images and Relationship to Obstetric and Neonatal Risk Factors*, 242 RADIOLOGY 535 (2007); V.J. Rooks *et al.*, *Prevalence and Evolution of Intracranial Hemorrhage in Asymptomatic Term Infants*, 29 AM. J. NEURORADIOLOGY 1082 (2008). Although birth subdurals typically resolve within weeks or months, some may become chronic and subject to expansion or re-bleeds. These findings undercut a basic premise of shaken baby syndrome, which assumed that subdural hemorrhages are immediately symptomatic and that the perpetrator can therefore be identified based on timing.

#### *Non-medical Literature on Confessions*

34. The confession literature is sometimes used to support shaking as a causal mechanism for the triad. However, this literature does not meet the standards of evidence-based medicine since it is retrospective, does not use comparison groups, and does not use evidence-based standards for classifying injuries as inflicted or non-inflicted. Thus, we do not know whether the child's symptoms preceded or followed the shaking, when the

shaking occurred (before the collapse or to resuscitate), the circumstances of the confession (e.g., what did they confess to, was it part of a plea bargain, was it videotaped, witnessed or recorded), how hard the shaking was, or even whether shaking occurred at all. A 2005 literature review concluded that the small number of recorded confessions does not permit valid statistical analysis or provide support for shaken baby syndrome. J. Leestma, *Case Analysis of Brain-Injured Admittedly Shaken Infants: 54 Cases 1969-2001*, 26 AM. J. FORENSIC MED. & PATHOLOGY 199 (2005).

### **Differential Diagnosis**

35. Over the past decade, the differential diagnosis (alternative causes) for radiological findings previously associated with shaken baby syndrome/nonaccidental pediatric head injury, including subdural and retinal hemorrhage, has greatly expanded and now includes a variety of accidental and natural causes. The differential diagnosis for subdural and retinal hemorrhage and other findings previously attributed to inflicted head trauma or shaken baby syndrome now include: trauma (accidental or nonaccidental); medical or surgical interventions; prenatal, perinatal and pregnancy related conditions; birth trauma; metabolic, genetic, oncologic or infectious diseases; congenital malformations; autoimmune disorders; clotting disorders; the effects of drugs, poisons or toxins, including cocaine; and other miscellaneous conditions. K. Hymel, C. Jenny, & R.

Block, *Intracranial Hemorrhage and Rebleeding in Suspected Victims of Abusive Head Trauma: Addressing the Forensic Controversies*, 7 CHILD MALTREATMENT 329 (2002).

36. A 2006 text on abusive head trauma in infants and children contains a more comprehensive discussion of the medical disorders that mimic abusive head trauma, including superior sagittal sinus thrombosis; infection; medical or surgical complications; prenatal, perinatal and pregnancy related conditions; accidental trauma; genetic and metabolic disorders; hematological diseases and disorders; autoimmune, vasculitis and oncological conditions; and toxins, poisons and nutritional deficiencies. A Sirotnak, *Medical Disorders that Mimic Abusive Head Trauma*, in L. Frasier *et al.*, ABUSIVE HEAD TRAUMA IN INFANTS AND CHILDREN: A MEDICAL, LEGAL, AND FORENSIC REFERENCE 191 (2006).

37. I have written on this topic as well. My 2007 article contains an expanded (6 page) description of the differential diagnosis and describes the parapsiology, which includes increased intracranial pressure, systemic hypotension or hypertension, increased venous pressure, vascular fragility, hematologic derangement and/or collagenopathy, superimposed on immature central nervous and other systems. P. Barnes, *Imaging of the Central Nervous System in Suspected or Alleged Nonaccidental Injury*,

*Including the Mimics*, 18 TOPICS MAGNETIC RESONANCE IMAGING 53  
(2007).

38. The newer literature recognizes that the ability to determine whether head injuries are accidental, non-accidental or natural in origin or to time the origins of particular findings is very limited. *See, e.g., G.A. Tung et al., Comparison of Accidental and Nonaccidental Traumatic Head Injury in Children on Noncontrast Computed Tomography*, 118 PEDIATRICS 626 (2006) (urging caution in making inferences on timing, pattern or cause of brain injuries based on single CT since comparison of subdural hemorrhages from birth injuries, short falls, motor vehicle accidents and presumed nonaccidental injuries did not find configurations specific for abuse).

39. The research on childhood stroke published in the last 10 years is a good example of the efforts that are being made to differentiate natural causes from traumatic brain injury and to develop appropriate prevention, intervention and treatment for infants and children. There is also increased recognition that the specific physiological attributes and vulnerabilities of children and infants, both as a group and individually, must be taken into account. These include the physiology of infant blood vessels and the susceptibility to physiological cascades due to immature central nervous system development.

40. There has also been increased research into second impact syndrome (SIS), which is well recognized in the sports literature. In these cases, a relatively small impact following an unresolved head injury occurring days to weeks previously can result in cerebral edema, a small subdural hemorrhage and death. R. Cantu & A. Gean, *Second-Impact Syndrome and a Small Subdural Hematoma: An Uncommon Catastrophic Result of Repetitive Head Injury with a Characteristic Imaging Appearance*, 27 J. NEUROTRAUMA 2557 (2010) (noting that SIS findings are similar to the findings in nonaccidental head injury cases; animal studies suggest increased vulnerability of the younger brain to repeated mild traumatic brain injury). Given these developments, prior accidental impacts, including cumulative mild impacts, must be considered in addressing the cause of death.

41. Like subdural hemorrhages, retinal hemorrhages have many causes and are not specific indicators of trauma. Although it has been suggested that severe retinal hemorrhages indicate abuse, such hemorrhages are also found in cases of infection and accidental death. *See. e.g., J.P. Lopez et al., Severe Retinal Hemorrhages in Infants with Aggressive, Fatal Streptococcus Pneumoniae meningitis*, 14 J. AM. ASSN. FOR PED. OPHTHALMOLOGY & STRABISMUS 97 (2010) (severe retinal hemorrhages

found in *s. pneumoniae*, the most common cause of community-acquired pneumonia).

42. In reviewing the radiology, a diagnosis of nonaccidental injury must rule out natural and accidental causes based on the medical records and clinical history, taking into account the combined or synergistic effects of two or more conditions. The range of possibilities is set forth in my recent review article, which addresses the advances and new learning in this field. P. Barnes, *Imaging of Nonaccidental Injury and the Mimics: Issues and Controversies in the Era of Evidence-Based Medicine*, 49 RADIOLOGIC CLINICS OF N. AM. 205 (2011). The role of the pediatric neuroradiologist is to identify possibilities and point out whether particular diagnoses are consistent or inconsistent with the radiology.

43. Given the developments in the literature, when a child presents with intracranial hemorrhage, retinal hemorrhage and/or cerebral edema, the differential diagnosis requires that the imaging be supplemented by a comprehensive medical history and extensive laboratory tests. Any evaluation should include consideration of the following possibilities:

- a. *Infection*. Any infection that spreads to the brain, including untreated or inadequately treated ear or sinus infections, can cause clotting, bleeding and ischemic injury (stroke or infarction). While most infections, including ear and

sinus infections, do not lead to brain damage, those that do can be devastating. Blood tests, cultures and autopsy slides can help identify infection, including sepsis (infection that has entered the bloodstream).

b. *Bleeding disorders (coagulopathy)*. Bleeding disorders, which can cause easy bruising as well as internal bleeding, may be asymptomatic until triggered by infection, trauma or hypoxia-ischemia. If the initial coagulation tests, such as the PTT, PT and fibrinogen, are abnormal, more specific tests can be conducted for specific coagulopathies, including von Willebrands and Vitamin K deficiencies.

c. *Hypoxia-ischemia*. Since the brain requires a constant flow of oxygen, hypoxic/ischemic damage from oxygen deprivation can occur within minutes. Hypoxia refers to a low level of oxygen in the blood while ischemia refers to an interruption of blood flow. Hypoxia/ischemia may occur from problems with the heart (e.g., beating too slow or too fast), lungs (pneumonia, including aspiration pneumonia) or airway (choking or gagging). Lack of oxygen causes the brain cells to break down, collect water, and eventually burst, causing edema. It also injures the cells that line the blood

vessels, causing leaky vessels and hemorrhage. This is a particular problem in infants, whose blood vessels have thin walls.

d. *Trauma.* In looking for impact, the radiologist looks for fractures, bruising on the brain or shear injury, while clinicians look for scalp bruising, a history of accidental falls, or signs of abuse. If impact is found, the history may help distinguish between intentional and accidental injury. If there are no specific signs of impact, nontraumatic causes should be high on the list of differential diagnoses.

e. *Re-bleeds.* Re-bleeds into pre-existing extracerebral collections from prior trauma (including birth trauma) can be spontaneous or triggered by infection, hypoxia-ischemia, minor trauma, venous thrombosis, or increased intracranial pressure from any cause, including choking, vomiting or respiratory problems. Minor re-bleeds can cause death by irritating the brain and causing epileptic-type seizures, or by irritating the brain stem, which controls breathing and heart rate.

f. *Cardiac issues.* Since the heart controls the flow of blood throughout the body, children with cardiac problems can

bleed and clot without trauma. Like seizures, cardiac arrhythmia cannot be detected at autopsy.

g. *Dehydration.* The relationship between dehydration and intracranial hemorrhage is well established in the pediatric literature.

h. *Medications.* Since many medications can increase the likelihood of hemorrhage and/or cardiac arrest, all medications (including those given at the hospital) should be carefully scrutinized.

i. *Metabolic and tissue diseases.* Metabolic and genetic diseases may cause intracranial bleeding. Some metabolic conditions can be diagnosed or excluded with simple, inexpensive tests. However, others require expensive testing, while yet others doubtlessly remain to be discovered.

j. *Benign extracerebral collections.* Some infants have a condition known as benign extracerebral collections of infancy. In these infants, cerebrospinal fluid collects between the brain and the skull, showing up on the CT scan as dark fluid areas in the subarachnoid space. The stretched veins that go through these areas may bleed spontaneously or with minor trauma.

k. *Clinical history.* At trial, it is often claimed that a previously healthy child has suddenly presented with subdural hemorrhage, retinal hemorrhage and brain swelling. However, a careful review of caretaker reports and medical records often indicates illness or longstanding medical issues. Some of the children were repeatedly seen by medical professionals for nonspecific symptoms, including feeding problems, reflux, seizure-like activity, ear infections, asthma or respiratory problems, often with no definitive diagnosis. These symptoms may suggest natural causes, including birth injuries, genetic or metabolic disorders, or aspiration pneumonia. The impact of any earlier accidents must also be considered.

l. *Resuscitation and post-admission treatment.* Some findings traditionally viewed as signs of abuse may be caused by resuscitation or hospital treatment. For example, vigorous CPR can cause bruises or even broken ribs, lying in one position can cause blood pooling, post-admission medications can cause post-admission hemorrhage, and resuscitation after a downtime may result in swollen brains and leaky blood vessels.

m. *Combination of factors.* It is always important to consider synergistic combinations of factors. For example, a

minor or inconsequential impact may have drastic consequences when combined with a coagulopathy, chronic subdural or other abnormality. Similarly, relatively minor infections may cause death if the child becomes septic or dehydrated. Since many factors may be involved, it is important to create a timeline based on the caretaker reports and medical records.

44. Similar considerations apply to fractures, bruises and other findings previously viewed as diagnostic of child abuse. For example, fractures may be caused by vitamin deficiencies or metabolic bone disease, and developmental abnormalities are sometimes mistaken for fractures. Fractures are also more difficult to time than previously believed. Bruises may similarly have natural causes, including coagulopathy, and cannot be dated as precisely as previously believed.

45. In reviewing Brynn Ackley's medical records, I saw no indication that her treating physicians, or the physicians that testified at Heidi Fero's trial, considered any potential causes of Brynn's injuries other than major nonaccidental injury.

### **Lucid Intervals**

46. In addition to the literature described above regarding the mimics of abusive head trauma or shaken baby syndrome, recent

research has challenged the once-prevailing view that children always went unconscious immediately or very soon after suffering from head trauma.

47. Although there was some earlier evidence that children can remain lucid for a significant period of time after sustaining a fatal head injury, the first systematic evaluation of lucid intervals of which I am aware occurred in 2005. Abrogast and others examined the records for 314 fatally injured children. K.B. Abrogast *et al.*, *Initial Neurologic Presentation in Young Children Sustaining Inflicted and unintentional Fatal Head Injuries*, 116 PEDIATRICS 180 (2005). They concluded that 12.6% of children under 24 months old that had suffered inflicted injuries had Glasgow Coma Scale scores (characterized as moderate) of 8 or above on first examination. Also, 8.3% of children who suffered from falls had a similar GSC score. A GSC score of 8 or above (out of 15) can describe a variety of different states, all of which are conscious, not unconscious.

48. Given the new medical research on lucid intervals, the testimony of the State's experts to the effect that Brynn would have immediately gone unconscious is unsupported by the medical literature. It is impossible to tell from the radiology or otherwise in the medical record when Brynn was injured, and there is a significant

chance that she was injured before she arrived at Ms. Fero's home.

### **Review of Radiology**

49. It is my understanding that Heidi Fero was convicted of causing the injuries evident in the radiology by shaking Brynn shortly before Brynn's arrival at Southwest Medical Center. The radiology does not support a diagnosis of shaken baby syndrome. Instead, the radiology is inconclusive. It is not possible to tell from the radiology whether Brynn's injuries were caused by accidental trauma, nonaccidental trauma, or any of the other mimics of shaken baby syndrome described in this declaration.

50. Preliminarily, I note that my review of the radiology was constrained by the poor quality and small size of the images available to me. Better quality and larger images might enable me to make additional findings.

51. The radiology images for Brynn Ackley, even though poor in quality, show features that are non-specific. That is, the findings may be attributed to several different causes, including natural causes. To determine precisely what caused the injuries, which might not be possible at all, would require a differential diagnosis (the identification of possible causations) supplemented by a complete review of the

child's medical records and clinical history.

*January 7, 2002, CT Scan*

52. A CT scan (contiguous 5 mm axial slices) was made at Southwest Washington Medical Center on January 7, 2002, at 10:43 p.m. shortly after Brynn arrived at that hospital. I reviewed the scan, as well as Dr. Bennett's notes on it. Dr. Bennett identified "global cerebral edema with effacement of basilar cisterns, acute interhemispheric and tentorial and left parietal subdural hemoatoma," as well as "7 mm of midline shift to the right." The report does not note whether there was a loss of grey-white differentiation. I have no basis to dispute Dr. Bennett's interpretation of the scans. However, I note that it is difficult to distinguish between subdural, subarchnoid, intradural or intraventricular hemorrhages on CT scans, especially in children, and I could not make that distinction with these scans. Hemorrhages like those identified by Dr. Bennett are nonspecific for cause, and would not explain Brynn's other injuries.

*January 8, 2002, CT Scan*

53. I reviewed the images from a CT scan conducted at approximately 7:45 am on January 8, 2002, as well as Dr. Bennett's report interpreting those images. In those images, an intracranial monitoring device is present, as is the left-sided craniectomy defect

(part of Brynn's skull was removed to give her brain space to swell). Some gray-white differentiation is present, and the basal cisterns are visualized. There is some interhemispheric hemorrhage, and little to no mid-line shift. The subdural hematoma that Dr. Bennett noted in his report of 1/7/02 is not present, because that was drained in surgery. Dr. Bennett's report outlines similar findings. There are no indicators of trauma, such as skull fractures, contusions, or shear injuries. That there is some gray-white differentiation suggests that the edema may be relatively recent. Edema may be secondary to other causes, including infection or lack of oxygen to the brain.

*January 9, 2002, CT Scan*

54. The images from a CT scan conducted at approximately 9:30 am on January 9, 2002, show the crainectomy defect and intracranial monitoring device. There is minimal mid-line shift, and poor gray-white differentiation. As Dr. Kozak's report notes, when compared with the CT scan taken on 1/8/02, there is more protrusion of the brain through the skull defect. The loss of gray-white differentiation suggests diffuse ischemic (restriction of blood and oxygen flow) event and infarct (tissue death). A follow-up cerebral blood flow exam conducted on 1/10/02 (the report, but not the test results themselves, was available to me) showed asymmetric flow,

with more blood flowing to the left cerebral parenchyma than the right (that is, toward the left-side cerebral edema). The report notes that the flow was not normal, but not consistent with brain death.

*January 10, 2002, CT Scan*

55. CT images from a scan conducted on January 10, 2002, at approximately 7 am show a more clearly delineated area of potential infarction. There is mild midline shift. These observations are consistent with those noted by Dr. Veverka in his report.

*January 13, 2002, CT Scan*

56. CT images from a scan taken on January 13, 2002, continue to show a loss of gray-white differentiation. There is more extensive mid-line shift, more profound infarct and more edema and protrusion of the brain through the craniectomy defect. These findings are consistent with those noted by Dr. Kozak in his report.

57. There were CT scans taken on 1/19/02, 1/30/02, 2/20/02, 2/27/02, 3/11/02, and 5/20/02. In general, these scans showed gradual atrophic changes, in both the left and right hemispheres, and a reduction in swelling over time.

**Conclusion**

58. I agree with Dr. Ophoven that this is a mistaken diagnosis of shaken baby syndrome. It is improbable that a child of this size

could have been shaken with the type of force suggested in shaken baby theory, and the absence of neck injury or grip marks further militates against this conclusion. Since Dr. Ophoven has been active in the shaken baby field, her conclusion that this is not a shaken baby case should be accorded considerable weight.

59. I agree with Dr. Ophoven that it is not medically possible to time the injuries to the time that Ms. Fero cared for the child. If the injury was inflicted, which is not apparent from the records, it is equally possible that it was inflicted earlier in the day. It may also have occurred even earlier.

60. I agree with Dr. Ophoven that it is not possible to time the bruises and abrasions. These may be normal toddler bruises, resulting from normal play or accidental falls over a period of days or weeks.

61. Recent literature does not provide scientific support that shaking alone can cause the injuries that Brynn Ackley exhibited. At the time of Ms. Fero's trial, many doctors would have agreed with the doctors for the state.

62. Today, as a pediatric neuroradiologist, I still work with children who are suspected victims of abuse. However, shaken baby syndrome theories as applied in this case are no longer supported by the scientific literature. Evidence-based medicine has not supported

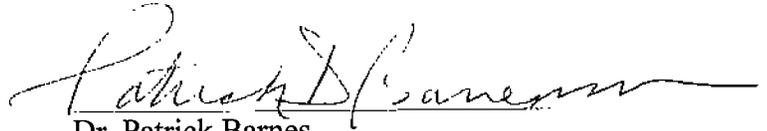
the state's theory at Ms. Fero's trial, and this has become increasingly clear since her trial in 2003.

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DECLARED under penalty of perjury according to the laws of the State of

Washington, this 5<sup>th</sup> day of May, 2014, at

Palo Alto, California.

  
Dr. Patrick Barnes

# EXHIBIT A

**Name:** Patrick D. Barnes, M.D. **2014**

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 Lucile Salter Packard Children's Hospital  
 Stanford University Medical Center  
 725 Welch Road  
 Palo Alto, CA 94304

**E-Mail:** pbarnes@stanford.edu **Phone:** 650-497-8601

**Place of Birth:** Oklahoma City, Oklahoma, USA **Fax:** 650-497-8745

**Education:**

1965-1969	Letters / Pre-Medicine	University of Oklahoma, Norman, OK
1969-1973	Doctor of Medicine	University of Oklahoma College of Medicine, Oklahoma City, OK

**Postdoctoral Training:**

**Residency:**

1973-1976	Diagnostic Radiology, University of Oklahoma College of Medicine, Oklahoma City, Oklahoma
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**Fellowship:**

1976-1977	Fellow in Pediatric Neuroradiology and Cardiovascular Radiology, Children's Hospital and Harvard Medical School, Boston, MA
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**Licensure and Certification:**

1973	Federal Licensure Examination Certificate
1974	Oklahoma State Board of Medical Examiners
1977	American Board of Radiology Certificate in Diagnostic Radiology
1986	Commonwealth of Massachusetts Board of Registration in Medicine
2000	Medical Board of California C50437
1995	American Board of Radiology Certificate of Added Qualifications in Neuroradiology
2008	American Board of Radiology Maintenance of Certification in Neuroradiology

**Academic Appointments:**

1976-1977	Instructor in Radiology, University of Oklahoma College of Medicine
1977-1986	Lecturer in Radiologic Technology, University of Oklahoma College of Health
1977-1982	Assistant Professor of Radiology, University of Oklahoma College of Medicine
1980-1986	Adjunct Faculty, Radiologic Technology, Oscar Rose Junior College
1980-1986	Clinical Assistant Professor of Neurosurgery, University of Oklahoma College of Medicine
1982-1986	Associate Professor of Radiology, University of Oklahoma College of Medicine
1987-1992	Assistant Professor Radiology, Harvard Medical School
1992-2000	Associate Professor of Radiology, Harvard Medical School

**Page 2**

- 2000- Clinical Associate Professor of Radiology, Stanford University Medical Center  
2002- Associate Professor of Radiology, Stanford University Medical Center  
2007- Professor of Radiology, Stanford University Medical Center

**Hospital and Affiliated Institution Appointments:**

- 1977-1986 Pediatric Radiologist, Neuroradiology and Cardiovascular Radiology, Oklahoma Children's Memorial Hospital, Oklahoma City, Oklahoma  
1977-1986 Consulting Radiologist, Oklahoma Memorial Hospital and Veterans Administration Hospital, Oklahoma City, Oklahoma  
1984-1986 Consulting Radiologist, Oklahoma Diagnostic Imaging Center, Oklahoma City, Oklahoma  
1987-1991 Associate Radiologist, Neuroradiology, The Children's Hospital, Boston, MA  
1987-2000 Consulting Radiologist, Brigham and Women's Hospital, Beth Israel Hospital, New England Deaconess Hospital, Dana Farber Cancer Institute, Boston, MA  
1990-1997 Clinical Coordinator, Magnetic Resonance Imaging, Children's Hospital, Boston, MA  
1992-1995 Chief, Section of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA  
1995-1999 Chief, Division of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA  
1995-2000 Board of Directors, Children's Hospital Radiology Foundation, Inc.  
1996-2000 Clinical Executive Committee, Department of Radiology, Children's Hospital, Boston, MA  
1997-1998 Associate Director of CT, Department of Radiology, Children's Hospital, Boston, MA  
1997-1999 Director of MRI, Department of Radiology, Children's Hospital, Boston, MA  
1999-2000 Director, Division of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA  
1999-2000 Treasurer, Children's Hospital Radiology Foundation, Inc.  
1999-2000 Associate Chief for Clinical Operations, Department of Radiology, Children's Hospital, Boston, MA  
2000 Senior Associate Neuroradiologist, Department of Radiology, Beth Israel Deaconess Medical Center, and Harvard Medical Faculty Physicians, Inc.  
2000- Staff Physician, Pediatric Neuroradiologist, Lucile Salter Packard Children's Hospital and Stanford University Medical Center  
2001- Interim Director, Pediatric Radiology, Lucile Salter Packard Children's Hospital (Jun-Aug./ JCAHO Survey)  
2002- Chief, Section of Pediatric Neuroradiology, Lucile Salter Packard Children's Hospital, Stanford University Medical Center, Palo Alto, CA  
2002- Co-Medical Director, MRI/CT Center, Lucile Salter Packard Children's

## Hospital

### **Other Professional Positions and Major Visiting Appointments:**

- 1988 Visiting Professor, The Western Pennsylvania Hospital, Pittsburg, PA  
1989 Visiting Professor, New England Medical Center and Tufts University  
Medical School, Boston, MA  
1989 Visiting Professor, Akron Children's Hospital, Akron General Hospital,  
and Northeastern Ohio Universities College of Medicine, Akron, Ohio  
1990 Visiting Professor, Rhode Island Hospital and Brown University College  
of Medicine, Providence, R.I.

### **Page 3**

- 1991 Visiting Professor, University of Massachusetts Medical Center and  
Medical School, Worcester, MA  
1993 Visiting Professor, Columbus Children's Hospital and the Ohio State  
University Hospitals, Columbus, OH  
1993 Visiting Professor, Christchurch Hospital, University of Otago,  
Christchurch, New Zealand  
1993 Visiting Professor, Royal Children's Hospital, University of Melbourne,  
Melbourne, Australia  
1993 Visiting Professor, Royal Alexandra Hospital for Children, University of  
Sydney, Sydney, Australia  
1993 Visiting Professor, Prince of Wales Children's Hospital, University of  
New South Wales, Sydney, Australia  
1997 Visiting Professor, Montreal Children's Hospital, Montreal General  
Hospital, Montreal Neurologic Institute, McGill University, Montreal,  
Quebec, Canada  
1998 Visiting Professor, Children's Hospital of Pittsburgh, University of  
Pittsburgh, Pittsburgh, PA  
1998 Visiting Professor, William Beaumont Hospital, Royal Oak, MI  
2000 Visiting Professor, Rhode Island Hospital and the Hasbro Children's  
Hospital Brown University School of Medicine, Providence, RI  
2000 Visiting Professor, Massachusetts General Hospital, The Mass General  
Hospital for Children, and Harvard Medical School, Boston, MA  
2008 Visiting Professor, Department of Radiology, Duke University Medical  
Center, Durham NC.  
2009 Visiting Professor, Department of Radiology, Hospital for Sick Children,  
University of Toronto, Toronto Ontario Canada.  
2010 Visiting Professor, Department of Radiology, University of Arizona  
Medical Center, Tucson AZ.  
2010 Visiting Professor, Department of Radiology, Vancouver General  
Hospital, BC Children's Hospital, University of British Columbia,  
Vancouver BC, Canada.

### **Hospital and Health Care Organization Service Responsibilities:**

- 1977-1986 Staff Pediatric Radiologist and Section Chief, Pediatric Neuroradiology  
and Cardiovascular Radiology, Oklahoma Children's Memorial Hospital

1987-1992 Associate Radiologist, Neuroradiology, The Children's Hospital, Harvard Medical School, Boston, MA

1992-1995 Chief, Section of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA

1995-2000 Chief, Division of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA

1997-1998 Associate Director of CT, Department of Radiology, Children's Hospital, Boston, MA

1997-1999 Director of MRI, Department of Radiology, Children's Hospital, Boston, MA

1999-2000 Director, Division of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA

1999-2000 Associate Chief for Clinical Operations, Department of Radiology, Children's Hospital, Boston, MA

2000- Pediatric Neuroradiologist, Lucile Salter Packard Children's Hospital and Stanford University Medical Center

2001- Section Chief, Pediatric Neuroradiology, Lucile Salter Packard Children's Hospital, Stanford University Medical Center

2001- Interim Director, MRI/CT Center, Lucile Salter Packard Children's Hospital, Stanford University Medical Center

2002- Interim Director, Pediatric Radiology, Lucile Salter Packard Children's Hospital (Jun-Aug./ JCAHO Survey)

2002- Chief, Section of Pediatric Neuroradiology, Lucile Salter Packard Children's Hospital, Stanford University Medical Center, Palo Alto, CA

2002- Medical Co-Director, MRI/CT Center, Lucile Salter Packard Children's Hospital

#### Page 4

#### Major Administrative Responsibilities:

1984-1986 Clinical Project/Program Consultant, Oklahoma Diagnostic Imaging Center, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma

1985-1986 Clinical Project/Program Director, Oklahoma Teaching Hospitals, Magnetic Resonance Center

1987-1990 Clinical Coordinator, The Children's Hospital MRI Determination-Of-Need Process, Department of Public Health, The Commonwealth of Massachusetts, DON Certification, Jan. 1988.

1987-1990 Clinical Coordinator for MRI, The Children's Hospital and The Joint Center for Magnetic Resonance Imaging

1990-1997 Clinical Coordinator, Children's Hospital MRI Service.

1992-1995 Chief, Section of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA

- 1992-1999 Co-Director, Combined Neuroradiology Fellowship Program, Brigham & Women's Hospital, Beth Israel Hospital, Children's Hospital, New England Deaconess Hospital, Boston, MA
- 1992-1999 Director, Pediatric Neuroradiology Fellowship Program, Department of Radiology, Children's Hospital, Boston, MA
- 1995-2000 Chief, Division of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA
- 1996-2000 Board of Directors, Children's Hospital Radiology Foundation, Inc (CHRFI), Children's Hospital, Boston, MA
- 1996-2000 Clinical Executive Committee, Department of Radiology, Children's Hospital, Boston, MA
- 1997-1998 Associate Director of CT, Department of Radiology, Children's Hospital, Boston, MA
- 1997-1999 Director of MRI, Department of Radiology, Children's Hospital, Boston, MA
- 1998-1999 Chair, Bylaws Committee, Children's Hospital Radiology Foundation, Inc (CHRFI), Children's Hospital, Boston, MA
- 1999-2000 Treasurer, Children's Hospital Radiology Foundation, Inc.
- 1999-2000 Director, Division of Neuroradiology, Department of Radiology, Children's Hospital, Boston, MA
- 1999-2000 Associate Chief for Clinical Operations, Department of Radiology, Children's Hospital, Boston, MA
- 2000- Pediatric Neuroradiologist, Lucile Salter Packard Children's Hospital and Stanford University Medical Center
- 2001- Interim Director, Pediatric Radiology, Lucile Salter Packard Children's Hospital (Jun-Aug./ JCAHO Survey)
- 2002- Chief, Section of Pediatric Neuroradiology, Lucile Salter Packard Children's Hospital, Stanford University Medical Center, Palo Alto, CA
- 2002- Medical Co-Director, MRI/CT Center, Lucile Salter Packard Children's Hospital

**Major Committee Assignments:**

Hospital and Medical School:

- 1977-1981 Safety Committee, Oklahoma Children's Memorial Hospital
- 1977-1986 Neonatal Care Committee, Oklahoma Children's Memorial Hospital
- 1977-1986 Utilization Review Committee, Oklahoma Children's Memorial Hospital

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- 1979-1986 Education and Research Committee, Oklahoma Children's Memorial Hospital
- 1984-1985 Chairman, State of Oklahoma Teaching Hospitals Task Force on Magnetic Resonance, Oklahoma City, OK
- 1985-1986 Quality Assurance Committee, Oklahoma Children's Memorial Hospital
- 1988-1990 Chairman, Joint Center for Magnetic Resonance Imaging, Consortium Clinical and Research Committee, Boston, MA

- 1988-2000 Pediatric Brain Tumor Working Group, The Children's Hospital and Dana-Farber Cancer Institute, Boston
- 1988 Steering Committee, Magnetic Resonance Imaging, Department of Radiology, The Children's Hospital, Boston
- 1989-1991 Chair, Radiology Quality Assurance/Quality Improvement Audit Committee, Children's Hospital, Boston
106. Radiology Quality Improvement/Risk Management Committee, Children's Hospital, Boston
- 1992- Neuroradiology Consultant, Child Protection Service, Children's Hospital, Boston
- 1992-2000 Department of Radiology Sedation & Contrast Media Committee, Children's Hospital, Boston
- 1996 Review of the Department of Neurology, Ad Hoc Review Committee, Children's Hospital, Boston
- 1998-1999 Neuroscience Business Planning Steering Committee and Marketing Team, Children's Hospital, Boston
- 1998-1999 Harvard Medical School Information Technology Initiative, Hospital and Clinical Linkages Committee, Harvard Medical School and Children's Hospital, Boston
- 1991-1999 Representative, Department of Radiology, Physician's Leadership Council of the Physician's Organization, Children's Hospital, Boston
- 2000- Sedation Committee, Lucile Salter Packard Children's Hospital at Stanford, Palo Alto, CA
- 2000- MR / CT Imaging Facility Planning Committee, Lucile Salter Packard Children's Hospital at Stanford, Palo Alto, CA
- 2000- 6-Sigma GEMS MR Capacity Committee, Stanford University Medical Center, Palo Alto, CA.
- 2005- Phases I, II LPCH Expansion Committee, Imaging.

Regional:

- 1985-1986 Consultant on MRI, Oklahoma Health Planning Commission, Technical Advisory Committee, Oklahoma City, OK
- 2008- Member, Child Abuse Task Force, SCAN Team, Lucile Packard Children's Hospital, Stanford University Medical Center, and Santa Clara Valley Medical Center.

National:

- 1987-1999 Quality Assurance Review Center, National Brain Tumor Committee, and Diagnostic Imaging Committee, Pediatric Oncology Group - High-risk Medulloblastomas, Providence RI
- 1991-1993 Pediatric Medical Advisory Board for MRI, General Electric Medical Systems.
- 1991-2000 Member, Neurology Major Test Committee, American Board of Psychiatry and Neurology, National Board of Medical Examiners, Philadelphia, PA

**Page 6**

- 1998 Expert Panel Participant, Evidence-Based Guideline Development for the Management of Children Younger than Two Years of Age with Minor Head Trauma, Packard Foundation.
- 2000- Expert Panel Participant, Evidence-Based Neuroimaging in the Neonate-Practice Parameter Development Committee, American Academy of Neurology.
- 2005- Neuroradiologic Consultant / Central Reviewer, Neuroimaging and Neurodevelopmental Outcome, SUPPORT Multicenter Project, Neonatal Research Network, National Institute of Child Health and Human Development (NICHD).
- 2006- Neuroradiologic Consultant / Central Reviewer, Intervention Trial of Hypothermia for Term HIE Multicenter Project, Neonatal Research Network, National Institute of Child Health and Human Development (NICHD).
- 2007-2008 Chair, Child Abuse Task Force, Society for Pediatric Radiology.

**Professional Societies and Offices:**

- 1977-1986 Oklahoma County Medical Society
- 1977-1986 Oklahoma State Medical Association
- 1977-1986 Central Oklahoma Radiological Society
- 1977-1986 Oklahoma State Radiological Association
- 1977-1986 Central Oklahoma Pediatric Society
- 1977-1986 Oklahoma City Clinical Society
- 1977-1986 Oklahoma Neurological Society
- 1977- American Medical Association
- 1977- Radiologic Society of North America
- 1977- American College of Radiology
- 1980-1986 Rocky Mountain Neurosurgical Society
- 1980- Society for Pediatric Radiology
- 1980- American Society of Neuroradiology
- 1980- American Roentgen Ray Society
- 1987- New England Roentgen Ray Society
- 1987- Boston Neuroradiology Club
- 1987- Boston Pediatric Radiology Club
- 1987- Massachusetts Radiological Society
- 1988-1998 Society of Magnetic Resonance Imaging
- 1991-1992 Member, Pediatric Neuroradiology Subcommittee on Training and Practice Standards, American Society of Neuroradiology
- 1991- The Kirkpatrick Society
- 1992-1996 Chair, Pediatric Neuroradiology Committee, Society for Pediatric Radiology
- 1992-1998 Chair, Pediatric Neuroradiology Subcommittee on Training and Standards, American Society of Neuroradiology

- 1992-1993 Co-Founder and member-at-large, Steering Committee, Pediatric Neuroradiology Section of the American Society of Neuroradiology - the American Society of Pediatric Neuroradiology
- 1993-1995 Member-at-Large, Executive Committee, American Society of Pediatric Neuroradiology, and alternate Representative to Subspecialty Council, American Society of Neuroradiology
- 1995-1996 Treasurer, American Society of Pediatric Neuroradiology
- 1996-1997 Secretary and Chair, Membership Committee, American Society of Pediatric Neuroradiology
- 1996 Chair, Subcommittee "Standard for Cranial Computed Tomography in Infants and Children", The Society for Pediatric Radiology and American College of Radiology

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- 1997 Chair, Subcommittee "Standard for Cranial Magnetic Resonance Imaging in Infants and Children", The Society for Pediatric Radiology and American College of Radiology
- 1996 Member, Subcommittee "Standard for Sedation/Analgesia in Pediatric Radiology" (M. Cohen, Chair), The Society for Pediatric Radiology and American College of Radiology
- 1997-1998 Vice President, President-Elect, and Chair, Nominating/Award Committee, American Society of Pediatric Neuroradiology
- 1998 Member, Caffey Awards Committee, Society for Pediatric Radiology 41st Annual Meeting, Tucson, AZ, May 7-9
- 1998 Chair, Derek Harwood-Nash Award Committee, American Society of Pediatric Neuroradiology, American Society of Neuroradiology 36th Annual Meeting, Philadelphia, PA, May 17-21
- 1998-1999 President and Chair, Program/Education Committee, American Society of Pediatric Neuroradiology
- 1998-1999 Member, Executive Committee, Program Committee, Clinical Practice Committee, Clinical Outcomes Research Committee, American Society of Neuroradiology
- 1999-2000 Chair, Board of Directors, American Society of Pediatric Neuroradiology
- 2000- Chair, Standards and Guidelines Committee, American Society of Pediatric Neuroradiology
- 2000- Member, Child Abuse Committee, Society for Pediatric Radiology
- 2007 Chair, Child Abuse Task Force, Society for Pediatric Radiology
- 2008- Member, Child Abuse Task Force, Society for Pediatric Radiology
- 2008- Member, Neuroradiology Committee, Society for Pediatric Radiology

**Editorial Boards:**

- 1988- Reviewer, Radiology (journal of the Radiological Society of North America)
- 1988- Reviewer, American Journal of Neuroradiology (journal of the American Society of Neuroradiology)
- 1991- Editorial Board, Reviewer, Journal of Child Neurology

- 1991- Reviewer, American Journal of Roentgenology (American Roentgen Ray Society)
- 1993- Reviewer, Neuroradiology
- 1993- Reviewer, Pediatrics
- 1993- Reviewer, Journal of Pediatrics
- 1994- Editorial Board, Reviewer, Pediatric Radiology (Journal of The Society for Pediatric Radiology and the European Society for Pediatric Radiology)
- 1995-1997 Associate Editor for Pediatric Neuroradiology, International Medical Image Registry
- 1995- Reviewer, Journal of Computed Assisted Tomography
- 1997- Reviewer, Neurology

**Awards and Honors:**

- 1969 Letzeiser Honor List, University Of Oklahoma
- 1972 Alpha Omega Alpha
- 1973 Graduation with Honors, Doctor of Medicine, University of Oklahoma College of Medicine

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- 1995 Derek Harwood-Nash Outstanding Pediatric Neuroradiology Paper: Tzika AA, Barnes PD (mentor), Tarbell NJ, Nelson SJ, Scott RM. "Multivoxel proton spectroscopy of childhood brain tumors", presentation at ASNR 33rd Annual Meeting, Chicago, IL.
- 1996 Spirit Award, Children's Hospital, Boston, MA.
- 1996 Honorary Member, Australasian Society of Pediatric Imaging
- 1997 Kirkpatrick Young Investigator Award: Alberico RA, Barnes PD (mentor), Robertson RL, Burrows PE. "Dynamic cerebrovascular imaging in pediatric patients with use of helical CT angiography", paper presentation at the Society for Pediatric Radiology 40th Annual Meeting, St. Louis, MO.
- 1997 Cum Laude Citation (Scientific Exhibit): Levine D, Barnes PD (mentor), Madsen JR, Hulka CA, Li W, Edelman RR. "HASTE MR imaging improves sonographic diagnosis of fetal central nervous system anomalies", scientific exhibit and paper presentation at Radiological Society of North America 83rd Scientific Assembly and Annual Meeting, Chicago, IL.
- 1998 John A. Kirkpatrick Jr. Teaching Award, Pediatric Radiology Fellowship Program, Department of Radiology, Children's Hospital and Harvard Medical School, Boston, MA.
- 1999 Derek Harwood-Nash for Outstanding Pediatric Neuroradiology Paper: Robertson RL, Ben-Sira L, Schlaug G, Maier SE, Mulkern RV, Duplessis A, Barnes PD (mentor), Robson CD. Line scan diffusion imaging of the brain in neonatal cerebral infarction, paper presented at the ASNR/ASPNR Annual Meeting, San Diego, CA.

- 2000 Medical Intelligence Corporation Scientific Achievement Award for Outstanding Contributions to Neuroimaging in Enhancing Understanding of Timing of Fetal Injury, Las Vegas, Nevada, October 19, 2000.
- 2000 Outstanding Head & Neck Radiology Paper: Robson CD, Mulliken JB, Robertson RL, Proctor MR, Barnes PD (mentor). Prominent basal emissary foramina in syndromic craniosynostosis – correlation with phenotype and molecular diagnosis, paper presented at the ASNR/ASPNR/ASHNR Annual Meeting, Atlanta, GA, May 2000.
- 2001 Award of Appreciation for Service & Leadership as Past President 1998-1999, The American Society of Pediatric Neuroradiology, American Society of Neuroradiology 39<sup>th</sup> Annual Meeting, Boston, MA, April 23, 2001.
- 2003 Stanford B. Rossiter Senior Faculty of the Year 2002-2003. Outstanding Contributions to Resident Education, Compassionate Patient Care, and Research, Department of Radiology, Stanford University Medical Center.
- 2005 Senior Faculty of the Year 2004-2005. Outstanding Contributions to Resident Education, Compassionate Patient Care, and Research, Department of Radiology, Stanford University Medical Center.
- 2006 Senior Faculty of the Year 2005-2006. Outstanding Contributions to Resident Education, Compassionate Patient Care, and Research, Department of Radiology, Stanford University Medical Center.
- 2008 The Herman Grossman Lecturer, Department of Radiology, Duke University Medical Center, In Appreciation for Your Contributions to Pediatric Radiology and the Eleventh Annual Herman Grossman Lecturer, April 10, 2008.
- 2010 Caffey Award Scientific Paper. Bammer R, Holdsworth S, Skare S, Yeom K, Barnes P. Clinical evaluation of readout-segmented-EPI for diffusion-weighted imaging. Scientific Paper Presentation Society for Pediatric Radiology Annual Meeting, Boston MA April 2010.
- 2010 Caffey Award Scientific Paper. Skare S, Holdsworth S, Yeom K, Barnes P, Bammer R. High-resolution motion-corrected diffusion-tensor imaging (DTI) in infants. Scientific Paper Presentation Society for Pediatric Radiology Annual Meeting, Boston MA April 2010.
- 2010 Caffey Award Scientific Paper. Bammer R, Holdsworth S, Skare S, Yeom K, Barnes P. 3D SAP-EPI in motion-corrected fast susceptibility weighted imaging (SWI). Scientific Paper Presentation Society for Pediatric Radiology Annual Meeting, Boston MA April 2010.
- 2010 Caffey Award Scientific Paper. Bammer R, Holdsworth S, Skare S, Yeom K, Barnes P. T1-weighted 3D SAP-EPI for use in pediatric imaging. Scientific Paper Presentation Society for Pediatric Radiology Annual Meeting, Boston MA April 2010.
- 2012 An America's Top Doctor - US News & World Report (Top 1% of neuroradiologists in the nation for 5 years, Castle Connolly Medical Ltd.) <[health.usnews.com/top-doctors](http://health.usnews.com/top-doctors)>.

## RESEARCH, TEACHING, AND CLINICAL CONTRIBUTIONS

### Research Activities:

- 1985 Surface Coil Magnetic Resonance Imaging Clinical Research and Development Project, Dan Galloway, M.D., Patrick Barnes, M.D., and John Prince, Ph.D., Principal Co-Investigators, Oklahoma Diagnostic Imaging Center, University of Oklahoma Health Sciences Center and General Electric Medical Systems, Inc. (IRB#02926).
- 1986 Magnetic Resonance Imaging and the Evaluation of Morphologic and Biochemical Abnormalities. Patrick Barnes, M.D., and John Prince, Ph.D., Radiology, Principal Co-Investigators, University of Oklahoma Health Sciences Center (IRB#02958), Oklahoma Teaching Hospitals and Philips Medical Systems, Inc. (FDA-PMA-#P840063A).
- 1987-1991 Pre-Radiation Chemotherapy in the Treatment of Children with Brain Stem Neoplasia, Evaluation with CT and MRI, Pediatric Oncology Group, Cynthia Kretschmer, M.D., The Massachusetts General Hospital, Coordinator (POG8833); Neuroradiologic consultant.

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- 1988-1997 Infant Heart Surgery: CNS Sequelae of Circulatory Arrest, evaluation including Magnetic Resonance Imaging, Jane Newburger, M.D., Principal Investigator, Department of Cardiology, The Children's Hospital (NIH 1R01HL4178601); Neuroradiologic consultant.
- 1988-1998
- 1990-1991 Fast Spin Echo Magnetic Resonance Neuroimaging Project, Patrick Barnes, M.D. and Robert Mulkern, Ph.D., Principal Investigators, Children's Hospital, General Electric Medical Systems, Inc. (CH90-10-099).
- 1990-1997 Chemotherapy and Radiation Therapy in the Treatment of Seeding Tumors of the CNS in Children, Amy Billett, M.D. and Nancy Tarbell, M.D., Study Chairpersons (DFCI 90-114); Neuroradiologic consultant.
- 1990-1997 Radiosensitizer Chemotherapy (Etanidazole-SR 2508) and Radiotherapy in Children with Brain Stem Gliomas, Nancy Tarbell, M.D., Study Chairperson (DFCI 90-080); Neuroradiologic consultant.
- 1991-1999 High Stage Medulloblastomas, Quality Assurance Review Center, Pediatric Oncology Group, Nancy Tarbell, M.D. and Patrick D. Barnes, M.D., Co-Principal Investigators
- 1992-1997 Stereotactic Radiotherapy for Pediatric Brain Tumors, Nancy Tarbell, M.D., Study Chairperson (DFCI 92-077); Neuroradiologic consultant.
- 1992-1997 Stereotactic Radiation Therapy for Recurrent or Metastatic CNS Tumors, J. Fontanesi, M.D., J. Loeffler, M.D., P. Barnes, M.D., et al, Coordinators, Pediatric Oncology Group SRS #9373 Protocol.
- 1994-2000 MR-Techniques in the Assessment of the Newborn Brain, Steven A. Ringer, M.D., Ph.D., Petra S. Huppi, M.D., Co-Principal Investigators, JPN Clinical Research Initiative and Reynolds-Rich-Smith Fellowship; Neuroradiologic Consultant.
- 1996 Efficacy And Cost-Effectiveness of Fast-Screening Brain MRI Versus Conventional MRI in Children Suspected of Having a Brain Tumor L.

- Santiago Medina, M.D., Patrick D. Barnes, M.D., A.D. Paltiel, M.D., David Zurakowski, The Society for Pediatric Radiology Research and Education Fund Grant.
- 1996-2000 Metabolic and Hemodynamic MR Characterization of Pediatric Brain Tumors, A. Aria Tzika, Principal Investigator, Patrick Barnes, M.D., et al, Co-Investigator, American Cancer Society (EDT-80188)
- 1996-2000 Rehabilitation, Brain Lesions, and Movement in Infants, Edward E. Tronick, Ph.D., Linda Fetter, Ph.D., Alan Leviton, M.D., Co-Principal Investigators (NIH RO1); Neuroradiologic Consultant.
- 1996-2000 Ultrafast MRI of the Fetal Brain, D. Levine, M.D., Principal Investigator (NIH R29 NS37945-01), Beth Israel Deaconess Medical Center; Neuroradiologic Consultant.

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- 1999-2000 Pediatric Brain Tumor Consortium, M. Kieran, M.D., Nancy J. Tarbell, M.D. Co-Principal Investigators (NIH/NCI 1 U01 CA 81452-01), Children's Hospital, Massachusetts General Hospital, and Dana Farber Cancer Center; Member, Neuroradiology Committee and Senior Site Neuroradiologic Consultant.
- 1999-2000 Pediatric Centers for MRI Study of Normal Brain Development, NIH-NINDS-98-13, Michael Rivkin, M.D., principal investigator; Co-investigator and Consultant.
- 2001- PAR-98-017 (Reiss) NIMH Longitudinal MRI Study of Brain Development in Fragile X (7.5% effort funded).
- 2001- 2 R01 MH50047 (Reiss) NIMH Longitudinal Outcomes and Neuroimaging of Fragile X Syndrome (5% effort funded).
- 2001- Barth R, MRI of Fetal Ventriculomegaly.
- 2001 Arriagno R (NIH) Neonatal Diagnosis of Possible Brain Injury in Very Low Birth Weight Preterm Infants.
- 2001- Reiss et al. Velocardiofacial syndrome – neuroimaging.
- 2001- Reiss et al. Bipolar disorder – neuroimaging.
- 2001- Reiss et al. Coffin-Lowry syndrome – neuroimaging.
- 2002- Barnes P, et al. Stanford University Certification of Human Subjects Approval IRB Protocol ID 78050: Magnetic Resonance Imaging (MRI) of the Developing Central Nervous System (CNS), March 5, 2002.
- 2002- Diabetic Ketoacidosis Cerebral Edema Multicenter Study (N. Glaser et al [1% effort funded]).

- 2006- 2U HD 27880-16 Van Meurs (PI). Project period: 04/01/06–03/31/11  
NIH/NICHHD *Multicenter Network of Neonatal Intensive Care Units  
Intervention Trial of Hypothermia for Term Hypoxic Ischemic  
Encephalopathy*. Role: Central MRI reader/Neuroimaging consultant
- 2006- 2U HD 27880-16 Van Meurs (PI). Project period: 04/01/06–03/31/11  
NIH/NICHHD *Multicenter Network of Neonatal Intensive Care Units  
Neuroimaging and Neurodevelopmental Outcome, SUPPORT Multi-  
Center Project* This project investigates the value of brain magnetic  
imaging (MRI) in predicting neurodevelopmental outcome in extremely  
low birthweight (ELBW) infants. Role: Central MRI reader /  
Neuroimaging consultant
- 2008 The Well-Nourished and Sleeping Preterm Infant Will Have Improved  
Brain (Ariagno). Development and Neurodevelopmental Outcome. The  
Gerber Foundation. Consultant. 08/01/2005-07/31/2008
- 2008- NIH 1R01 EB008706 Bammer (PI) Project period: 09/01/08 – 08/31/13  
Effort: 4.5% ADC: \$414,692 “Short Axis EPI MRI at High Field”
- 2008- Neuroradiologic Consultant / Central Reviewer, National  
Holoprosencephaly Project, The Carter Center.
- 2009- NIH 1R01 MH083972 Antonio Hardan (PI); Project period: 3/1/09 –  
12-31-13; Effort: 4.5%; ADC: \$391,595 ; "A Neuroimaging Study of  
Twin Pairs with Autism"
- 2009- LPCH Center for Brain Behavior Awards in Pediatric Neurosciences  
K. Yeom (PI); Project Period: 2009-2011; Effort: 1%; ADC: \$145,000  
“MR Imaging Correlates for Cognitive Dysfunction in Pediatric  
Medulloblastoma Treated with Cranial Irradiation.”

**Teaching:**

Local Contributions:

- 1976-1979 Course Director and Conference Leader, Pediatric House Staff Core  
Lecture Series, Pediatric Radiology, Oklahoma Children's Memorial  
Hospital
- 1976-1980 Conference Co-leader, Monthly Orthopaedic Radiology-Pathology  
Conference, Oklahoma Teaching Hospitals
- 1977-1979 Physician Associates Radiology Lecture Series, College of Allied Health,  
University of Oklahoma
- 1977-1982 Conference Co-Leader, Weekly Pediatric Cardiology and Cardiac Surgery  
Conference
- 1977-1982 Conference Co-Leader - "Sickle Cell Anemia", Annual Clinical  
Demonstration for First Year Medical Students, College of Medicine,  
University of Oklahoma.
- 1977-1982 Pediatric Cardiac Cine-Angiocardiographic case review and consultation  
weekly with Pediatric, Pediatric Cardiology, Thoracic Surgery Staff,  
Residents and Fellows
- 1977-1985 Pediatric Grand Rounds, Oklahoma Children's Memorial Hospital.
- 1977-1986 Attending Physician and Conference Leader, Daily and Weekly Clinical  
Teaching Rounds, Children's Memorial Hospital, University of Oklahoma  
College of Medicine; Pediatric Radiology Film and Fluoroscopy Review

- with Radiology, Pediatric, Family Medicine Residents and Medical Students.
- 1977-1986 Pediatric Neuroradiology Case Review and Consultation daily with Neurosurgery, Neurology, Pediatric, and Adolescent Medicine Staff, Residents, Fellows and Medical Students
- 1977-1986 Pediatric Computed Tomography, Conventional Tomography, and Special Procedures case review and consultation daily with Pediatric, Pediatric Surgery, Adolescent Medicine, and Orthopedic Staff, Residents, Fellows and Medical Students
- 1977-1986 Elective Tutorials in Pediatric Neuroradiology and Cardiovascular Radiology for Pediatric, Radiology, Neurosurgery, Neurology and Pediatric Surgery Residents, Fellows, and Students
- 1977-1986 Weekly Diagnostic Radiology Residency Lecture Series, University of Oklahoma College of Medicine

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- 1977-1986 Quarterly Radiologic Technology Inservice in Pediatric Neuroradiology and Cardiovascular Radiology Special Procedures
- 1977-1986 Co-Leader, Weekly Neurosurgery/Neurology Grand Rounds, Oklahoma Teaching Hospitals and St. Anthony Hospital, Oklahoma City, Oklahoma
- 1978-1982 Course Lecturer, Annual Department of Radiological Sciences Continuing Medical Education Courses, University of Oklahoma Health Sciences Center
- 1978-1985 Lecturer, Annual Graduate Physics Seminar, College of Allied Health, University of Oklahoma Health Sciences Center
- 1979-1981 Lecturer, Annual Radiology Grand Rounds, Oklahoma Teaching Hospitals
- 1980-1985 Lecturer, Pediatric Surgery Core Lecture Series in Pediatric Radiology, Oklahoma Children's Memorial Hospital
- 1981-1986 Lecturer, Neurology/Pediatric Neuroradiology Lecture Series, Oklahoma Teaching Hospitals
- 1982-1985 Participant, Senior Radiology Resident Pre-Board Examinations, University of Oklahoma College of Medicine
- 1982-1986 Lecturer, Pediatric House Staff Core Lecture Series in Pediatric Radiology, Oklahoma Children's Memorial Hospital
- 1983-1986 Course Developer and Director, Resident Final Examination in Pediatric Radiology, University of Oklahoma College of Medicine
- 1985-1986 Oklahoma Diagnostic Imaging Center Lecture Series, Course Co-Developer and Co-Director
- 1985-1986 Oklahoma Teaching Hospitals Department of Radiological Sciences, Magnetic Resonance Imaging Lecture Series (Course Developer and Director)
- 1986 "Magnetic Resonance Imaging for the Referring Physician", Continuing Medical Education Seminar, Program Co-Director, Session Moderator,

- and Lecturer, Oklahoma Teaching Hospitals and the University of Oklahoma College of Medicine
- 1987- Daily Neuroradiology Case Review and Consultation with Pediatric and Adolescent Medicine, Neurology, Neurosurgery, Radiology, Oncology, Radiation Therapy, Orthopedic, ORL/Head and Neck Surgery, Ophthalmology, Plastic Surgery, Oral Surgery, and Neuropathology Staff, Fellows, Residents, Medical Students, and visitors, Children's Hospital, Boston, MA
- 1987- Weekly Pediatric Neurology-Neuroradiology Rounds with Staff, Fellows, Residents, Medical Students, and visitors, Conference Co-Leader, Children's Hospital, Boston, MA
- 1987- Weekly Pediatric Neurosurgery-Neuroradiology Rounds with Staff, Fellows, Residents, Medical Students, and visitors, Conference Co-Leader, Children's Hospital, Boston, MA

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- 1987- Weekly Pediatric Neuroncology-Neuroradiology Rounds with Pediatric Oncology, Radiation Oncology, and Neurosurgery Staff, Fellows, Residents, Medical Students, and visitors (The Children's Hospital and Dana-Farber Cancer Institute), Conference Co-Leader, Children's Hospital, Boston, MA
- 1987- Weekly Longwood Medical Area Neuroradiology Conference with Staff, Fellows, Residents, Medical Students, and visitors (The Children's Hospital, Brigham & Women's Hospital, Beth Israel Hospital, New England Deaconess Hospital, Dana-Farber Cancer Institute), Conference Co-Leader, Children's Hospital, Boston, MA
- 1987- Monthly Pediatric ORL/Head & Neck Radiology Rounds with Staff, Fellows, Residents, Medical Students, and visitors, Conference Co-Leader, Children's Hospital, Boston, MA
- 1987- Monthly Pediatric Radiology Difficult Case Conference (Risk Management and Quality Improvement) with Staff, Fellows, Residents, Medical Students, and visitors, Children's Hospital, Boston, MA
- 1987- Monthly Boston Area Neuroradiology Club Case Conference with Staff, Fellows, Residents, Medical Students, and visitors (Massachusetts General Hospital)
- 1987- Pediatric Neuroradiology Annual Lecture Series, Course Co-Director and Lecturer, for Staff, Fellows, Residents, Medical Students, and visitors.
- 1987- Pediatric Neuroradiology Introductory Lectures for Harvard Medical Students and Rotating Radiology Residents, Radiology, Children's Hospital, Boston, MA
- 1987-1988 Cardiac Radiology Lecture Series, Course Developer and Lecturer, Radiology, Children's Hospital, Boston, MA
- 1987-1990 Magnetic Resonance Imaging Lecture Series, Course Developer, Director, and Lecturer, Radiology, Children's Hospital, Boston, MA

- 1987 Invited Lecturer, MRI in Pediatric Neuroradiology, Radiology Grand Rounds, Brigham and Women's Hospital, Boston, MA
- 1987 Lecturer, "Scoliosis and the Neuroradiologist", "The Impact of MR on Central Nervous System Imaging in Childhood", and "Magnetic Resonance-Diagnostic Imaging Principles", The Children's Hospital and Harvard Medical School Post- Graduate Course, Pediatric Imaging, Boston, MA
- 1987 Lecturer, "Pediatric Central Nervous System Imaging, The Brigham & Women's Hospital and Harvard Medical School Post-graduate Course, CT and MRI Update, Cambridge, MA
- 1988 Invited Lecturer, "MRI in Pediatric Neuroncology", Joint Center for Radiation Therapy Grand Rounds, Children's Hospital, Boston, MA, June 8, 1988
- 1988 Invited Lecturer, "Magnetic Resonance in Pediatric Imaging", The Children's Hospital and Harvard Medical School Post-graduate Course, Pediatric Medicine

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- 1988 Lecturer, "Magnetic Resonance Imaging of the Pediatric Central Nervous System, Part I - Brain" ; "Magnetic Resonance Imaging of the Pediatric Central Nervous System, Part II – Spine", & Case Review Panel, The Brigham & Women's Hospital and Harvard Medical School Post-graduate Course, CT and MRI Update, Cambridge, MA
- 1988 Invited Lecturer, "Magnetic Resonance Imaging", The Children's Hospital, Massachusetts General Hospital, and Harvard Medical School Post-graduate Course, Child Neurology
- 1989 Lecturer, "Magnetic Resonance in Pediatric Neuroimaging" ; "Magnetic Resonance Imaging in Spinal Dysraphism", The Brigham & Women's Hospital and Harvard Medical School Post-graduate Course, CT and MRI Update, Boston, MA
- 1989 Invited Lecturer, "Magnetic Resonance in Pediatric and Adolescent Neuroimaging", The Children's Hospital, Massachusetts General Hospital, and Harvard Medical School Post-graduate Course, Child Neurology
- 1990 Lecturer, "MR Imaging of the Pediatric Central Nervous System", The Brigham & Women's Hospital and Harvard Medical School Post-graduate Course, CT and MRI Update, Cambridge, MA
- 1991 Invited Lecturer, "MRI Signal Patterns-I", & "MRI Signal Patterns-II", Radiology Resident Lecture Series, University of Massachusetts Medical Center and Medical School, Worcester, MA, March 8, 1991
- 1991 Invited Lecturer, "Pediatric Spine Imaging", Radiology Grand Rounds, University of Massachusetts Medical Center and Medical School, Worcester, MA, March 8, 1991
- 1991 Invited Lecturer, "MRI of Congenital Spine Lesions", Neurology Grand Rounds, University of Massachusetts Medical Center and Medical School, Worcester, MA, March 9, 1991

- 1991 Invited Lecturer, "MRI of the Pediatric Central Nervous System", Western Massachusetts Radiological Society, Holyoke, MA, Sept. 24, 1991
- 1991 Lecturer, "MR Imaging of the Pediatric Central Nervous System", The Brigham & Women's Hospital and Harvard Medical School Post-graduate Course, CT and MRI Update, Cambridge, MA
- 1991 Invited Lecturer, "MRI in the Pediatric CNS", Harvard Longwood Neurological Training Program Post-graduate Course, Intensive Review of Neurology
- 1991 Invited Lecturer, "MRI in Pediatrics", Anesthesiology Grand Rounds, Children's Hospital, Boston, MA, Dec. 18, 1991
- 1992 Invited Lecturer, "Pediatric Brain Tumors", Radiology Grand Rounds, Boston City Hospital, University Hospital, and Boston University Medical School, Boston, MA, Feb. 25, 1992
- 1991 Invited Lecturer, "Cerebral Dysgenetic Syndromes, Clinical and MRI Correlates", Child Neurology Course, Massachusetts General Hospital, Children's Hospital, and Harvard Medical School Post-Graduate Course, September 1992, Boston, MA

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- 1992 Invited Lecturer, "Pediatric CNS Tumor Imaging", The Harvard Medical School Post-Graduate Course in Neurosurgery-Brain Tumors, November 30, Boston, MA
- 1993 Invited Lecturer, Massachusetts General Hospital and Harvard Medical School Radiology Review Course, "Congenital CNS Abnormalities". April, Cambridge, MA
- 1993 Lecturer, "Neuroimaging Techniques in Pediatrics", Child Psychiatry Lecture, Children's Hospital, Boston, MA, June 8, 1993
- 1993 Lecturer, "Neuroimaging in Pediatrics", Radiologic Technologist Inservice Lecture, Children's Hospital, Boston, MA, June 23, 1993
- 1993 Lecturer, "Neuroimaging-The Pediatric Brain", The Children's Hospital and Harvard Medical School Post-Graduate Course in Practical Pediatric Radiology, July 29, Brewster, MA.
- 1993 Invited Lecturer, "Malformations of the Brain", "Posterior Fossa and Craniocervical Junction Anomalies", The Massachusetts General Hospital and Harvard Medical School Post-Graduate Course in Neuroradiology, September 21 and 22, Boston, MA
- 1994 Lecturer, "Pediatric Neuroimaging: The Brain", The Children's Hospital and Harvard Medical School Post-Graduate Course in Practical Pediatric Imaging: Update '94, August 4, New Seabury, MA
- 1994 Presenter, "Brain Tumors in Children", The Massachusetts General Hospital and Harvard Medical School Post-Graduate Course in Neuroradiology, October 3-7, Boston, MA
- 1994 Lecturer, "Pediatric Brain Imaging", The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, Pediatric Brain Imaging, MRI and CT Update, October 27 and 28, Cambridge, MA

- 1995 Invited Lecturer, "Congenital CNS Abnormalities", Massachusetts General Hospital, Brigham and Women's Hospital, and Harvard Medical School Radiology Review Course, April, Cambridge, MA
- 1995 Lecturer, "Pediatric Brain Imaging- Protocols and Pitfalls", The Children's Hospital and Harvard Medical School Post-Graduate Course in Practical Pediatric Imaging: Update '95, July 26, New Seabury, MA
- 1995 Invited Lecturer, ""Inflammatory CNS Conditions in Childhood", "Spine and Spinal Cord Anomalies in Childhood", The Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Basic and Current Concepts in Neuroradiology, Head & Neck Radiology, and Neuro MRI, September 19 and 20, Boston, MA
- 1995 Moderator, Pediatric Neuroradiology Session, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, MRI and CT Update, October 12 and 13, Cambridge, MA
- 1995 Lecturer, "Pediatric CNS Imaging: Protocols & Pitfalls", "Developmental Brain Abnormalities", The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, MRI and CT Update, October 12 and 13, Cambridge, MA

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- 1996 Invited Lecturer, "Pediatric Neuroradiology", Massachusetts General Hospital, Brigham and Women's Hospital, and Harvard Medical School Radiology Review Course, April, Cambridge, MA
- 1996 Moderator, Pediatric Neuroradiology Session, The Children's Hospital and Harvard Medical School Post-Graduate Course in Practical Pediatric Imaging: Update 1996, July 22, Boston, MA
- 1996 Invited Lecturer, "Imaging of the Orbits and Sinuses: Part I", "Imaging of the Orbits and Sinuses: Part II", The Children's Hospital and Harvard Medical School Post-Graduate Course in Practical Pediatric Imaging: Update 1996, July 22, Boston, MA
- 1996 Invited Lecturer, "Congenital Brain Anomalies" and "Brain Tumors in Children", The Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Basic and Current Concepts in Neuroradiology, Head & Neck Radiology, and Neuro MRI, October 8, Boston, MA
- 1996 Moderator, Pediatric Neuroradiology Session, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, MRI & CT Update, October 25, Cambridge, MA
- 1996 Lecturer, "Hydrocephalus", The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, MRI & CT Update, October 25, Cambridge, MA
- 1996 Invited Lecturer, "Imaging of Cranial and Intracranial Tumors of Childhood", The Brain Tumor Center, Brigham and Women's Hospital, Children's Hospital, Joint Center of Radiation Therapy, and Dana Farber Cancer Institute, Tumors of the Central Nervous System Post-Graduate Course, November 25, Boston, MA

- 1997 Invited Lecturer, "Potential Problems and Pitfalls in Pediatric Neuroradiology", Boston University Medical Center, Department of Radiology Grand Rounds, March 20, Boston, MA
- 1997 Lecturer, "Imaging of Macrocephaly, Parts I and II", The Children's Hospital and Harvard Medical School Post-Graduate Course in Practical Pediatric Imaging: Update 1997, July 21, Boston, MA
- 1997 Invited Lecturer, "Brain Tumors in the Pediatric Age", and "Congenital and Developmental Conditions of the Spine and Spinal Cord", The Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Basic and Current Concepts in Neuroradiology, Head & Neck Radiology, and Neuro MRI, September 15 and 16, Boston, MA
- 1997 Moderator, Pediatric Neuroradiology Session, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, MRI & CT Update 1997, October 31, Boston, MA
- 1997 Lecturer, "Congenital Brain Anomalies--A Problem-Oriented Approach", The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, MRI & CT Update 1997, October 31, Boston, MA

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- 1997 Invited Lecturer, "Radiologic Diagnosis of Brain Tumors in Children", Joint Venture Neurooncology, The Partners Health Care System, Dana Farber Cancer Institute, and Harvard Medical School and Brain Tumor Management, November 24, Boston, MA
- 1997 Moderator, Pediatric Neuroradiology Session, Joint Venture Neurooncology The Partners Health Care System, Dana Farber Cancer Institute, and Harvard Medical School Post-Graduate Course, Tumors of the Central Nervous System and Brain Tumor Management, November 24, Boston, MA
- 1998 Invited Lecturer, The Brigham & Women's Hospital and Massachusetts General Hospital Radiology Review Post-Graduate Course, "Pediatric Neuroradiology", April 6, Cambridge, MA
- 1998 Invited Lecturer, "Congenital and Developmental Conditions of the Spine and Spinal Cord", The Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Basic and Current Concepts in Neuroradiology, Head & Neck Radiology, and Clinical Functional MRI and Spectroscopy, September 16, Boston, MA
- 1998 Moderator, Pediatric Neuroradiology Session, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, MRI/CT Update 1998, October 30, Boston, MA
- 1998 Lecturer, "Major Congenital Brain Anomalies", The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, MRI/CT Update 1998, October 30, Boston, MA
- 1999 Invited Lecturer, "Neonatal MRI: New Techniques", Division of Newborn Medicine Clinical Conferences, Children's Hospital, January 4, Boston, MA

- 1999 Invited Speaker, Imaging of Brain Tumors in Children, Parents Workshop, Jimmy Fund Clinic, Dana-Faerber Cancer Institute, May 1, Boston, MA.
- 1999 Invited Speaker, Radiologic Diagnosis of Brain Tumors in Children, Tumors of the Central Nervous System: Management of Brain Tumors Post-graduate Course, Brigham and Women's Hospital, Massachusetts General Hospital, Children's Hospital, Dana-Faerber Cancer Institute, Harvard Medical School, September 13, Boston, MA
- 1999 Invited Speaker, Congenital and Developmental Conditions of the Spine and Spinal Cord, Neuroradiology, Head & Neck Radiology, Clinical Functional MRI and Spectroscopy Post-graduate Course, Massachusetts General Hospital, Massachusetts Eye & Ear Infirmary, Harvard Medical School, October 6, Boston, MA
- 1999 Invited Speaker, Potential Pitfalls in Pediatric Neuroradiology, and Session Moderator, Pediatric Neuroradiology Session, MRI/CT Update Post-graduate Course, Brigham & Women's Hospital, Harvard Medical School, October 29, Boston, MA

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- 2000 Invited Discussant, Pediatric Neuroncology, Neurosurgery, and Neurology Conferences, Department of Radiology, Massachusetts General Hospital, Jan.-Feb., Boston, MA
- 2000 Basic Technical and Biological Principles of Magnetic Resonance Imaging Lecture Series, Department of Radiology, Beth Israel Deaconess Medical Center, Feb.-May, Boston, MA
- 2000 Pediatric Neuroradiology Resident Pre-Board Review, Department of Radiology, Beth Israel Deaconess Medical Center, May, Boston, MA
- 2000- Daily Pediatric Neuroradiology and Head & Neck CT and MRI Case Review / Consultations with Fellows, Residents, Medical Students, and Visiting Physicians, Lucile Salter Packard Children's Hospital and Stanford University Medical Center, Palo Alto, CA
- 2000- Conference Co-Leader, Weekly Pediatric Neuroncology Conference, Lucile Salter Packard Children's Hospital at Stanford, Palo Alto, CA
- 2000- Conference Leader, Weekly Pediatric Neuroradiology, Neurology, and Neurosurgery Conference, Lucile Salter Packard Children's Hospital at Stanford, Palo Alto, CA
- 2000- Pediatric Neuroradiology Lectures, Neuroradiology Lecture Series, Department of Radiology, Stanford University Medical Center, Palo Alto, CA
- 2000- Faculty Participant, Weekly Neuroradiology Case Review / QI Conference Department of Radiology, Stanford University Medical Center, Palo Alto, CA
- 2000- Faculty Participant, Weekly Neurology Case Conference, Stanford University Medical Center, Palo Alto, CA
- 2000- Faculty Participant, Weekly Perinatal Conference, Lucile Salter

- 2000 Packard Children's Hospital at Stanford, Palo, Alto, CA  
Invited Lecturer, Pitfalls in Pediatric Neuroradiology, Neurosurgery Grand Rounds, Stanford University Medical Center, Palo Alto, CA Sept. 1, 2000
- 2000- Faculty Participant, International Perinatal Teleconferences (Hong Kong), Lucile Salter Packard Children's Hospital at Stanford, Palo Alto, CA
- 2000 Medical Student Clerkship Lecture, Pediatric Neuroradiology, Department of Radiology, Stanford University Medical Center, Palo, Alto, CA, Oct. 12, 2000
- 2000 Invited Lecturer, Imaging of Neonatal Encephalopathy, Neonatal Intensive Care Clinical Research Conference, Lucile Salter Packard Children's Hospital at Stanford, Palo Alto, CA, Oct. 16, 2000.
- 2001 Invited Lecturer, Potential Pitfalls in Pediatric Neuroradiology-The Impact of Advancing Neuroimaging Techniques, Department of Radiology, Stanford University Medical Center, Palo Alto, CA, Feb. 13, 2001.
- 2001 Faculty participant, Weekly Epilepsy Conference, Stanford University Medical Center, Palo Alto, CA.
- 2001- Monthly Pediatric Neuroradiology Lecture Series for Neurology Residents & Fellows, Stanford University Medical Center, Palo Alto, CA.
- 2001- Monthly Pediatric Neuroradiology Lecture Series for Neurosurgery Residents and Fellows Stanford University Medical Center, Palo Alto, CA.
- 2001- Monthly Pediatric Head & Neck Imaging Lecture Series for ORL/Head & Neck Residents and Fellows, Stanford University Medical Center, Palo Alto, CA.
- 2001- Pediatric Neuroradiology Lectures, Pediatric Radiology Lecture Series, Department of Radiology, Stanford University Medical Center, Palo Alto, CA.

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Regional, national, or international contributions:

- 1988 Invited Lecturer, "Neurocutaneous Syndromes", & "Pediatric Spine Imaging-Spinal dysraphism", Western Pennsylvania Hospital, Pittsburgh, PA, Nov. 3, 1988
- 1989 Invited Lecturer, "Pediatric Spine Imaging", New England Medical Center and Tufts Medical School, Feb. 9, 1989
- 1989 Invited Lecturer, "MRI-Basic Principles and Pediatric Applications", Akron Children's Hospital, Akron, OH, May 3, 1989
- 1989 Invited Lecturer, "MRI in Pediatric Spine Imaging", Northeast Ohio University Medical Center, Akron, OH, May 3, 1989
- 1989 Invited Lecturer, "MRI in Pediatric and Adolescent Neuroimaging", Akron Radiological Society, Akron, OH, May 3, 1989
- 1989 Invited Discussant, Neuroimaging-Neuropathology Correlation Conference, Akron Children's Hospital, Akron, OH, May 4, 1989

- 1989 Invited Lecturer, "Imaging of the Neurocutaneous Syndromes", Akron Children's Hospital, Akron, OH, May 4, 1989
- 1990 Invited Lecturer, "MRI in Pediatric Neuroimaging-Guidelines", & "Pediatric Spine Imaging", Rhode Island Hospital and Brown University Medical School, April 2, 1990
- 1990 Invited Lecturer, "Neuroimaging of the Neurocutaneous Syndromes", Radiology Grand Rounds, Rhode Island Hospital and Brown University Medical School, April 2, 1990
- 1991 Moderator, Pediatric Neuroradiology, Special Scientific Session, American Society of Neuroradiology, 29th Annual Meeting, Washington, D.C.
- 1991 Moderator and Discussant, Pediatric Neuroradiology Scientific Session, Radiological Society of North America 77th Annual Meeting, Chicago
- 1992 Invited Lecturer, "Signal Intensity Patterns in MRI of the Pediatric CNS", Radiology Resident Lecture, Ohio State University Health Sciences Center, Columbus, OH, April 8, 1992
- 1992 Invited Lecturer, "MRI in Pediatric CNS Imaging", Columbus Radiological Society, Columbus, OH, April 8, 1992
- 1991 Invited Lecturer, "Pediatric Spine Imaging", Radiology Grand Rounds, Columbus Children's Hospital, Columbus, OH, April 9, 1992
- 1992 Co-Moderator and Discussant, Scientific Session on Pediatric Neuroradiology, Society for Pediatric Radiology 35th Annual Meeting, May 17, Orlando, FL
- 1992 Invited Lecturer and Panelist, "Sedation in Pediatric Neuroradiology", American Society of Neuroradiology 30th Annual Meeting, June 3, St. Louis, MO
- 1992 Panelist, Scientific Session on Pediatric Neuroradiology, American Society of Neuroradiology 30th Annual Meeting, June 3, St. Louis, MO

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- 1993 Co-Moderator and Co-Discussant, Neuroradiology Long Papers Session, Society for Pediatric Radiology, 36th Annual Meeting, Seattle, Washington, May 13, 1993
- 1993 Co-Discussant, Pediatric Scientific Session, American Society of Neuroradiology, 31st Annual Meeting, Vancouver, B.C., Canada, May 19, 1993
- 1993 Discussant, Pediatric Specialties Scientific Session, American Society of Neuroradiology, 31st Annual Meeting, Vancouver, B.C., Canada, May 19, 1993
- 1993 Invited Lecturer, "MRI in Pediatric Imaging", Christchurch Hospital, University of Otago, Christchurch, New Zealand, Oct. 4, 1993
- 1993 Invited Lecturer, "Basics of MRI", & "Signal Intensity Patterns in MRI of the Pediatric CNS", and Discussant, Epilepsy Conference, Royal

- Children's Hospital, University of Melbourne, Melbourne, Australia, Oct. 11, 1993
- 1993 Invited Lecturer, "MRI in Pediatric Cerebrovascular Disease", and Discussant, Pediatric Neurology and Neurosurgery Conference, Prince of Wales Hospital, University of Sydney, Sydney, New South Wales, Australia, Oct. 13, 1993
- 1993 Invited Discussant, Radiology Resident Case Review Lecture, Royal Alexandra Hospital for Children, University of Sydney, Sydney, New South Wales, Australia, Oct. 13, 1993
- 1993 Invited Lecturer, "Imaging in Pediatric Neurooncology", "Neurocutaneous Syndromes", "Pediatric Neurovascular Diseases", Australasian Society for Paediatric Imaging (ASPI), October 15-17, Leura, New South Wales, Australia.
- 1993 Invited Lecturer, "Congenital & Developmental Brain Abnormalities", "Intracranial Inflammatory Processes", "Metabolic and Neurodegenerative Disorders", "Vascular Diseases and Trauma", "Cranial and Intracranial Tumors", "Neurocutaneous Syndromes", "Developmental and Acquired Abnormalities of the Spine and Spinal Neuraxis". ASPI MRI Symposium, October 18, Leura, New South Wales, Australia
- 1994 Invited Lecturer, "Imaging of the Pediatric Central Nervous System: Current Concepts", The Denby Bowdler Lecture, The Annual Post-Graduate Meeting, The Royal Alexandra Hospital for Children, Sydney, New South Wales, Australia, Oct. 21, 1993
- 1994 Moderator and Invited Lecturer, Update Course in Pediatric Radiology-Neuroradiology, Radiologic Society of North America, November 28, Chicago, IL.
- 1995 Invited Lecturer, Current Concepts in Pediatric Imaging-Neuroradiology, The Society for Pediatric Radiology, April 27, Colorado Springs, CO.
- 1995 Invited Lecturer, Society of Magnetic Resonance Technologists, Pediatric MRI-Sedation and Monitoring, 1994 Annual Regional Meeting, October 8, Boston, MA

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- 1995 Moderator and Invited Lecturer, Update Course in Pediatric Radiology-Neuroradiology, Radiological Society of North America, November 27, Chicago, IL
- 1995 Co-Moderator and Co-Discussant, Pediatric Scientific Session, American Society of Neuroradiology 33rd Annual Meeting, April 23, Chicago, IL
- 1995 Co-Moderator and Co-Discussant, Neuroradiology Scientific Session, Society for Pediatric Radiology, 38th Annual Meeting, April 29, Washington, D.C.
- 1995 Invited Lecturer, Emergency Pediatric Radiology Categorical Course-"Increased Intracranial Pressure"-American Roentgen Ray Society 95th Annual Meeting, April 30, Washington, D.C.

- 1995 Invited Lecturer, Update Course in Clinical Neuroradiology: Pediatric Neurovascular Imaging, Refresher Course, Radiological Society of North America, 81st Annual Meeting, November 29, Chicago, IL
- 1995 Invited Lecturer, Special Focus Session: Pediatric Sedation. Radiological Society of North America, 81st Annual Meeting, November 30, Chicago, IL
- 1996 Co-Moderator, and Co-Director, Pediatric Neuroradiology Session, IPR '96 Pediatric Neuroimaging Symposium, International Pediatric Radiology 3rd Conjoint Meeting, SPR, ESPNR, ASPI, May 25, Boston, MA
- 1996 Invited Lecturer, "Current and New Concepts in Imaging of the Pediatric Spine" IPR 96 Pediatric Neuroimaging Symposium., International Pediatric Radiology 3rd Conjoint Meeting, SPR, ESPNR, ASPI, May 25, Boston, MA
- 1997 Invited Lecturer, "Imaging of Head and Neck Masses in Childhood", McGill University, Department of Diagnostic Radiology Grand Rounds, January 20, Montreal, Quebec, Canada
- 1997 Invited Lecturer, "Cranial and Intracranial Tumors of Childhood: An Overview", Montreal Children's Hospital, Department of Diagnostic Imaging, January 21, Montreal, Quebec, Canada
- 1997 The Dr. Bernadette Nogrady Lecturer, "Imaging of the Neurocutaneous Syndromes in Childhood", Medical Grand Rounds, Montreal Children's Hospital, McGill University, Jan. 21, Montreal, Quebec, Canada.
- 1997 Invited Lecturer, "Congenital Malformations of the Brain", Practical MRI Categorical Course, American Roentgen Ray Society, 97th Annual Meeting, May 4, Boston, MA.
- 1997 Invited Lecturer, "MRI and Other Advanced Imaging Techniques", Spinal Dysraphism Workshop, Society for Pediatric Radiology, May 15, St.Louis, MO.
- 1997 Invited Lecturer, "Advanced Techniques in Pediatric Neuroradiology", New England Conference of Radiologic Technologists and New England Chapter of the American Radiology Nurses Association 39th Annual Fall Symposium, September 26, Sturbridge, MA

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- 1998 Invited Lecturer, "Imaging of the Pediatric Spine, Part I", Department of Radiology, Children's Hospital of Pittsburgh and University of Pittsburgh Medical Center, February 9, Pittsburgh, PA
- 1998 Invited Lecturer, "Potential Pitfalls in Imaging of the Pediatric CNS", Department of Radiology, Children's Hospital of Pittsburgh and University of Pittsburgh Medical Center, February 9, Pittsburgh, PA
- 1998 Invited Lecturer, Department of Radiology, Children's Hospital of Pittsburgh and University of Pittsburgh Medical Center, Teaching Session with Residents and Fellows, February 9, Pittsburgh, PA

- 1998 Invited Lecturer, "Imaging of the Pediatric Spine, Part II", Department of Radiology, Children's Hospital of Pittsburgh and University of Pittsburgh Medical Center, February 10, Pittsburgh, PA
- 1998 Invited Lecturer, "Imaging of CNS Injury in Child Abuse", Department of Radiology, Children's Hospital of Pittsburgh and University of Pittsburgh Medical Center, February 10, Pittsburgh, PA
- 1998 Invited Lecturer, Department of Radiology, Children's Hospital of Pittsburgh and University of Pittsburgh Medical Center, Teaching Session with Residents and Fellows, February 10, Pittsburgh, PA
- 1998 Invited Lecturer, "Potential Pitfalls in Imaging of the Pediatric CNS", Department of Radiology, William Beaumont Hospital, March 18, Royal Oak, MI
- 1998 Invited Lecturer, "Imaging of CNS Injury in Child Abuse", Department of Radiology, William Beaumont Hospital, March 18, Royal Oak, MI
- 1998 Course Director and Moderator, Multimodality Imaging of Head & Neck Lesions in Childhood -- The Oral Cavity, Jaw, and Neck; The Eye and Orbit; The Ear and Temporal bone; The Nose, Paranasal Sinuses, and Craniofacial Structures; Sunrise Sessions, The Society for Pediatric Radiology, 41st Annual Meeting, May 7-9, Tucson, AZ
- 1998 Co-Moderator, Scientific Session VI--Neuroradiology, The Society for Pediatric Radiology, 41st Annual Meeting, May 9, Tucson, AZ
- 1998 Invited Lecturer, Focus Session: Scoliosis "Imaging the Spine in Scoliosis", the American Society of Neuroradiology, 36th Annual Meeting, May 17-21, Philadelphia, PA
- 1998 Course Director and Moderator, Minicourse in Pediatric Neuroradiology: Session I: "Pediatric Neurovascular Diseases"; Session II: "Pediatric CNS Tumors"; Session III: "Congenital and Developmental Abnormalities"; Session IV: "Traumatic, Inflammatory, and Neurodegenerative Diseases", Radiological Society of North America, 84th Scientific Assembly and Annual Meeting, November 29-December 1, Chicago, IL
- 1998 Invited Speaker, Minicourse in Pediatric Neuroradiology, "Tumors about the Third Ventricle", Radiological Society of North America, 84th Scientific Assembly and Annual Meeting, November 30, Chicago, IL

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- 1998 Invited Speaker, Special Focus Session--Child Abuse Revisited, Radiological Society of North America, 84th Scientific Assembly and Annual Meeting, December 1, Chicago, IL
- 1998 Invited Lecturer, "Potential Pitfalls in Imaging of the Pediatric CNS", The Roger A. Hyman Memorial Lecture, Long Island Radiological Society and Winthrop-University Hospital, Dec. 8, Long Island, NY
- 1999 Invited Speaker, "Shaken Baby Syndrome", Current Issues in Emergency Practice, Seventh Annual Massachusetts Emergency Nurses Association

- and Massachusetts College of Emergency Physicians Course, April 13, Marlboro, MA
- 1999 Invited Speaker, "The Pediatric Radiologist as Expert Witness: How I do it", Society for Pediatric Radiology, Postgraduate Course, May 12, Vancouver, B.C., Canada
- 1999 Pediatric Focus Sessions Director and Moderator, Session I: "Diagnosis and Management of Head and Neck Vascular Anomalies of Childhood"; Session II: "Diagnosis and Management of Craniofacial Anomalies"; Session III: "Diagnosis and Management of Craniocervical Anomalies"; Session IV: Basic Science/Applications – Watershed Patterns: Anatomy and Pathology; Session V: Diagnosis and Management of Pediatric Neuroendocrine Disorders"; Session VI: "Diagnosis and Management of Pediatric Epilepsy", American Society of Neuroradiology/American Society of Pediatric Neuroradiology Annual Meeting, May 22-23, San Diego, CA
- 1999 Invited Speaker, Neurooncologic Imaging in Children, Neuroimaging Session, Frontiers of Hope, A Brain Tumor Symposium for Patients, Survivors, Family, Friends, and Professionals, The Brain Tumor Society, November 13, Providence, RI
- 2000 Invited Speaker, Potential Pitfalls in Pediatric Neuroradiology, Parts I & II, Department of Diagnostic Imaging Grand Rounds, Brown University School of Medicine, Rhode Island Hospital, and the Hasbro Children's Hospital, Providence RI.
- 2000 Invited Speaker, Neuroradiology of Pediatric Scoliosis, Practical Spine Imaging & Image Guided Therapy Symposium, The American Society of Spine Radiology, February 23, Marco Island, FL
- 2000 Invited Speaker, Diffusion Imaging in Children, ASNR 2000: Advanced Imaging Symposium, American Society of Neuroradiology, April 2, Atlanta, GA
- 2000 Moderator, Pediatric Scientific Session, American Society of Pediatric Neuroradiology, American Society of Neuroradiology Annual Meeting, April 2-8, Atlanta, GA

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- 2000 Invited Speaker, Pediatric Neuroradiology, Advanced Medical Malpractice Seminar, Office of Legal Education, Executive Office for U.S. Attorneys, United States Department of Justice, May 2, Columbia, SC.
- 2000 Invited Speaker, Course Director, Syllabus Editor / Co-author, & Session Moderator, Problem-Focused Strategies in Pediatric Neuroradiology: An Interactive Symposium, Society for Pediatric Radiology and American Society of Pediatric Neuroradiology Joint Post-graduate Course, May 4-6, Naples, FL.
- 2000 Invited Speaker and Participant, Fetal & Neonatal Neurologic Injury, Part

- I - Neuroimaging Patterns and the Timing of Fetal Brain Injury – Medical Intelligence Corporation Keynote Address; Part II - The Neuroimaging Expert, Birth Injury and the Law VII, Oct. 19, Las Vegas, NV
- 2001 Invited Speaker and Participant, Imaging of Fetal & Neonatal CNS Injury Parts I-III, 17th Annual Conference on Obstetrics, Gynecology, Perinatal Medicine, Neonatology, and the Law, Jan. 2-5, San Juan, PR
- 2001 Invited Speaker, Pediatric Spine Imaging, Fetal and Infant Neuro-MR, Pediatric Brain Imaging I-II, MR Update 2001, Neuroradiology and Musculoskeletal Imaging Advances, Stanford Radiology, Feb. 16, Las Vegas, Nevada
- 2001 Invited Speaker and Participant, Sam Hersch Cerebral Palsy Symposium at the Salk Institute, Feb. 27-28, La Jolla, CA.
- 2001 Invited Speaker & Session Co-coordinator, RSNA Oncodiagnosis Panel-Pediatric Brain Tumors, Radiologic Society of North America 87<sup>th</sup> Scientific Assembly and Annual Meeting, Chicago, IL, Dec. 28, 2001.
- 2002 Barnes PD. Invited Speaker. Current and Advanced Techniques in Imaging of the Pediatric Central Nervous System. Department of Neurology Grand Rounds. Stanford University Medical Center, Palo Alto, CA, Jan. 30, 2002.
- 2002 Invited Speaker. Current and Advanced Techniques in Pediatric Otolaryngology / Head & Neck Imaging – A Problem-focused Approach, Western Society of Pediatric Otolaryngology Annual Meeting, Lucile Packard Children's Hospital at Stanford, Palo Alto, CA, Mar. 16, 2002
- 2002 Invited Speaker. Neuroimaging of congenital and neonatal Infections. Postgraduate Course: Perinatal and neonatal imaging, Society for Pediatric Radiology, Philadelphia, PA, May 2, 2002.
- 2002 Session Co-Moderator. White Matter Symposium. American Society of Neuroradiology / American Society of Pediatric Neuroradiology, Vancouver, B.C., May 16, 2002.
- 2003 Barnes PD. Current and Advanced Imaging of the Fetal and Neonatal CNS. Mid-Coastal California Perinatal Outreach Program, 23<sup>rd</sup> Annual Meeting, Stanford University School of Medicine, Monterey, CA, Jan. 2003.
- 2003 Barnes PD. Neuroimaging: a medical perspective. Litigating catastrophically injured infant cases, Association of Trial Lawyers of America, Feb.22, 2003, Atlanta, GA.
- 2003 Barnes PD. Trauma, including Child Abuse. CT & MRI: State of the Art & Unanswered Questions, SPR Postgraduate Course, San Francisco, CA, May 6, 2003.
- 2004 Barnes PD. Nonaccidental Head Injury in Children. Neurosciences Grand Rounds. Santa Clara Valley Medical Center. San Jose, CA, Feb. 5, 2004.
- 2004 Barnes PD. Forensic Science, Evidence-based Medicine, and the "Shaken Baby Syndrome": Radiographic Imaging and Findings. American Academy of Forensic Sciences Annual Meeting, Dallas, Tx, Feb. 16, 2004.
- 2004 Barnes PD. Nonaccidental Injury of the Developing Brain: Issues,

- Controversies, and the Mimics. Moderator and Speaker. Neuroimaging Aspects. Focus Session, American Society of Pediatric Neuroradiology. American Society of Neuroradiology Annual Meeting, Seattle, WA, June 7, 2004.
- 2004 Barnes PD. Co-Moderator, Pediatric scientific session, American Society of Pediatric Neuroradiology, American Society of Neuroradiology Annual Meeting, Seattle, WA, June 8, 2004.
- 2004 Barnes PD. Moderator, Pediatric Session and Speaker. MDCT applications in Pediatric Neuroradiology (Brain, Spine, Head & Neck). 6<sup>th</sup> Annual International Symposium on Multidetector-Row CT. Stanford University Medical Center, San Francisco CA, June 23, 2004.
- 2004 Barnes PD. Child abuse: the role of neuroimaging in the clinical and forensic evaluation of suspected nonaccidental injury including its mimics. 12<sup>th</sup> Annual Pediatric Update, Lucille Packard Children's Hospital and Stanford University Medical Center, July 16, 2004.
- 2005 Barnes PD. Neuroimaging of the pediatric spine – scoliosis. Neuroscience Grand Rounds. Santa Clara Valley Medical Center. San Jose, CA, March 3, 2005.
- 2005 Barnes PD. Diagnostic imaging of neonatal brain injury. California Association of Neonatologists (CAN) and American Academy of Pediatrics (AAP) District IX Section on Perinatal Pediatrics, 11<sup>th</sup> Annual Conference, Current Topics and Controversies in Perinatal and Neonatal Medicine, Coronado CA, March 6, 2005.
- 2005 Barnes PD. Co-moderator, Neuroradiology scientific session, Society for Pediatric Radiology Annual Meeting, New Orleans, LA, May 7, 2005.
- 2005 Barnes PD. Moderator, CAQ Review Sessions, Pediatric Brain, Head & Neck, and Spine Imaging, American Society of Pediatric Neuroradiology, American Society of Neuroradiology Annual Meeting, Toronto, Ontario, Canada, May 26-27, 2005.
- 2005 Barnes PD. Co-Moderator, Pediatric scientific session, American Society of Pediatric Neuroradiology, American Society of Neuroradiology Annual Meeting, Toronto, Ontario, Canada, May 26, 2005.
- 2005 Barnes P. Child abuse: the role of neuroimaging in the clinical and forensic evaluation of suspected nonaccidental injury including its mimics. 13<sup>th</sup> Annual Pediatric Update, Lucille Packard Children's Hospital and Stanford University Medical Center, July 8, 2005.
- 2005 Barnes P. Child abuse: the role of neuroimaging in the clinical and forensic evaluation of suspected nonaccidental injury including its mimics. Neurosurgery Grand Rounds, Stanford University Medical Center, July 15, 2005.
- 2006 Barnes P. Imaging of the Pediatric Central Nervous System and Head & Neck: MRI, CT, US, Nuclear Medicine – Which to do? 14<sup>th</sup> Annual Pediatric Update, Lucille Packard Children's Hospital and Stanford University Medical Center, July 21, 2006.
- 2006 Barnes P. Child Abuse: Issues and Controversies in the Era of Evidence-Based Medicine. Pediatric Grand Rounds, Lucille Packard Children's

- Hospital and Stanford University Medical Center, October 13, 2006.
- 2006 Hahn J, Barnes P. Prenatal Neurologic Consultations and Management of Brain Malformations. Pediatric Grand Rounds, Lucile Packard Children's Hospital and Stanford University Medical Center, Nov. 3, 2006.
2007. Barnes PD. Co-Director and Co-Moderator. Brain, Head & Neck, and Spine Imaging. Advances in Pediatric CT and MRI. Department of Radiology, Stanford School of Medicine Postgraduate Course. Las Vegas, Nevada, March 17, 2007.
- 2007 Barnes PD. Lecturer. Advances in Pediatric CT and MRI: Head & Neck Imaging I (Orbit, Sinus, Ear), Head & Neck Imaging II (Face & Neck), Spine Imaging I (Developmental Anomalies), Spine Imaging II (Acquired Conditions), Brain Imaging III (Acute neurologic conditions – Trauma [including child abuse], hemorrhage, vascular disease), Brain Imaging V (Subacute neurologic conditions – Tumors, epilepsy). Department of Radiology, Stanford School of Medicine Postgraduate Course. Las Vegas, Nevada, March 17, 2007. Course Syllabus.
- 2007 Barnes PD. Lecturer. How I do it – Advanced Neuro-MRI of Nonaccidental CNS injury and its Mimics. Society for Pediatric Radiology 50<sup>th</sup> Annual Meeting and Postgraduate Course. Miami FL. April 20, 2007.
- 2007 Barnes P. Lecturer. Child Abuse: Pitfalls in Pediatric Neuroimaging. EBMS Symposium: An Evidence-based Analysis of Infant Brain and Skeletal Injury. Chicago IL, May 10, 2007.
- 2007 Barnes P. Lecturer. Child Abuse: Issues and Controversies in the Era of Evidence-Based Medicine. Department of Social Services and Child Protection, Lucile Packard Children's Hospital and Stanford University Medical Center, June 21, 2007.
- 2007 Barnes P. Lecturer. Child Abuse: Issues & Controversies. Pediatrics CME Program. Salinas Valley Memorial Healthcare System, Salinas CA, Nov. 16, 2007.
- 2008 Barnes P. Lecturer. Child Abuse and the Mimics. Imaging of Brain, Blood, & Bones. Death of a Child Symposium. The Center for American and International Law. Plano TX, March 4, 2008.
- 2008 Barnes P. Imaging of Child Abuse: Controversies in the Era of Evidence-Based Medicine. Herman Grossman Visiting Lecturer. Radiology & Pediatrics Grand Rounds. Duke University Medical Center, Durham NC, April 10, 2008.
- 2008 Barnes P. Update on Brain Imaging in Nonaccidental Trauma. Neuroimaging I Session, Pediatric Radiology Series. Radiologic Society of North America, Chicago IL, Nov. 30, 2008.
- 2008 Barnes P. Co-Moderator & Discussant, Neuroimaging I Scientific Paper Session, Pediatric Radiology Series, Radiologic Society of North America, Chicago, IL Nov. 30, 2008
- 2008 Barnes P. Neuroimaging in the Evaluation of Pattern and Timing of Fetal and Neonatal Brain Injury. Fetal & Neonatal Annual Care Conference. Santa Clara Valley Medical Center. San Jose CA, November 7, 2008.
- 2009 Barnes P. Medical Imaging in Brain Trauma; Intracranial Hemorrhage

- and Thrombosis (Krasnokutsky M): Imaging & Pitfalls. An Evidence-based Analysis of Infant Brain & Skeletal Trauma. EBMS Symposium, Denver CO, February 22, 2009.
- 2009 Barnes P. Imaging of Child Abuse and the Mimics: Controversies in the Era of Evidence-Based Medicine. Innocence Network Conference. South Texas College of Law, Houston TX, March 21. 2009.
- 2009 Barnes P. Neuroimaging in the Evaluation of Pattern and Timing of Fetal and Neonatal Brain Abnormalities. The Latest Tools and Science to Determine the Origin and Timing of Irreversible Brain Damage. Obstetric Malpractice West Coast Conference & Workshop. San Francisco CA, April 28, 2009.
- 2009 Child Abuse and the Mimics: Controversies in the Era of Evidence-Based Medicine. Visiting Professor, Department of Radiology, Hospital for Sick Children, University of Toronto, Toronto Ontario Canada, Sept. 24, 2009.
- 2009 Child Abuse, NAI, and the Mimics: Controversies in the Era of Evidence-Based Medicine Seminar. Shaken Baby Death Review Team (Gouge Inquiry). Ministry of the Attorney General, Province of Ontario. Toronto Ontario, Canada, Sept. 24, 2009.
- 2009 Child Abuse – Nonaccidental Injury (NAI): Controversies in the Era of Evidence-Based Medicine. Controversies in Forensic Science and Medicine: Towards Resolution in the 21<sup>st</sup> Century. Centre for Forensic Science and Medicine, University of Toronto, Toronto Ontario, Canada, Sept. 25, 2009.
- 2010 Neuroimaging in the Evaluation of pattern and timing of fetal and neonatal brain abnormalities. The 26<sup>th</sup> Annual Conference on Obstetrics, Gynecology, Perinatal Medicine, Neonatology, and the Law. Boston University Continuing Medical Education Course, San Jose del Cabo, Mexico, Jan. 2, 2010 (Program and Website material only).
- 2010 Evidence-based Update: Imaging in Nonaccidental Injury and the Mimics: Blood, Brain, & Bones. National Association of Criminal Defense Attorneys and the Innocence Network (Bureau of Justice Assistance Grant), April 15, 2010, Atlanta GA.
- 2010 Imaging of the Pediatric Head & Neck (Resident & Fellow Lecture), Department of Radiology, University of Arizona Medical Center, Tucson AZ, June 9, 2010.
- 2010 Child abuse and the mimics. Update on issues & controversies in the era of evidence-based medicine. Pediatric Grand Rounds. Department of Pediatrics. University of Arizona Medical Center, Tucson AZ, June 9, 2010.
- 2010 Imaging of fetal and neonatal brain abnormalities. Birth Injury Group. American Association of Justice, Vancouver, BC, Canada, July 11, 2010.
- 2010 Invited Lecturer & Panelist. Child abuse and the mimics. Update on issues & controversies in the era of evidence-based medicine. National Child Abuse DRC Conference, Las Vegas NV, August 26, 2010.
- 2010 Expert Testimony (Baumer Case). Child abuse and the mimics. Update on issues & controversies in the era of evidence-based medicine. Michigan

- Innocence Project. University of Michigan Law School, Detroit, Michigan September 30, 2010.
- 2010 Child abuse and the mimics. Update on issues & controversies in the era of evidence-based medicine. Neuroscience Grand Rounds, Vancouver General Hospital, BC Children's Hospital, University of British Columbia, Vancouver BC, Canada, October 13, 2010.
- 2010 Pediatric Head & Neck Imaging I, II; Pediatric Spine Imaging (Resident & Fellow Lecture Series), Department of Radiology, Vancouver General Hospital, BC Children's Hospital, University of British Columbia, Vancouver BC, Canada, October 13-14, 2010.
- 2010 Imaging of Pediatric CNS Malformations (Neuroradiology and Pediatric Radiology Fellow Lecture), Department of Radiology, Vancouver General Hospital, BC Children's Hospital, University of British Columbia, Vancouver BC, Canada, October 14, 2010.
- 2011 Neuroimaging in the Evaluation of pattern and timing of fetal and neonatal brain abnormalities (3 lectures). The 27<sup>th</sup> Annual Conference on Obstetrics, Gynecology, Perinatal Medicine, Neonatology, and the Law. Boston University Continuing Medical Education Course, Maui, Hawaii, January 2-6, 2011.
- 2011 Imaging of the Pediatric Head & Neck; Imaging of Pediatric CNS Malformations; Imaging of Pediatric CNS Tumors. Radiology Board Review Course. Las Vegas NV, January 12, 2011.
- 2011 Imaging of child abuse and the mimics. Issues & controversies in the era of evidence-based medicine. California Public Defenders Association Annual Meeting, Monterey, CA, January 21, 2011.
- 2011 Invited Participant & Discussant, Pediatric Abusive Head Trauma. Medical, Forensic, and Scientific Advances and Prevention. Third International Conference. Penn State Hershey College of Medicine. San Francisco, CA, July 7-8, 2011.
- 2011 Imaging of child abuse and the mimics. 2<sup>nd</sup> Biennial International Conference on Brain Injury in Children, SickKids Centre for Brain & Behavior, The Hospital for Sick Children, July 13, 2011, Toronto, Canada.
- 2011 Imaging of child abuse and the mimics. Evidence Based Medicine and Social Investigation (EBMSI) Conference, Vancouver, Canada, August 5, 2011.
- 2011 Child abuse and the mimics: controversies in the era of evidence-based medicine. Cook County Public Defenders' Conference, Oak Brook IL September 8-9, 2011.
- 2011 Findley K, Barnes P, Moran D, Sperling C. Challenging shaken baby syndrome convictions in the light of new medical and scientific research. *Integris Health* Law & Medicine Lecture Series. Innocence Project. Oklahoma City University School of Law, Oklahoma City, OK, Sep. 21, 2011.
- 2011 Invited Speaker. Imaging of the pediatric brain, spine, and head & neck. National Association of Pediatric Nurse Advanced Practitioners (NAPNAP), San Francisco Bay Area Chapter. 2<sup>nd</sup> Annual Meeting,

- Stanford University, Stanford CA, October 29, 2011.
- 2011 Invited Speaker. Fetal and neonatal brain imaging. "Perinatal Care: All About The Family" Annual Conference. VMC Foundation, Santa Clara Valley Medical Center, San Jose CA, November 3, 2011.
- 2012 Imaging of child abuse and the mimics. Evidence Based Medicine and Social Investigation (EBMSI) Conference, Vancouver, Canada, August 3, 2012.
- 2012 Invited Lecturer & Panelist. Child abuse and the mimics. Update on issues & controversies in the era of evidence-based medicine. National Child Abuse DRC Conference, Las Vegas NV, September 6, 2012.
- 2012 Invited Speaker. Fetal and neonatal brain imaging. "Perinatal Care: All About The Family" Annual Conference. VMC Foundation, Santa Clara Valley Medical Center, San Jose CA, October 31, 2012.
- 2013 Imaging of child abuse and the mimics. Evidence Based Medicine and Social Investigation (EBMSI) Conference, Vancouver, Canada, August 2, 2013.
- 2013 Invited Lecturer. Child Abuse – Nonaccidental Injury (NAI) - Abusive Head Trauma (AHT) - Issues and Controversies in the Era of Evidence-Based Medicine, An Update. World Congress on Infant Head Trauma. American Forensic Pathology Incorporated. The Center for American and International Law. Plano, Texas, USA, November 15, 2013.

Teaching Awards:

- 1998 John A. Kirkpatrick Jr. Teaching Award, Pediatric Radiology Fellowship Program, Department of Radiology, Children's Hospital and Harvard Medical School, Boston, MA.
- 2003 Stanford B. Rossiter Senior Faculty of the Year 2002-2003. Outstanding Contributions to Resident Education, Compassionate Patient Care, and Research, Department of Radiology, Stanford University Medical Center.
- 2005 Senior Faculty of the Year 2004-2005 Outstanding Contributions to Resident Education, Compassionate Patient Care, and Research, Department of Radiology, Stanford University Medical Center.
- 2006 Senior Faculty of the Year 2005-2006. Outstanding Contributions to Resident Education, Compassionate Patient Care, and Research, Department of Radiology, Stanford University Medical Center.

Major Curriculum and Educational Programs Developed:

- 1976-1979 Course Director and Conference Leader, Pediatric House Staff Core Lecture Series, Pediatric Radiology, Oklahoma Children's Memorial Hospital
- 1976-1980 Conference Co-leader, Monthly Orthopaedic Radiology-Pathology Conference, Oklahoma Teaching Hospitals
- 1977-1979 Physician Associates Radiology Lecture Series, College of Allied Health, University of Oklahoma
- 1977-1982 Conference Co-Leader, Weekly Pediatric Cardiology and Cardiac Surgery Conference

- 1977-1982 Conference Co-Leader - "Sickle Cell Anemia", Annual Clinical Demonstration for First Year Medical Students, College of Medicine, University of Oklahoma.
- 1977-1982 Pediatric Cardiac Cine-Angiocardiographic case review and consultation weekly with Pediatric, Pediatric Cardiology, Thoracic Surgery Staff, Residents and Fellows
- 1977-1985 Pediatric Grand Rounds, Oklahoma Children's Memorial Hospital.
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- 1977-1986 Attending Physician and Conference Leader, Daily and Weekly Clinical Teaching Rounds, Children's Memorial Hospital, University of Oklahoma College of Medicine; Pediatric Radiology Film and Fluoroscopy Review with Radiology, Pediatric, Family Medicine Residents and Medical Students.
- 1977-1986 Pediatric Neuroradiology Case Review and Consultation daily with Neurosurgery, Neurology, Pediatric, and Adolescent Medicine Staff, Residents, Fellows and Medical Students
- 1977-1986 Pediatric Computed Tomography, Conventional Tomography, and Special Procedures case review and consultation daily with Pediatric, Pediatric Surgery, Adolescent Medicine, and Orthopedic Staff, Residents, Fellows and Medical Students
- 1977-1986 Elective Tutorials in Pediatric Neuroradiology and Cardiovascular Radiology for Pediatric, Radiology, Neurosurgery, Neurology and Pediatric Surgery Residents, Fellows, and Students
- 1977-1986 Weekly Diagnostic Radiology Residency Lecture Series, University of Oklahoma College of Medicine
- 1977-1986 Quarterly Radiologic Technology Inservice in Pediatric Neuroradiology and Cardiovascular Radiology Special Procedures
- 1977-1986 Co-Leader, Weekly Neurosurgery/Neurology Grand Rounds, Oklahoma Teaching Hospitals and St. Anthony Hospital, Oklahoma City, Oklahoma
- 1978-1982 Course Lecturer, Annual Department of Radiological Sciences Continuing Medical Education Courses, University of Oklahoma Health Sciences Center
- 1978-1985 Lecturer, Annual Graduate Physics Seminar, College of Allied Health, University of Oklahoma Health Sciences Center
- 1979-1981 Lecturer, Annual Radiology Grand Rounds, Oklahoma Teaching Hospitals
- 1980-1985 Lecturer, Pediatric Surgery Core Lecture Series in Pediatric Radiology, Oklahoma Children's Memorial Hospital
- 1981-1986 Lecturer, Neurology/Pediatric Neuroradiology Lecture Series, Oklahoma Teaching Hospitals
- 1982-1985 Participant, Senior Radiology Resident Pre-Board Examinations, University of Oklahoma College of Medicine
- 1982-1986 Lecturer, Pediatric House Staff Core Lecture Series in Pediatric Radiology, Oklahoma Children's Memorial Hospital

- 1983-1986 Course Developer and Director, Resident Final Examination in Pediatric Radiology, University of Oklahoma College of Medicine
- 1985-1986 Oklahoma Diagnostic Imaging Center Lecture Series, Course Co-Developer and Co-Director
- 1985-1986 Oklahoma Teaching Hospitals Department of Radiological Sciences, Magnetic Resonance Imaging Lecture Series (Course Developer and Director)

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- 1986 "Magnetic Resonance Imaging for the Referring Physician", Continuing Medical Education Seminar, Program Co-Director, Session Moderator, and Lecturer, Oklahoma Teaching Hospitals and the University of Oklahoma College of Medicine
- 1986-2000 Daily Neuroradiology Case Review and Consultation with Pediatric and Adolescent Medicine, Neurology, Neurosurgery, Radiology, Oncology, Radiation Therapy, Orthopedic, ORL/Head and Neck Surgery, Ophthalmology, Plastic Surgery, Oral Surgery, and Neuropathology Staff, Fellows, Residents, Medical Students, and visitors, Children's Hospital, Boston, MA
- 1986-2000 Weekly Pediatric Neurology-Neuroradiology Rounds with Staff, Fellows, Residents, Medical Students, and visitors, Conference Co-Leader, Children's Hospital, Boston, MA
- 1986-2000 Weekly Pediatric Neurosurgery-Neuroradiology Rounds with Staff, Fellows, Residents, Medical Students, and visitors, Conference Co-Leader, Children's Hospital, Boston, MA
- 1986-2000 Weekly Pediatric Neuroncology-Neuroradiology Rounds with Pediatric Oncology, Radiation Oncology, and Neurosurgery Staff, Fellows, Residents, Medical Students, and visitors (The Children's Hospital and Dana-Farber Cancer Institute), Conference Co-Leader, Children's Hospital, Boston, MA
- 1986-2000 Weekly Longwood Medical Area Neuroradiology Conference with Staff, Fellows, Residents, Medical Students, and visitors (The Children's Hospital, Brigham & Women's Hospital, Beth Israel Hospital, New England Deaconess Hospital, Dana-Farber Cancer Institute), Conference Co-Leader, Children's Hospital, Boston, MA
- 1986-2000 Monthly Pediatric ORL/Head & Neck Radiology Rounds with Staff, Fellows, Residents, Medical Students, and visitors, Conference Co-Leader, Children's Hospital, Boston, MA
- 1986-2000 Monthly Pediatric Radiology Difficult Case Conference (Risk Management and Quality Improvement) with Staff, Fellows, Residents, Medical Students, and visitors, Children's Hospital, Boston, MA
- 1986-2000 Monthly Boston Area Neuroradiology Club Case Conference with Staff, Fellows, Residents, Medical Students, and visitors (Massachusetts General Hospital)

- 1986-2000 Pediatric Neuroradiology Annual Lecture Series, Course Co-Director and Lecturer, for Staff, Fellows, Residents, Medical Students, and visitors.
- 1986-2000 Pediatric Neuroradiology Introductory Lectures for Harvard Medical Students and Rotating Radiology Residents, Radiology, Children's Hospital, Boston, MA
- 1986-1988 Cardiac Radiology Lecture Series, Course Developer and Lecturer, Radiology, Children's Hospital, Boston, MA
- 1986-1990 Magnetic Resonance Imaging Lecture Series, Course Developer, Director, and Lecturer, Radiology, Children's Hospital, Boston, MA

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- 2000 Basic Technical and Biological Principles of Magnetic Resonance Imaging Lecture Series, Department of Radiology, Beth Israel Deaconess Medical Center, Boston, MA
- 2000 Pediatric Neuroradiology Resident Pre-Board Review, Department of Radiology, Beth Israel Deaconess Medical Center, Boston, MA
- 2000- Pediatric Neuroradiology Lectures, Neuroradiology Lecture Series, Stanford University Medical Center, Palo Alto, CA.
- 2000- Annual Pediatric Neuroradiology Lecture Series for Neurology Residents & Fellows, Stanford University Medical Center, Palo Alto, CA.
- 2001- Annual Pediatric Neuroradiology Lecture Series for Neurosurgery Residents and Fellows Stanford University Medical Center, Palo Alto, CA.
- 2001- Pediatric Head & Neck Imaging Lecture Series for ORL/Head & Neck Residents and Fellows, Stanford University Medical Center, Palo Alto, CA.
- 2001- Pediatric Neuroradiology Lectures, Pediatric Radiology Lecture Series, Department of Radiology, Stanford University Medical Center, Palo Alto, CA.

**BIBLIOGRAPHY**

**Original Articles:**

1. Gilsanz V, Strand R, Barnes P, Nealis J. Results of presumed cryptogenic epilepsy in childhood by CT scanning. *Annals of Radiology* 1979;22:184-187.
2. Carson J, Tunell W, Barnes P, Altshuler G. Hepatoportal sclerosis in childhood. *Journal of Pediatric Surgery* 1981;16:291-296.
3. Leonard J, Barnes P, Keyes J, Huff D, Strange D, Vanhoutte J, Galloway D. Digital radiography: utilization of a nuclear medicine computer system. *Computerized Radiology* 1983;7:85-90.
4. Barnes P, Reynolds A, Galloway D, Pollay M, Leonard J, Prince J. Digital myelography of spinal dysraphism in infancy. *American Journal of Neuroradiology* 1984; 5:208-211; *American Journal of Roentgenology* 1984; 142:1247-1252.

5. Carson J, Barnes P, Tunell W, Smith E, Jolley S. Imperforate anus, the neurologic implication of sacral abnormalities. *Journal of Pediatric Surgery* 1984; 19:838-842.
6. Barnes P, Lester P, Yamanashi W, Woosley R, Wheatley K. Magnetic resonance imaging in childhood intracranial masses. *Magn Reson Imaging* 1986;4:41-49.
7. Barnes P, Lester P, Yamanashi W, Prince J. Magnetic resonance imaging in infants and children with spinal dysraphism. *American Journal of Neuroradiology* 1986; 7:465-472; *American Journal of Roentgenology* 1986; 147:339-346.
8. Tunell W, Barnes P, Austin J, Reynolds A. Neuroradiologic evaluation of sacral abnormalities in imperforate anus complex. *Journal of Pediatric Surgery* 1986;22:58-61.
9. Hamza M, Noorani P, Bodensteiner J, Barnes P. Benign extracerebral fluid collections: a cause of macrocrania in infancy. *Pediatric Neurology* 1987; 3:218-221.
10. Noorani P, Bodensteiner J, Barnes P. Colpocephaly: frequency and associated findings. *Journal of Child Neurology* 1988;3:100-104.
11. Bartynski W, Barnes P, Wallman J. Cranial CT of autosomal recessive osteopetrosis. *American Journal of Neuroradiology* 1989;10:543-550.
12. Schick R, Jolesz F, Macklis J, Barnes P. Magnetic resonance diagnosis of dural venous sinus thrombosis complicating L-asparaginase therapy. *J Computerized Medical Imaging and Graphics* 1989;13:319-327.
13. Pierce S, Barnes P, Loeffler J, McGinn C, Tarbell N. Definitive radiation therapy in the management of symptomatic patients with optic glioma: survival and long-term effects. *Cancer* 1990;69:45-52.
14. Healey EA, Barnes PD, Kupsky WJ, Scott RM, Sallan SE, Black PM, Tarbell NJ. The prognostic significance of postoperative residual tumor in ependymoma. *Neurosurgery* 1991;28:666-671.

**Page 30**

15. Mattle HP, Wentz KU, Edelman RR, Wallner B, Finn JP, Barnes PD, Atkinson DJ, Kleefeld J, Hoogewoud HM. Cerebral venography with MR. *Radiology* 1991;178:453-458.
16. O'Tuama LA, Janicek MJ, Barnes PD, Scott RM, Black PM, Sallen SE, Tarbell NJ, Kupsky WJ, Wagenaar D, Ulanski JS, Davis R, Treves S. Functional imaging of treated childhood brain tumors: SPECT imaging with 201-Tl and 99m-Tc-HMPAO. *Pediatr Neurology* 1991;7:249-257.
17. Meyer JS, Hoffer FA, Barnes PD, Mulliken JB. Biological classification of soft tissue vascular anomalies, MRI correlation. *AJR* 1991;157:559-564.
18. Scott RM, Barnes P, Kupsky W, Adelman L. Cavernous angiomas of the central nervous system in children. *J Neurosurg* 1992;76:38-46.

19. Jones KM, Mulkern RV, Mantello MT, Melki PS, Ahn SS, Barnes PD, Jolesz FA. Brain hemorrhage: evaluation with fast spin-echo and conventional dual spin-echo images. *Radiology* 1992;182:53-58.
20. Ahn SS, Mantello MT, Jones KM, Mulkern RV, Melki PS, Higuchi N, Barnes PD. Rapid MR imaging of the pediatric brain using a fast spin-echo (FSE) technique. *AJNR* 1992;13:1169-1177.
21. Warf BC, Scott RM, Barnes PD, Hendren WH. Tethered spinal cord in patients with anorectal and urogenital malformations. *Pediatr Neurosurg* 1993;19(1):25-30.
22. Schutzman SA, Barnes PD, Mantello MT, Scott RM. Epidural hematomas in children. *Annals of Emergency Medicine* 1993;22:535-541.
23. Barnes PD, Brody JD, Jaramillo D, Akbar JU, Emans JB. Atypical idiopathic scoliosis: MRI evaluation. *Radiology* 1993;186:247-253.
24. Tice H, Barnes P, Goumnerova L, Scott RM, Tarbell NJ. Pediatric and adolescent oligodendrogliomas. *AJNR* 1993;14:1293-1300.
25. Zerbini C, Gelber R, Weinberg D, Sallan S, Barnes P, Kupsky W, Scott RM, Tarbell N. Prognostic factors in medulloblastoma including DNA ploidy. *J Clin Oncol* 1993;11(4):616-622.
26. Dunbar SF, Barnes PD, Tarbell NJ. Radiologic determination of the caudal border of the spinal field in craniospinal irradiation. *Int J Radiation Oncology Biol Phys* 1993;26:669-673.
27. Kretschmar CS, Tarbell NJ, Barnes PD, Krischer JP, Burger PC, Kun L. Pre-irradiation chemotherapy and hyperfractionated radiation therapy 66 Gy for children with brain stem tumors. *Cancer* 1993;72(4):1404-1413.
28. Tice H, Jones K, Mulkern R, Schwartz R, Kalina P, Ahn S, Barnes P, Jolesz F. Evaluation of intracranial neoplasia with fast spin-echo and conventional dual spin-echo images. *JCAT* 1993;17:425-431.
29. Hetelekidis S, Barnes P, Tao M, Fischer E, Schneider L, Scott RM, Tarbell N. 20-year experience in childhood craniopharyngioma. *Int J Radiation Oncology Biol Phys* 1993;27:189-195.

**Page 31**

30. O'Tuama LA, Treves ST, Larar JN, Packard AB, Kwan AJ, Barnes PD, Scott RM, Black PM, Madsen JR, Goumnerova LC, Sallan SE, Tarbell NJ. Thallium-201 versus technetium-MIBI SPECT in evaluation of childhood brain tumors: a within-subject comparison. *J Nucl Med* 1993;34:1045-1051.
31. Strand RD, Barnes PD, Young Poussaint T, Estroff JA, Burrows PE. Cystic retrocerebellar malformations: unification of the Dandy-Walker complex and Blake's pouch cyst. *Pediatr Radiol* 1993;23:258-260.
32. Vera M, Fleisher GR, Barnes PD, Bjornson BII, Allred EN, Goldmann DA. Computed tomography imaging in children with head trauma: utilization and appropriateness from a quality improvement perspective. *Infect Control Hosp Epidemiol* 1993;14:491-499.

33. Kooy HM, van Herk M, Barnes PD, Alexander E, Dunbar SF, Tarbell NJ, Mulkern RV, Holupka E, Loeffler JS. Image fusion for stereotactic radiotherapy and radiosurgery treatment planning. *Int J Radiation Oncology Biol Phys* 1994;28:1229-1234.
34. Li VW, Folkerth RD, Watanabe H, Yu C, Rupnick M, Barnes P, Scott RM, Black PM, Sallan SE, Folkman J. Microvessel count and cerebrospinal fluid basic fibroblast growth factor in children with brain tumours. *Lancet* 1994;344:82-86.
35. Appignani BA, Jaramillo D, Barnes PD, Young Poussaint T. Dysraphic myelodysplasias associated with urogenital and anorectal anomalies: prevalence and types seen with MR imaging. *AJR* 1994;163:1199-1203.
36. Dunbar SF, Tarbell NJ, Kooy HM, Alexander E, Black PM, Barnes PD, Goumnerova L, et al. Stereotactic radiotherapy for pediatric and adult brain tumors: preliminary report. *Int J Radiation Oncology Biol Phys* 1994;30:531-539.
37. Scott RM, Hetelekidis S, Barnes PD, Goumnerova L, Tarbell NJ. Surgery, radiation, and combination therapy in the treatment of childhood craniopharyngioma -- a 20 year experience. *Pediatr Neurosurg* 1994;21:75-81.
38. Tarbell NJ, Barnes P, Scott RM, Goumnerova L, Pomeroy SL, Black P McL, Sallan SE, Billett A, LaValley B, Helmus A, Kooy HM, Loeffler JS. Advances in radiation therapy for craniopharyngiomas. *Pediatr Neurosurg* 1994;21:101-107.
39. Klufas RA, Hsu L, Barnes PD, Patel MR, Schwartz RB. Dissection of the carotid and vertebral arteries: imaging with MR angiography. *AJR* 1995;164:673-677.
40. Young Poussaint T, Siffert J, Barnes PD, Pomeroy SL, Goumnerova LC, Anthony DC, Sallan SE, Tarbell NJ. Hemorrhagic vasculopathy after treatment of CNS neoplasia in childhood: diagnosis and followup. *AJNR* 1995;16:693-699.

**Page 32**

41. Bellinger DC, Jonas RA, Rappaport LA, Wypij D, Wernovsky G, Kuban KC, Barnes PD, Holmes GL, Hickey PR, Strand RD, Walsh AZ, Helmers SL, Constantinou JE, Carrazana EJ, Mayer JE, Hanley FL, Castaneda AR, Ware JH, Newburger JW. Developmental and neurologic status of children after heart surgery with hypothermic circulatory arrest or low-flow cardiopulmonary bypass. *New Engl J Med* 1995;332:549-555.
42. Schwartz RB, Bravo SM, Klufas RA, Hsu L, Barnes PD, Robson CD, Antin JH. Cyclosporine neurotoxicity and its relationship to hypertensive encephalopathy: CT and MR findings. *AJR* 1995;165:627-632.
43. Alexander E, Kooy HM, van Herk M, Schwartz M, Barnes PD, Tarbell NJ, Mulkern RV, Holupka EJ, Loeffler JS. Magnetic resonance image-

- directed stereotactic neurosurgery: use of image fusion with computerized tomography to enhance spatial accuracy. *J Neurosurg* 1995;83(2):271-276.
44. Bar-Sever Z, Connolly LP, Barnes P, Treves S. Sturge-Weber syndrome: the role of Tc99m HMPAO perfusion brain SPECT. *J Nucl Med* 1996;37:81-83.
45. Tarbell NJ, Scott RM, Goumnerova LC, Pomeroy SL, Black PM, Barnes P, Billett A, Lavally B, Shrieve D, Helmus A, Kooy HM, Loeffler JS. Craniopharyngioma: preliminary results of stereotactic radiation therapy. *Radiosurgery* 1996;1:75-82.
46. Habboush IH, Mitchell KD, Mulkern RV, Barnes PD, Treves ST. Registration and alignment of 3-D images: an interactive visual approach. *Radiology* 1996;199:573-578.
47. Steingard RJ, Renshaw PF, Yurgelun-Todd D, Appelmans KE, Lyoo IK, Shorrock KL, Bucci JP, Cesena M, Abebe D, Young Poussaint T, Barnes PD. Structural abnormalities in brain magnetic resonance images of depressed children. *J Am Acad Child Adolesc Psychiatry* 1996;35:307-311.
48. Levy HL, Lobbregt D, Barnes PD, Poussaint TY. Maternal PKU: MRI of the brain in offspring. *J Pediatr* 1996;128:770-775.
49. Packard AB, Roach PJ, Davis RT, Carmant L, Davis R, Riviello J, Holmes G, Barnes PD, O'Tuama LA, Bjornson B, Treves ST. Ictal and interictal Technetium-99m-Bicisate brain SPECT in children with refractory epilepsy. *J Nucl Med* 1996;37:1101-1106.
50. Bakardjiev AI, Barnes PD, Goumnerova LC, Black P McL, Scott RM, Pomeroy SL, Billett A, Loeffler JS, Tarbell NJ. Magnetic resonance imaging changes after stereotactic radiation therapy for childhood low grade astrocytoma. *Cancer* 1996;78:864-893.
51. Poussaint TY, Barnes PD, Anthony D, Spack N, Scott RM, Tarbell N. Hemorrhagic pituitary adenomas of adolescence. *AJNR* 1996;17:1907-1912.
52. Tzika AA, Vajapeyam S, Barnes PD. Multivoxel proton MR spectroscopy and hemodynamic MR imaging of childhood brain tumors. *AJNR* 1997;18:203-218.

**Page 33**

53. Medina LS, Pinter JD, Zurakowski D, Davis RO, Kuban KK, Barnes PD. Children with headache: Clinical predictors of brain lesions and the role of neuroimaging. *Radiology* 1997;202:819-824.
54. Medina LS, Mulkern RV, Strife K, Zurakowski D, Barnes PD. Database prescan: a time-efficient alternative to autoprescan. *J MRI* 1997;7:442-446.
55. Robertson RL, Burrows PE, Barnes PD, Robson CD, Poussaint TY, Scott RM. Angiography of pial synangiosis for childhood moyamoya disease. *AJNR* 1997;18:837-846.

56. Tzika AA, Robertson RL, Barnes PD, Vajapeyam S, Burrows PE, Treves ST, Scott RM. Childhood moyamoya disease: hemodynamic MRI. *Pediatr Radiol* 1997;27:727-735.
57. Poussaint TY, Barnes PD, Nichols K, Anthony DC, Cohen LE, Tarbell NJ, Goumnerova L. Diencephalic syndrome: clinical features and imaging findings. *AJNR* 1997;18(8):1499-1505.
58. Tao ML, Barnes PD, Billett AL, Leong T, Shrieve DC, Scott RM, Tarbell NJ. Childhood optic chiasm gliomas: radiographic response following radiotherapy and long term clinical outcome. *J Radiation Oncology Biol Phys* 1997;39(3):579-587.
59. Levine D, Barnes PD, Madsen JR, Wei L, Edelman RR. Fetal CNS anomalies: MRI augments sonographic diagnosis. *Radiology*, 1997;204:635-642.
60. Medlock MD, Madsen JR, Barnes PD, Anthony DC, Cohen LE, Scott RM. Optic chiasm astrocytomas of childhood. I. Long term followup. *Pediatr Neurosurg* 1997;27:121-128.
61. Levine D, Barnes PD, Sher S, Semelka RC, Li W, McArdle CR, Worawattanakul S, Edelman RR. Fetal fast MR imaging: reproducibility, technical quality, and conspicuity of anatomy. *Radiology* 1998;206:549-554.
62. Medina LS, Zurakowski D, Strife KR, Robertson RL, Poussaint TY, Barnes PD. Efficacy of fast screening MR in children and adolescents with suspected intracranial tumors. *AJNR* 1998;19:529-534.
63. Barlow CF, Priebe CJ, Mulliken JB, Barnes PD, Macdonald D, Folkman J, Ezekowitz RAB. Adverse effects of Interferon alpha-2a in the treatment of hemangiomas of infancy on the early development of the central nervous system: a preliminary report. *J Pediatr* 1998;132:527-530.
64. Huppi PS, Warfield S, Kikinis R, Barnes PD, Zientara GP, Jolesz FA, Tsuji MK, Volpe JJ. Quantitative magnetic resonance imaging of brain development in premature and mature newborns. *Ann Neurol* 1998;43:224-235.
65. Rappaport LA, Wypij D, Bellinger DC, Helmers SL, Holmes GL, Barnes PD, Wernovsky G, Kuban KCK, Jonas RA, Newburger JW. Relation of seizures after cardiac surgery in early infancy to neurodevelopmental outcome. *Circulation* 1998;97:773-779.

**Page 34**

66. Young Poussaint T, Kowal JR, Barnes PD, Zurakowski D, Anthony DC, Goumnerova LC. Tectal tumors of childhood: clinical and imaging findings. *AJNR* 1998;19:977-983 .
67. Huppi PS, Maier SE, Peled S, Zientara GP, Barnes PD, Jolesz FA, Volpe JJ. Microstructural Development of Human Newborn Cerebral White Matter Assessed in Vivo by Diffusion Tensor Magnetic Resonance Imaging, *Pediatr Res* 1998;44:584-590.

68. Gleeson JG, duPlessis AJ, Barnes PD, Riviello JJ. Cyclosporin A acute encephalopathy and seizure syndrome in childhood: clinical features and risk of seizure recurrence. *J Child Neurol* 1998;13:336-344.
69. Robertson RL, Chavali RV, Robson CD, Barnes PD, Eldredge EA, Burrows PE, Scott RM. Neurologic complications of cerebral angiography in childhood moyamoya syndrome. *Pediatric Radiology* 1998; 28: 824-829.
70. Alberico RA, Barnes PD, Robertson RL, Burrows PE. Helical CT angiography: dynamic cerebrovascular imaging in children. *AJNR* 1999; 20: 328-334.
71. Levine D, Barnes PD. Cortical maturation in normal and abnormal fetuses as assessed with prenatal MR imaging. *Radiology* 1999; 210: 751-758.
72. Robertson RL, Maier SE, Robson CD, Mulkern RM, Karas PM, Barnes PD. MR line scan diffusion of the brain in children. *AJNR* 1999; 20: 419-425.
73. Levine D, Barnes PD, Madsen JR, Abbott J, Wong GP, Hulka C, Mehta T, Li W, Edelman RR. Fetal CNS anomalies revealed on ultrafast MR imaging. *AJR* 1999; 172: 813-818.
74. Medina LS, Al-Orfali M, Zurakowski D, Poussaint TY, DiCanzio J, Barnes PD. Occult lumbosacral dysraphism in children and young adults: diagnostic performance of fast screening and conventional MR imaging. *Radiology* 1999;211:767-772.
75. Poussaint TY, Yousuf N, Barnes PD, Anthony DC, Zurakowski D, Scott RM, Tarbell NJ. Cervicomedullary astrocytomas of childhood. *Pediatric Radiology* 1999; 29:662-668.
76. Robertson RL, Ben-Sira L, Barnes PD, Mulkern RV, Robson CD, Maier SE, Rivkin MJ, DuPlessis AJ. MR line scan diffusion imaging of term neonates with perinatal brain ischemia. *AJNR* 1999; 20: 1658-1670.
77. Inder TE, Huppi PS, Warfield S, Kikinis R, Zientara GP, Barnes PD, Jolesz F, Volpe JJ. Periventricular white matter injury in the premature infant is followed by reduced cerebral cortical gray matter volume at term. *Annals of Neurology* 1999; 46: 755-760.
78. Robson CD, Hazra R, Barnes PD, Robertson RL, Jones D, Husson RN. Nontuberculous mycobacterial infection of the head and neck in immunocompetent children: CT and MR findings. *AJNR* 1999; 20: 1829-1835.

**Page 35**

79. Levine D, Barnes PD, Madsen JR, Abbott J, Mehta T, Edelman RR. Central nervous system abnormalities assessed with prenatal magnetic resonance imaging. *Obstetrics & Gynecology* 1999; 94: 1011-1019.
80. Panigrahy A, Caruthers SD, Krejza J, Barnes PD, Faddoul SG, Sleeper LA, Melhem ER. Registration of three dimensional MR and CT studies of the cervical spine. *AJNR* 2000; 21: 282-289.
81. Robertson RL, Maier SE, Mulkern RV, Vajapayem S, Robson CD, Barnes

- PD. MR line scan diffusion imaging of the spinal cord in children. *AJNR* 2000; 21: 1344-1348.
82. Robson CD, Mulliken JB, Robertson RL, Proctor MR, Steinberger D, Barnes PD, McFarren A, Muller U, Zurakowski D. Prominent basal emissary foramina in syndromic craniosynostosis: correlation with phenotypic and molecular diagnosis. *AJNR Am J Neuroradiol* 2000; 21: 1707-1717.
83. Poussaint TY, Fox JW, Dobyns WB, Radtke R, Scheffer IE, Berkovic SF, Barnes PD, Huttenlocher PR, Walsh CA. Periventricular nodular heterotopia in patients with filamin-1 gene mutations: neuroimaging findings. *Pediatr Radiol* 2000; 30: 748-755.
84. Huppi PS, Murphy B, Maier SE, Zientara GP, Inder TE, Barnes PD, Kikinis R, Jolesz FA, Volpe JJ. Microstructural brain development after perinatal cerebral white matter injury assessed by diffusion tensor MR imaging. *Pediatrics* 2001; 107 (3): 455-460.
85. Ralston ME, Chung K, Barnes PD, Emans JB, Schutzman SA. The role of flexion-extension radiography in blunt cervical spine injury. *Acad Emerg. Med.* 2001; 8 (3): 237-245.
86. Schutzman SA, Barnes PD, Duhaime A-C, Greenes D, Homer C, Jaffe D, Lewis RJ, Luerssen TG, Schunk J. Evaluation and management of children younger than two years old with apparently minor head trauma: proposed guidelines. *Pediatrics* 2001; 107: 983-993.
87. Tzika A, Zurakowski D, Poussaint T, Goumnerova L, Astrakas L, Barnes PD, Anthony D, Billett A, Tarbell N, Scott R, Black P. Proton magnetic resonance spectroscopic imaging of the child's brain: the response of tumors to treatment. *Neuroradiology* 2001; 43: 169-177.
88. Panigrahy A, Barnes PD, Robertson RL, Back SA, Sleeper LA, Sayre JW, Kinney IIC, Volpe JJ. Volumetric Brain Differences in Children with Periventricular T2-Signal Hyperintensities: A Grouping by Gestational Age at Birth. *Am J Roentgenol.* 2001;177:695-702.
89. Murphy BP, Zientara Gp, Huppi PS, Maier SE, Barnes PD, Jolesz FA, Volpe JJ. Line scan diffusion tensor MRI of the cervical spinal cord in preterm infants. *J Magn Reson Imaging* 2001; 13 (6): 949-953.
90. Morgan T, McDonald J, Anderson C, Ismail M, Miller F, Madan A, Barnes P, Hudgins L, Manning M. Intracranial hemorrhage in infants and children with hereditary hemorrhagic telangiectasia (Osler-Weber-Rendu Syndrome). 2002; 109: E12.
91. Ment L, Bada H, Barnes P, Grant P, Hirtz D, Papile L, Pinto-Martin J, Rivkin M, Slovis T. Practice parameter: neuroimaging of the neonate. *Neurology* 2002; 58: 1726-1738.
92. Levine D, Trop I, Mehta TS, Barnes PD. MR imaging appearance of fetal cerebral ventricular morphology. *Radiology* 2002; 223: 652-660.
93. Marcus KJ, Dutton SC, Barnes P, Coleman CN, Pomeroy SL, Goumnerova L, Billet AL, Kieran M, Tarbell NJ. A phase I trial of etanidazole and hyperfractionated radiotherapy in children with diffuse brainstem glioma. *Int J Radiol Oncol Biol Phys.* 2003; 55: 1182-1185.

94. Arzoumanian Y, Mirmiran M, Barnes PD, Woolley K, Ariagno RL, Moseley ME, Fleisher BE, Atlas SW. Diffusion tensor brain imaging findings at term equivalent age may predict neurologic abnormalities in low birth weight preterm infants. *AJNR Am J Neuroradiol* 2003; 24: 1646-1653.
95. Levine D, Barnes PD, Robertson RR, Wong G, Mehta TS. Fast MR imaging of fetal central nervous system abnormalities. *Radiology*. 2003 Oct;229(1):51-61.
96. Ozduman K, Pober BR, Barnes P, Copel JA, Ogle EA, Duncan CC, Ment LR. Fetal Stroke. *Pediatr Neurol*. 2004 Mar;30(3):151-62.
97. Mirmiran M, Barnes PD, Keller KA, Constantinou JC, Fleisher BE, Hintz SR, Ariagno RL. Neonatal brain MRI before discharge is better than serial cranial US in predicting cerebral palsy in VLBW preterm infants. *Pediatrics* 2004; 114: 992-998.
98. Glaser NS, Wootton-Gorges SL, Marcin JP, Buonocore MH, Dicarolo J, Neely EK, Barnes P, Bottomly J, Kuppermann N. Mechanism of cerebral edema in children with diabetic ketoacidosis. *J Pediatr*. 2004; 145: 164-171.
99. Chen K, Bird L, Barnes P, Barth R, Hudgins L. Lateral meningocele syndrome: vertical transmission and expansion of the phenotype. *Am J Med Genet* 2005; 133(2):115-121.
100. Wootton-Gorges SL, Buonocore MH, Kupperman N, Marcin J, DiCarlo J, Neely EK, Barnes PD, Glaser N. Detection of cerebral b-hydroxy butyrate, acetoacetate, and lactate in children with diabetic ketoacidosis. *AJNR* 2005; 26:1286-1291.
101. Chang K, Barnea-Goraly N, Karchemskiy A, Simeonova DI, Barnes P, Ketter T, Reiss AL. Cortical magnetic resonance imaging findings in familial pediatric bipolar disorder. *Biol Psychiatry* 2005; 58: 197-203.
102. Smith AS, Levine D, Barnes PD, Robertson RL. Magnetic resonance imaging of the kinked fetal brain stem: a sign of severe dysgenesis. *J Ultrasound Med*. 2005 Dec;24(12):1697-709.
103. Panigrahy A, Barnes PD, Robertson RL, Sleeper LA, Sayre JW. Quantitative analysis of the corpus callosum in children with cerebral palsy and developmental delay: correlation with cerebral white matter volume. *Pediatr Radiol*. 2005;35:1199-207.
104. Glaser NS, Wootton-Gorges SL, Buonocore MH, Marcin JP, Rewers A, Strain J, Dicarolo J, Neely EK, Barnes P, Kuppermann N. Frequency of sub-clinical cerebral edema in children with diabetic ketoacidosis. *Pediatr Diabetes*. 2006; 7(2):75-80.
105. Miralbell R, Fitzgerald TJ, Laurie F, Kessel S, Glicksman A, Friedman HS, Urie M, Kepner JL, Zhou T, Chen Z, Barnes P, Kun L, Tarbell NJ. Radiotherapy in pediatric medulloblastoma: quality assessment of Pediatric Oncology Group Trial 9031. *Int J Radiat Oncol Biol Phys*. 2006;64:1325-1330.
106. Minn YA, Fisher PG, Barnes PD, Dahl GV. A Syndrome of Irreversible Leukoencephalopathy Following Pediatric Allogeneic Bone Marrow

- Transplantation. *Pediatr Blood & Cancer* 2007;203: 7-13.
107. Wootton-Gorges SL, Buonocore MH, Kupperman N, Marcin JP, Barnes PD, Neely EK, DiCarlo J, McCarthy T, Glaser NS. Cerebral proton magnetic spectroscopy in children with diabetic ketoacidosis. *AJRN Am J Neuroradiol* 2007; 28:895-899.
108. Rose J, Mirmiran M, Butler EE, Lin Cy, Barnes PD, Kermoian R, Stevenson DK. Neonatal microstructural development of the internal capsule on diffusion tensor imaging correlates with severity of gait and motor deficits. *Dev Med Child Neurol* 2007; 49: 745-750.
109. Chen JL, Gittleman A, Barnes PD, Change KW. Utility of temporal bone computed tomographic measurements in the evaluation of inner ear malformations. *Arch Otolaryngol Head Neck Surg.* 2008;134:50-56.
110. Nehra D, Jacobson L, Barnes P, Mallory B, Albanese C, Sylvester K. Doxycycline sclerotherapy as primary treatment of head and neck lymphatic malformations in children. *J Pediatr Surg* 2008;43:451-460.
111. Glaser N, Marcin J, Wootton-Gorges S, Buonocore M, Rewers A, Strain J, DiCarlo J, Neely E, Barnes P, Kupperman N. Correlation of clinical and biochemical findings with diabetic ketoacidosis-related cerebral edema in children using magnetic resonance diffusion-weighted imaging. *J Pediatr* 2008;153:541-546.
112. Augustine E, Spielman D, Barnes P, Sutcliffe T, Dermon J, Mirmiran M, Clayton D, Ariagno R. Can magnetic resonance spectroscopy predict neurodevelopmental outcome in very low birth weight preterm infants? *J Perinatol* 2008; 28:611-618.
113. Keller KA, Barnes PD. Rickets vs. Abuse, A National & International Epidemic. *Pediatric Radiology*, 2008;38:1210-1216.
114. Rose J, Butler E, Lamont L, Barnes P, Atlas S, Stevenson D. Neonatal brain structure on MRI and DTI, sex, and neurodevelopment in very low birth weight preterm children. *Dev Med Child Neurol* 2009;51:526-535.
115. Vertinsky A, Rubesova E, Krasnokutsky M, Bammer S, Rosenberg J, White A, Barnes P, Bammer R. Performance of PROPELLER relative to standard FSE T2-weighted imaging in pediatric brain MRI. *Pediatr Radiol* 2009;39:1038-1047.
116. Hahn J, Barnes P, Clegg N, Stashinko E. Septopreoptic holoprosencephaly: a mild subtype associated with midline craniofacial anomalies. *AJNR Am J Neuroradiol* 2010;31:1596-1601.
117. Barnes P. Imaging of NAI and the mimics: issues and controversies in the era of evidence-based medicine. *Radiol Clin North Am* 2011;49:205-229.
118. Findley KA, Barnes PD, Moran DA, Squier W. Shaken baby syndrome, abusive head trauma, and actual innocence: getting it right. *Legal Studies Research Paper Series Paper No. 1195. Houston J Health Policy* (forthcoming). *Social Science Research Network Electronic Paper Collection* at: <http://ssrn.com/abstract=2048374>.
119. Holdsworth S, Yeom K, Skare S, Gentles A, Barnes P, Bammer R. Clinical Application of Readout-Segmented (RS)-EPI for Diffusion Weighted Imaging in Pediatric Brain. *AJNR Am J Neuroradiol*.

- 2011;32(7):1274-9.
120. Shankaran S, **Barnes P**, Hintz S, Laptook A, Zaterka-Baxter K, McDonald S, Ehrenkranz R, Walsh M, Tyson J, Donovan D, Goldberg R, Bara R, Das A, Finer N, Sanchez P, Poindexter B, Van Meurs K, Carlo W, Stoll B, Duara S, Guillet R, Higgins R, for the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development Neonatal Research Network. Brain Injury Following Trial of Hypothermia for Neonatal Hypoxic-Ischemic Encephalopathy. *Arch Dis Child Fetal Neonatal Ed.* 2012 Nov;97(6):F398-404.
  121. Holdsworth S, Aksoy M, Newbould R, Yeom K, Van A, Ooi M, **Barnes P**, Bammer R, Skare S. Diffusion tensor imaging (DTI) with retrospective motion correction for large-scale pediatric imaging. *J. Magnetic Resonance Imaging* 2012 Oct; 36 (4): 961-71.
  122. Yeom KW, Mobley BC, Lober RM, Andre JB, Partap S, Vogel H, **Barnes PD**. Distinctive MRI features of pediatric medulloblastoma subtypes. *AJR Am J Roentgenol.* 2013 Apr;200(4):895-903. doi: 10.2214/AJR.12.9249.
  123. Yeom K, Lober R, Andre J, Fisher P, Barnes P, Edwards M, Partap S. Prognostic role for diffusion-weighted imaging of pediatric optic pathway glioma. *J Neurooncol.* 2013 May 15. [Epub ahead of print]
  124. Hintz S, **Barnes P**, Bulas D, et al, for the SUPPORT Study Group, NICHD, Neonatal Research Network. Neonatal neuroimaging and neurodevelopmental outcomes at 18-22 months corrected age in extremely preterm infants: The SUPPORT NEURO Study. Submitted for publication, January 2014.

#### **Proceedings of Meetings:**

1. Gilsanz V, Nealis J, Barnes P, Richmond B, and Strand R. "A Study of 142 Children with Temporal Lobe Epilepsy who had CT Examinations". Presented at the 63rd Annual Meeting of the Radiological Society of North America, Chicago, Illinois, December, 1977 (*Radiology* 1979; 133: 845-846).
2. Gilsanz V, Nealis J, Barnes P, and Strand R. "Results of Presumed Idiopathic Epilepsy in Childhood by CT Scanning". Presented at the 15th Annual Meeting of the European Society of Pediatric Radiology, Brussels, Belgium, April, 1978 (*Annals of Radiology* 1979; 22: 184-187).
3. Carson J, Tunnell W, Barnes P, and Altshuler G. "Hepatoportal Sclerosis in Childhood, a Mimic of Extrahepatic Portal Vein Obstruction". Presented at the Annual Meeting of the Surgical Section of the American Academy of Pediatrics, Detroit, Michigan, October, 1981 (*Journal Pediatric Surgery* 1981; 16: 291-296).
4. Bodensteiner J, and Barnes P. "Translumbar Metrizamide Polytomographic Encephalography in the Evaluation of the Posterior Fossa in Children and Adolescents". Presented at the Tenth Annual

Meeting of the Child Neurology Society, Minneapolis, Minnesota, October, 1981 (Annals of Neurology 1981; 10: 295-296).

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5. Barnes P. "Progress in Cost-Effective Evaluation of Pediatric and Adolescent Neurologic Spine Disease". Presented at the 26th Annual Meeting of the Society for Pediatric Radiology, Atlanta, GA., April 1983 (American Journal of Roentgenology, 1984; 143:694).
6. Barnes P, Lester P, Yamanashi W. "Magnetic Resonance Imaging in Spinal Dysraphism". Presented at the 27th Annual Meeting of the Society for Pediatric Radiology, Las Vegas, Nevada, April, 1984 (Pediatric Radiology 1985; 15:68).
7. Carson J, Barnes P, Tunell W, Smith E, and Jolley S. "Imperforate Anus, The Neurologic Implication of Sacral Abnormalities". Presented at the Annual Meeting American Pediatric Surgical Association, Marco Island, Florida, May, 1984 (Journal of Pediatric Surgery 1984; 19:838-842).
8. Barnes P, Carson J, Tunell W, Smith E, Pollay M, Reynolds A, Sullivan J, Bodensteiner J, Barnes W. Occult Myelodysplasia in Children with Caudal Endodermal Syndromes". Presented at the 22nd Annual Meeting of the American Society of Neuroradiology, Boston, MA., June 1984 (American Journal of Neuroradiology 1984; 5: 673).
9. Barnes P, Lester P, Yamanashi W. "Magnetic Resonance Imaging of Posterior Fossa Masses in Children". Presented at the 70th Scientific Assembly and Annual Meeting of the Radiologic Society of North America, Washington D.C., November, 1984 (Radiology 1984; 153: 117).
10. Lester P, Barnes P, Wheatley K, Yamanashi W., Woosley R. "Intracranial Mass Lesions of Children via MRI at 0.27T". Presented at the Fourth Annual Meeting of the Society of Magnetic Resonance Imaging, San Diego, March, 1985. (Magnetic Resonance 1986; 4:41-49).
11. Barnes P, Lester P, Galloway D, Prince J, Yamanashi W. "MRI in the Management of Brainstem Neoplasia of Childhood". Presented at the 24th Annual Meeting, American Society of Neuroradiology, San Diego, California, January 1986 (American Journal of Neuroradiology 1986; 7: 542).
12. Prince J, Wegner K, Barnes P. "Contrasting Site Planning Philosophies for High-Field Strength MRI Installation". Presented at Southwestern Chapter Society of Nuclear Medicine Annual Meeting, Dallas, Texas, March 1986 (Journal of Nuclear Medicine 1986; 27: 314).
13. Barnes P, Lester P, Prince J, Galloway S, Yamanashi W. "MRI of the Spinal Neuraxis in Childhood". Presented at the Annual Meeting, Society for Pediatric Radiology, Washington, D.C., April 1986 (American Journal of Radiology 1986; 147: 871).
14. Tunell W, Barnes P, Austin J, Reynolds A. "Neuroradiologic Evaluation of Sacral Abnormalities in Imperforate Anus Complex". Presented at the

Annual Meeting, American Pediatric Surgical Association, Toronto, Canada, May, 1986 (Journal of Pediatric Surgery 1986; 22: 58-61).

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15. Barnes P, Prince J, Galloway D, Ross-Duggan J, Lester P, Yamanashi W. "MR Imaging of the Pediatric Central Nervous System-Utilization Review". Scientific Presentation, Radiological Society of North America, 72nd Scientific Assembly and Annual Meeting, Chicago, Illinois, November, 1986 (Radiology 1986; 161(p):292).
16. Barnes P, Prince J, and Martel C. "High-Field MR Imaging of the Pediatric Central Nervous System". Scientific Exhibit, Radiological Society of North America 72nd Scientific Assembly and Annual Meeting, November, 1986 (Radiology 1986; 161(p): 408).
17. Barnes P, Prince J, Wilson D, Galloway D, Lester P. "The Complimentary Roles of MR and CT in Pediatric Cranio-Spinal Imaging". Presented at the Inaugural Conjoint Meeting (S.P.R.-E.S.P.R.), International Pediatric Radiology '87, Toronto, Canada, June 1987 (Pediatric Radiology 1987; 7(#4): 345-346).
18. Hamza M, Noorani R, Bodensteiner J, Barnes P. "Benign Subdural Collection: A Cause of Macrocrania in Infancy". Presented at the 39th Annual Meeting of the American Academy of Neurology, New York, April 9, 1987 (Neurology 1987; 37: 347).
19. Noorani P, Bodensteiner J, Barnes P. "Colpocephaly: Frequency and Associated Findings". Presented (poster) at the 15th Annual Meeting of the Child Neurology Society, October 11, 1986, New Orleans. (Journal of Child Neurology 1988; 3: 100-104).
20. Bartynski W, Barnes P, Wallman J. "Cranial Computed Tomographic Findings in Autosomal Recessive Osteopetrosis". Poster presentation at the 25th Annual Meeting of the American Society of Neuroradiology, May 1987, New York. Am. J. Neuroradiology 1989; 10:543-550).
21. Hoffer F, Barnes P. "Motion-artifact Reduction at High-field Strength MRI in Children". Presented at the 74th Scientific Assembly and Annual Meeting Radiological Society of North America, Chicago, IL., November, 1988 (Radiology 1988;169(P):33).
22. Ahn S, Mantello M, Jones K, Mulkern R, Melki P, Higuchi N, Barnes P. Rapid MR Imaging of the Pediatric Brain Using Partial RF Echo Planar (PREP) Techniques. Presented at the 29th Annual Meeting, American Society of Neuroradiology, June 9, 1991, Washington, D.C. (Am. J. Neuroradiology 1992;13:1169-1178).
23. Tice H, Ahn S, Goumnerova L, Barnes P. Clinical and imaging aspects of pediatric and adolescent oligodendrogliomas. Poster presentation at the 35th Annual Meeting, Society for Pediatric Neuroradiology, June 3-4, 1992, St. Louis, MO.

24. Tice H, Jones K, Mulkern R, Schwartz R, Kalina P, Ahn S, Barnes P, Jolesz F. Evaluation of intracranial neoplasms with fast spin-echo and conventional dual spin-echo images. Presented at the 30th Annual Meeting, American Society of Neuroradiology, June 4, 1992, St. Louis, MO.

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25. Kinney H, Panigrahy A, Goode R, Barnes P, Dikkes P, Korein J. Neuropathologic findings in a patient with persistent vegetative state. Poster presentation at the Annual Meeting of the American Association of Neuropathologists, June 17, 1992, St. Louis, MO. Honorable Mention, Moore Award (Best paper in clinicopathologic correlation). (*J Neuropathol Exp Neurol* 1992;51:345).
26. Barnes P, Dunbar S, Young Poussaint T, Kooy H, Van Herk M, Mulkern R, Loeffler J, Tarbell N. Image fusion in planning of stereotactic radiation therapy for childhood intracranial neoplasia. Presented at The Society for Pediatric Radiology, 36th Annual Meeting, Seattle, Washington, May 13, 1993, and at the American Society of Neuroradiology, 31st Annual Meeting, Vancouver, B.C. Canada, May 19, 1993.
27. Jaramillo D, Barnes P, Appignani B, Young Poussaint T. Spinal dysraphism in cloacal malformation, imperforate anus, and cloacal exstrophy. Presented at The Society for Pediatric Radiology, 36th Annual Meeting, Seattle, Washington, May 13, 1993, and at the American Society of Neuroradiology, 31st Annual Meeting, Vancouver, B.C., Canada, May 18, 1993.
28. Barnes P, Tarbell N, Dunbar S, Young Poussaint T. MR imaging in treatment planning for craniospinal irradiation of childhood CNS neoplasia. Presented at The Society for Pediatric Radiology, 36th Annual Meeting, Seattle, Washington, May 14, 1993, and at the American Society of Neuroradiology, 31st Annual Meeting, Vancouver, B.C., Canada, May 19, 1993.
29. Barnes P, Appignani B, Landy H, Young Poussaint T. MR imaging in unexplained central diabetes insipidus of childhood. Presented at The Society for Pediatric Radiology, 36th Annual Meeting, Seattle, Washington, May 14, 1993, and at the American Society of Neuroradiology, 31st Annual Meeting (Idiopathic central diabetes insipidus of childhood: MR imaging), Vancouver, B.C., Canada, May 19, 1993.
30. Barnes P, Tice H, Goumnerova L. Pure oligodendrogliomas of childhood. Alternate short paper at The Society for Pediatric Radiology, 36th Annual Meeting, Seattle, Washington, May 15, 1993.
31. Tice H, Barnes P, Boyer R, Osborn A. MRI of the CNS in pediatric patients with systemic lupus erythematosus. Presented at the American Society of Neuroradiology, 31st Annual Meeting, Vancouver, B.C., Canada, May 18, 1993.

32. Barnes P, Strand R, Young Poussaint T, Estroff J. The Dandy-Walker-Blake continuum: a unified approach to retrocerebellar cystic anomalies. Presented at the American Society of Neuroradiology, 31st Annual Meeting, Vancouver, B.C., Canada, May 19, 1993.

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33. Tice H, Mulkern R, Meng J, Oshio K, Shapiro A, Barnes P, Jolesz F. Spectroscopic studies of the pituitary fossa with an inner volume spectroscopic imaging technique. Presented at the American Society of Neuroradiology, 31st Annual Meeting, Vancouver, B.C., Canada, May 20, 1993.
34. Barnes PD, Suojanen JN, Estroff J, Young Poussaint T, Burrows PE. Congenital cerebral clefts. Presented at the Society for Pediatric Radiology, 37th Annual Meeting, Colorado Springs, Colorado, April 28-May 1, 1994.
35. Estroff JA, Parad RB, Benacerraf BR, Barnes PD. Prenatal sonography of callosal dysgenesis with associated supratentorial cysts. Presented at the Society for Pediatric Radiology, 37th Annual Meeting, Colorado Springs, Colorado, April 28-May 1, 1994.
36. Young Poussaint T, Barnes PD, Siffert JO, Pomeroy SL, Burrows PE. Outcome in delayed intracranial hemorrhage following cranial radiation therapy in children. Presented at the Society for Pediatric Radiology, 37th Annual Meeting, Colorado Springs, Colorado, April 28-May 1, 1994, and at the American Society of Neuroradiology, Nashville, Tennessee, May 3-7, 1994.
37. Treves ST, O'Tuama LA, Barnes PD, Bjornson B, Mitchell KD, Habboush I. Pediatric brain MRI/SPECT, SPECT/SPECT image fusion. Paper presented at the Society for Pediatric Radiology, 37th Annual Meeting, Colorado Springs, Colorado, April 28-May 1, 1994, and at the American Society of Neuroradiology, Nashville, Tennessee, May 3-7, 1994.
38. Barnes PD, Young Poussaint T, Burrows PE, Scott RM. Symptomatic Chiari I malformation of childhood. Paper presented at the American Society of Neuroradiology, Nashville, Tennessee, May 3-7, 1994.
39. Barnes PD, Suojanen JN, Estroff J, Young Poussaint T, Burrows PE. Congenital cerebral clefts. Poster presented at the American Society of Neuroradiology, Nashville, Tennessee, May 3-7, 1994.
40. Barnes PD, Chung T, Hoffer FA, Burrows PE, Young Poussaint T, Ohlms L. MR imaging of hemangiomas of the head and neck in childhood. Poster presented at the American Society of Neuroradiology, Nashville, Tennessee, May 3-7, 1994.
41. Tzika AA, Robertson R, Barnes PD, Burrows PE, Scott RM. Childhood moyamoya disease: hemodynamic MR imaging. Paper presented at the American Society of Neuroradiology, 33rd Annual Meeting, Chicago,

Illinois, April 23, 1995 and The Society for Pediatric Radiology, 38th Annual Meeting, Washington, D.C., April 29, 1995.

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42. Robson CD, Barnes PD, Burrows PE, Hoffer FA, Paltiel HJ, Young Poussaint T, Robertson RL. MR imaging of vascular anomalies of the head and neck in childhood. Paper presented at the American Society of Neuroradiology, 33rd Annual Meeting, Chicago, Illinois, April 23, 1995 and The Society for Pediatric Radiology, 38th Annual Meeting, Washington, D.C., April 29, 1995.
43. Tzika AA, Barnes PD, Tarbell NJ, Nelson SJ, Scott RM. Multivoxel Proton Spectroscopy of childhood brain tumors. Derek Harwood-Nash Award for Outstanding Pediatric Neuroradiology Paper. Paper presented at the American Society of Neuroradiology, 33rd Annual Meeting, Chicago, Illinois, April 24, 1995.
44. Young Poussaint T, Barnes PD, Robertson RL, Robson CD, Walters G. Hemorrhagic pituitary adenomas of adolescence. Paper presented at the American Society Neuroradiology, 33rd Annual Meeting, Chicago, Illinois, April 24, 1995.
45. Huppi PS, Tsuji MK, Kapus T, Barnes P, Zientara G, Kikinis R, Jolesz F, Volpe JJ. 3D-MRI, a new measure of brain development in newborns. Paper presented at the Society of Pediatric Research, 64th Annual Meeting, San Diego, CA, May 1995.
46. Huppi PS, Tsuji MK, Kapur T, Barnes P, Jakab M, Zientara G, Kikinis R, Jolesz F. Quantification of changes in postnatal brain development in preterm infants using adaptive segmentation of MRI data. Paper presented at the Proceedings of the Third Annual Scientific Meeting of the Society of Magnetic Resonance, Nice, France, August 1995.
47. Medina LS, Barnes PD, Pinter J, Davis R, Zurakowski D. Clinical practice guidelines for imaging in children with headache. Paper presented at the Radiological Society of North America, 81st Annual Meeting, Chicago, Illinois, November 28, 1995.
48. Packard AB, Connolly LP, Bar-Sever Z, Barnes PD, Holmes G, Treves ST. Ictal and interictal Tc-99m ECD SPECT in pediatric patients with medically refractory epilepsy without focal MR imaging abnormalities. Paper presented at the Radiological Society of North America, 81st Annual Meeting, Chicago, Illinois, November 28, 1995.
49. Tzika AA, Barnes PD, Tarbell NJ, Goumnerova LC, Scott RM, Nelson SJ, et al. Spectroscopic and hemodynamic MR characterization of pediatric brain tumors. Paper presented at the Radiological Society of North America, 81st Annual Meeting, Chicago, Illinois, November 28, 1995.

50. Burrows PE, Barnes PD, Ezekowitz RA, Mulliken JB. Intracranial vascular anomalies in patients with cervicofacial hemangiomas. Paper presented at the Radiological Society of North America, 81st Annual Meeting, Chicago, Illinois, November 29, 1995.

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51. Medina LS, Pinter J, Zurakowski D, Davis RG, Barnes PD. Clinical predictors of surgical space-occupying lesions and the role of Neuroimaging in children with headache. Paper presented at the SPR/IPR '96 Meeting, Boston, MA, May 1996.
52. Robson CD, Bakardjiev AI, Barnes PD, Kim FM, Robertson RL, Poussaint TY, et al. MR imaging changes after stereotactic radiation therapy for brain tumors in children. Paper presented at the SPR/IPR '96 Meeting, Boston, MA, May 1996.
53. Robson CD, Pohl-Koppe A, Barnes PD, Thiele E, Robertson RL, Burchett S. The role of brain MR imaging in the differential diagnosis of acute viral encephalitis and acute disseminated encephalomyelitis in children. Paper presented at the American Society of Neuroradiology, 34th Annual Meeting, Seattle, Washington, June 23, 1996.
54. Robson CD, Bakardjiev AI, Barnes PD, Kim FM, Robertson RL, Poussaint TY. MR imaging changes after stereotactic radiation therapy for brain tumors in children. Paper presented at the American Society of Neuroradiology, 34th Annual Meeting, Seattle, Washington, June 24, 1996.
55. Klufas RA, Barnes PD, Robson CD, Kim FM, Robertson RL, Poussaint TY. MR imaging of spinal cord gangliogliomas of childhood. Paper presented at the American Society of Neuroradiology, 34th Annual Meeting, Seattle, Washington, June 25, 1996.
56. Robertson RL, Burrows PE, Barnes PD, Robson CD, Scott RM. Angiographic changes following pial synangiosis in moyamoya syndrome. Poster presented at the American Society of Neuroradiology, 34th Annual Meeting, Seattle, Washington, June 1996.
57. Huppi PS, Tsuji MK, Barnes P, Kikinis R, Jolesz F, Volpe JJ. Quantitative assessment of brain development in multiple gestation babies using in vivo 3-dimensional MRI (3D-MRI). Paper presented at the European Society for Pediatric Research and the European Society for Pediatric Intensive Care, Annual Meeting, Lyon, France, September 1996.
58. Tzika AA, Vajapeyam S, Barnes PD, Tarbell NJ, Goumnerova LC, Anthony DC. Pediatric brain tumor response to treatment with proton MR spectroscopy. Paper presented at the Radiological Society of North America, 82nd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 2, 1996.

59. Kikinis R, Huppi P, Barnes PD, Volpe JJ, Jolesz FA. MR-based quantification of brain development in multiple-gestation preterm infants. Paper presented at the Radiological Society of North America, 82nd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 2, 1996.

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60. Medina LS, Mulkern RV, Strife KR, Zurakowski D, Barnes PD. Database prescan: a time-efficient alternative to brain MR imaging autoprescan. Paper presented at the Radiological Society of North America, 82nd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 2, 1996.
61. Barnewolt CE, Kim FM, Barnes PD, Taylor GA. Potential role of color Doppler sonography in defining the location of extracerebral fluid collections in infants. Paper presented at the Radiological Society of North America, 82nd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 3, 1996.
62. Medina LS, Zurakowski D, Strife KR, Robertson RR, Young Poussaint T, Barnes PD. Efficacy of fast-screening brain MR imaging in children with space-occupying lesions: blinded comparative analysis. Paper presented at the Radiological Society of North America, 82nd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 6, 1996.
63. Glasier CM, Barnes PD, Allison JW. Rathke cleft cysts in young patients: CT, MR imaging, and clinical-pathologic correlation. Paper presented at the Radiological Society of North America, 82nd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 6, 1996.
64. Huppi PS, Warfield S, Zientara GP, Taranto RJ, Barnes PD, Kikinis R, Jolesz FJ. Cortical development in early human brain development: surface and volume changes. Paper presented at the Proceeding of the Fifth Annual Scientific Meeting of the International Society for Magnetic Resonance in Medicine, Vancouver, B.C., Canada, April 12-18, 1997.
65. Alberico RA, Barnes PD, Robertson RL, Burrows PE. Kirkpatrick Young Investigator Award. Dynamic cerebrovascular imaging in pediatric patients with use of helical CT angiography. Paper presented at the Society for Pediatric Radiology, 40th Annual Meeting, St. Louis, Missouri, May 15, 1997.
66. Robson CD, Weber AL, Robertson RL, Barnes PD. The radiologic evaluation of parotid masses in children. Paper presented at the American Society of Neuroradiology/American Society of Head and Neck Radiology, 35th Annual Meeting, Toronto, Ontario, Canada, May 18, 1997.
67. Alberico RA, Barnes PD, Robertson RL, Burrows PE. Dynamic cerebrovascular imaging in pediatric patients with use of helical CT

- angiography. Paper presented at the American Society of Neuroradiology, 35th Annual Meeting, Toronto, Ontario, Canada., May, 1997.
68. Robertson RL, Chavali R, Robson CD, Burrows PE, Barnes PD, Poussaint TY, Scott RM. Cerebral angiographic technique and complications in childhood Moyamoya disease. Paper presented at the American Society of Neuroradiology, 35th Annual Meeting, Toronto, Ontario, Canada, May 19, 1997.

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69. Carrico JB, Burrows PE, Mulliken JB, Robertson RL, Barnes PD. Intracranial vascular anomalies in patients with orbital lymphatic malformation. Poster presentation at the American Society of Neuroradiology, 35th Annual Meeting, Toronto, Ontario, Canada, May 21, 1997.
70. Levine D, Sher SI, Semeika RC, Li W, Edelman RR, Barnes PD. Normal fetal neuroanatomy with ultrafast fetal MR imaging with HASTE. Scientific exhibit presentation at the Radiological Society of North America, 83rd Scientific Assembly and Annual Meeting, Chicago, Illinois, November 30-December 5, 1997.
71. Tzika AA, Vajapeyam S, Barnes PD, Scott RM, Goumnerova LC, Tarbell NJ. Anatomic, metabolic and hemodynamic evaluation of childhood brain neoplasms during therapy. Paper presented at the Radiological Society of North America, 83rd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 1, 1997.
72. Poussaint TY, Kowal JR, Barnes PD, Zurakowski D, Anthony DC, Goumnerova LC. Tectal tumors of childhood: clinical and imaging followup. Paper presented at the Radiological Society of North America, 83rd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 1, 1997.
73. Levine D, Barnes PD, Madsen JR, Hulka CA, Li W, Edelman RR. HASTE MR imaging improves sonographic diagnosis of fetal central nervous system anomalies. Scientific Exhibit, Cum Laude Citation, and paper presented at the Radiological Society of North America, 83rd Scientific Assembly and Annual Meeting, Chicago, Illinois, December 2, 1997.
74. Medina LS, Al-Orfali M, Zurakowski D, Poussaint TY, DiCanzio J, Barnes PD. MR imaging standards for children and young adults with suspected occult dysraphic myelodysplasias. Paper presented at The Society for Pediatric Radiology, 41st Annual Meeting, Tucson, Arizona, May 7-9, 1998 and the American Society of Neuroradiology, 36th Annual Meeting, Philadelphia, Pennsylvania, May 17-21, 1998.
75. Levine D, Barnes P. Cortical development and maturation in normal and abnormal fetuses as assessed with prenatal MR imaging. Poster presentation at the American Society of Neuroradiology, 36th Annual

- Meeting and Symposium Neuroradiologicum XVI, Philadelphia, Pennsylvania, May 15-21, 1998.
76. Levine D, Barnes P, Hulka C, Madsen J, Edelman R. Evaluation of fetal central nervous system abnormalities with ultrafast MRI. Poster presentation at the American Society of Neuroradiology, 36th Annual Meeting and Symposium Neuroradiologicum XVI, Philadelphia, Pennsylvania, May 15-21, 1998.
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77. Robertson RL, Maier SE, Mulkern RV, Robson CD, Barnes PD. Line scan spin-echo diffusion imaging of the brain in children. Paper presented at the Society for Pediatric Radiology, 41st Annual Meeting, Tucson, Arizona, May 7-9, 1998 and the American Society of Neuroradiology, 36th Annual Meeting and Symposium Neuroradiologicum XVI, Philadelphia, Pennsylvania, May 15-21, 1998.
78. Robson CD, Robertson RL, Hazra R, Reid J, Barnes PD, Jones DT, Husson R. The radiological evaluation of nontuberculous mycobacterial infection of the head and neck in immunocompetent children. Paper presented at the American Society of Head and Neck Radiology, Annual Meeting, Phoenix, Arizona, April 1-5, 1998 and the American Society of Neuroradiology, 36th Annual Meeting, Philadelphia, Pennsylvania, May 17-21, 1998.
79. Robson CD, Reid J, Robertson RL, Barnes PD, Ferraro N. The radiologic evaluation of chronic sclerosing osteomyelitis of the mandible in children. Paper presented at the American Society of Head and Neck Radiology, Annual Meeting, Phoenix, Arizona, April 1-5, 1998 and the American Society of Neuroradiology, 36th Annual Meeting, Philadelphia, Pennsylvania, May 17-21, 1998.
80. Poussaint TY, Yousef N, Barnes PD, Scott RM, Tarbell NJ. Cervicomedullary astrocytomas of childhood: clinical and imaging follow-up. Paper presented at the American Society of Neuroradiology, 36th Annual Meeting, Philadelphia, Pennsylvania, May 17-21, 1998.
81. Levine D, Abbott J, Barnes P, Mehta TS, Hulka DA, Wong G, et al. Ultrafast MRI of fetal CNS anomalies: In which categories of sonographic abnormalities is MRI likely to be helpful? Scientific Exhibit and Scientific Paper presented at the Radiological Society of North America, Chicago, IL, Nov. 1998.
82. Levine D, Abbott J, Barnes PD, Mehta TS, Hulka CA, Edelman RR, et al. New uses of fast MRI in obstetric diagnosis, Scientific Exhibit presented at the Radiological Society of North America, Chicago IL, Nov. 1998.
83. Robertson RL, Ben-Sira L, Schlaug G, Robson CD, Maier SE, Mulkern RV, Barnes PD. Diffusion imaging in neonates with suspected hypoxic-ischemic brain injury. Paper presented at The Society for Pediatric

Radiology, 42nd Annual Meeting, Vancouver, B.C., Canada, May 16, 1999.

84. Ben-Sira L, Robertson RL, Mulkern RV, Maier SE, Barnes PD. Diffusion imaging in new-onset childhood seizures. Paper presented at The Society for Pediatric Radiology, 42nd Annual Meeting, Vancouver, B.C., Canada, May 16, 1999.

**Page 45**

85. Barnes PD, Tzika AA, Robertson RL, Poussaint TY, Robson CD, Goumnerova LC, Scott RM. Relationship of MR imaging and proton MR spectroscopy in the presurgical evaluation of neuroepithelial tumors of childhood. Paper presented at the ASNR/ASPNR Annual Meeting, San Diego, CA, May 23, 1999.
86. Tzika AA, Poussaint TY, Zurakowski D, Goumnerova LC, Tarbell NJ, Scott RM, Black P.MCL, Barnes PD. Assessment and prediction of pediatric brain neoplasm therapeutic response using proton MR spectroscopic imaging. Paper presented at the ASNR/ASPNR Annual Meeting, San Diego, CA, May 23, 1999.
87. Robson CD, Mulliken JB, Robertson RL, Proctor MR, Barnes PD. Prominent emissary veins in Crouzon Syndrome. Paper presented at the ASNR/ASPNR Annual Meeting, San Diego, CA, May 23, 1999.
88. Robertson RL, Ben-Sira L, Schlaug G, Maier SE, Mulkern RV, Duplessis A, Barnes PD, Robson CD. Line scan diffusion imaging of the brain in neonatal cerebral infarction. Derek Harwood-Nash Award for Outstanding Pediatric Neuroradiology Paper presented at the ASNR/ASPNR Annual Meeting, San Diego, CA, May 24, 1999.
89. Tzika AA, Robertson FL, Burrows PE, Barnes PD, Scott RM. Multilevel brain perfusion-weighted imaging in children with Moyamoya disease after pial synangiosis. Paper presented at the ASNR/ASPNR Annual Meeting, San Diego, CA, May 24, 1999.
90. Tzika AA, Robertson RL, Ben-Sira L, Poussaint TY, Robson CD, Barnes PD. Proton MR spectroscopy on neonates with suspected cerebral ischemic encephalopathy. Paper presented at the ASNR/ASPNR Annual Meeting, San Diego, CA, May 24, 1999.
91. Zientara GP, Murphy BP, Maier SE, Huppi PS, Barnes PD, Volpe JJ, Jolesz FA. Diffusion tensor MRI of the human cervical spinal cord in vivo in preterm newborns. Poster presentation at the International Society for Magnetic Resonance in Medicine, 7th Scientific Meeting and Exhibition, Philadelphia, PA, May 22-28, 1999.
92. Murphy BP, Zientara GP, Huppi PS, Maier SE, Barnes PD, Jolesz FA, Volpe JJ. Diffusion weighted MRI to assess cerebral white matter injury in very low birth weight infants. Poster presentation at the International Society of Magnetic Resonance in Medicine, 7th Scientific Meeting and Exhibition, Philadelphia, PA, May 22-28, 1999.

93. Hong H-S, Mulkern RV, Ma JF, Robertson RL, Robson CD, Barnes PD. Phase sensitive inversion recovery magnetic resonance imaging of the pediatric brain. Poster presentation at the International Society of Magnetic Resonance in Medicine, 7th Scientific Meeting and Exhibition, Philadelphia, PA, May 22-28, 1999.

**Page 46**

94. Tzika AA, Petridou N, Robertson RL, Duplessis A, Poussaint TY, Robson CD, Barnes PD. Proton MRS in neonates with suspected cerebral ischemic encephalopathy. Poster presentation at the International Society of Magnetic Resonance in Medicine, 7th Scientific Meeting and Exhibition, Philadelphia, PA, May 22-28, 1999.
95. Tzika AA, Vajapeyam S, Zurakowski D, Poussaint TY, Goumnerova L, Barnes PD, Anthony DC, Billett AL, Tarbell NJ, Scott RM, Black P. McL. Predictors of tumor growth as assessed by proton MRS in pediatric brain tumors. Poster presentation at the International Society of Magnetic Resonance in Medicine, 7th Scientific Meeting and Exhibition, Philadelphia, PA, May 22-28, 1999.
96. Vajapeyam S, Mulkern RV, Robertson RL, Barnes PD, Rivkin MJ. Effect of signal fluctuations from the eyes on fMRI data and post-processing. Poster presentation at the International Society of Magnetic Resonance in Medicine, 7th Scientific Meeting and Exhibition, Philadelphia, PA, May 22-28, 1999.
97. Panigrahy A, Back SA, Barnes PD, Robertson RL, Sleeper S, Volpe J. Volumetric comparison of periventricular MR T2 / Flair signal hyperintensities between age matched term and premature infants. Paper presentation at the Radiologic Society of North America annual meeting, Chicago IL, Dec. 1999.
98. Rybicki FJ, Mulkern RV, Robertson RL, Robson CD, Barnes PD. T2-weighted fast three-point dixon MR imaging of the retrobulbar space: comparison with fast spin echo inversion recovery. Paper presentation at the Radiologic Society of North America annual meeting, Chicago IL, Dec. 1999.
99. Robertson, RL, Maier SE, Mulkern RV, Robson CD, Vajapayem S, Barnes PD. Prominent emissary foramina in syndromic craniosynostosis: correlation with phenotypic and molecular diagnosis. Paper presentation at the American Society of Neuroradiology, Atlanta, GA, April 2000, and at the Joint International Conference and Symposium of the American Society of Head and Neck Radiology and the European Society of Head and Neck Radiology, Washington DC, May 2000.
100. Robertson RL, Maier SE, Mulkern RV, Robson CD, Vajapayem, Barnes PD. Line scan diffusion imaging of the spine in children. Paper presentation at the American Society of Neuroradiology annual meeting, Atlanta GA, April 2000.

101. Tzika AA, Poussaint TY, Robertson RL, Barnes PD. Correlation between Gd-DTPA enhancement and other MRI / MRS derived parameters in the assessment of pediatric brain tumors. Paper presentation at the American Society of Neuroradiology annual meeting, Atlanta GA, April 2000.

**Page 47**

102. Tzika AA, Cheng LL, Poussaint TY, Robertson RL, Barnes PD, Gonzalez RG. Comparison of in vivo proton MRS of pediatric brain tumors with ex vivo MRS of intact biopsy tumor samples. Paper presentation at the American Society of Neuroradiology annual meeting, Atlanta GA, April 2000.
103. Levine D, Mehta TS, Trop K, Li W, Abbott J, Barnes PD. Fast MRI of fetal CNS anomalies: results of 149 fetal examination. Poster presentation at the Radiologic Society of North America annual meeting, Chicago, IL, Nov. 27, 2000.
104. Trop I, Levine D, Mehta TS, Barnes PD. Sonographic and MR evaluation Of the fetal ventricle: it's more than just a measurement. Poster Presentation at the Radiologic Society of North America annual meeting, Chicago, IL, Nov. 27, 2000.
105. Panigrahy A, Barnes PD, Robertson RL, Sayre JW, Back SA, Volpe JJ. Volumetric MR correlates of neuromotor abnormalities in children with Periventricular white matter T2 hyperintensities. Paper presentation at the Radiologic Society of North America annual meeting, Chicago, IL, Nov. 29, 2000.
106. Panigrahy A, Barnes PD, Robertson RL, Sayre JW. Differential MR characteristics associated with periventricular T2 hyperintensities in children with spastic diplegia. Paper presented at the 39<sup>th</sup> annual ASNR meeting, ASPNR pediatric scientific session, April 23, 2001.
107. Panigrahy A, Barnes PD, Robertson RL, Sayre JW. Comparative, quantitative MR analysis of the corpus callosum in children with spastic diplegia: a correlation with cerebral white matter volume. Poster presentation at the Radiologic Society of North America, 87<sup>th</sup> Scientific Assembly and Scientific Meeting, Chicago, IL, Dec. 27, 2001.
108. Barnes P, Arzoumanian Y, Woolley K, Mirmiran M, Atlas S, Moseley M, Ariagno R. MRI (DTI) in preterm infants may predict later cerebral palsy. Paper presentation, Society for Pediatric Radiology 45<sup>th</sup> Annual Meeting, Philadelphia PA, May 29, 2002.
109. Barnes P, Ment L, Grant E, Slovis T, Bada H, Papile A, et al. Neuroimaging of the neonate: an evidence-based practice parameter. Paper presentation, Society for Pediatric Radiology 45<sup>th</sup> Annual Meeting, Philadelphia PA, May 29, 2002.
110. Barnes P, Dermon J, Spielman D. Spatiotemporal mapping of cerebral maturation in childhood using 2D MR spectroscopic imaging – preliminary report. Scientific exhibit, Society for Pediatric Radiology 45<sup>th</sup> Annual Meeting, Philadelphia PA, May 2002.

111. Dermon J, Barnes PD, Spielman D. Spatiotemporal mapping of cerebral maturation in childhood using 2D MR spectroscopic imaging – preliminary report. Paper presentation, American Society of Neuroradiology / American Society of Pediatric Neuroradiology, Vancouver, B.C., May 15, 2002.
112. Barnes PD, Miller F, Morgan T, McDonald J, Anderson C, Ismail M, Madan A, Hudgins L, Manning M. Intracranial hemorrhage in childhood hereditary hemorrhagic telangiectasia. Paper presentation, American Society of Neuroradiology / American Society of Pediatric Neuroradiology, Vancouver, B.C., May 15, 2002.
113. Barnes P, Keller K, Mirmiran M, Ariagno R, et al. US, Conventional MRI, and DTI in very low birth weight preterm infants. Accepted for presentation American Society of Neuroradiology / American Society of Pediatric Neuroradiology, 41<sup>st</sup> Annual Meeting, Washington, DC, April 28, 2003.
114. Barnes P, Keller K, Mirmiran M, Ariagno R, et al. US and MRI in very low birth weight preterm neonates. Presented at the 46<sup>th</sup> Annual Meeting, Society for Pediatric Radiology, San Francisco, CA, May 8, 2003.
115. Barnes PD. CT and MRI in the Forensic Evaluation of Alleged Nonaccidental Brain Injury. Presented at the 47<sup>th</sup> Annual Meeting, Society for Pediatric Radiology, Savannah, GA, April 28, 2004.
116. Barnes P, Lertvananurak R, Hahn J, DiDomenico P. Leukoencephalopathy: an unusual pattern in infantile hypoxia-ischemia. Alternate presentation at the 48<sup>th</sup> Annual Meeting, Society for Pediatric Radiology, New Orleans, LA, May 7, 2005; Poster presentation, American Society of Pediatric Neuroradiology, American Society of Neuroradiology, Toronto Ontario Canada, May 25, 2005.
117. Wootton-Gorges S, Buonocore M, Kupperman N, Marcin J, Barnes P, Glaser N. Detection of cerebral beta-hydroxy butyrate, acetacetate, and lactate by proton MR spectroscopy in children with diabetic ketoacidosis. Presented at the 48<sup>th</sup> Annual Meeting, Society for Pediatric Radiology, New Orleans, LA, May 7, 2005.
118. Barnes P. Cerebral Venous Thrombosis: A Mimic Of Nonaccidental Injury. Poster presentation, American Society of Pediatric Neuroradiology, American Society of Neuroradiology, Toronto Ontario Canada, May 25, 2005.
119. Krasnokutsky M, Barnes P. Cerebral Venous Thrombosis: a mimic of nonaccidental injury. Scientific Paper Session. Society for Pediatric Radiology. Miami FL. April 18, 2007.
120. Krasnokutsky M, Barnes P. Spinal Cord Injury without Radiographic Abnormality (SCIWORA) – a Mimic of Nonaccidental Injury. Scientific Paper Session. Society for Pediatric Radiology. Miami FL. April 20, 2007; Scientific Paper Session. American Society of Neuroradiology / American Society of Pediatric Neuroradiology, Chicago IL. June 13, 2007.
121. Wootton-Gorges SL, Buonocore MH, Kuppermann N, Marcin JP, Barnes PD, Neely EK, et al. Cerebral Proton MRS in Children with Diabetic Ketoacidosis. Scientific Paper Session. Society for Pediatric

- Radiology. Miami FL. April 18, 2007.
122. Keller KA, Barnes PD. Imaging Findings in Congenital Rickets (a mimic of child abuse). Scientific Paper Session, Society for Pediatric Radiology, Scottsdale AZ. May 2008.
  123. Barnes P, Galaznik J, Krasnokutsky M. CT in Infant Dysphagic Choking Acute Life Threatening Event (ALTE – a mimic of child abuse). Scientific Paper Sessions, Society for Pediatric Radiology, Scottsdale AZ, May 2008; American Society of Pediatric Neuroradiology / American Society of Neuroradiology, New Orleans LA, June 2008.
  124. Eslamy H, Yeom K, Rubesova E, Hahn J, Barnes P, Barth R. Correlation of fetal and postnatal MRI. Poster presentation, Society for Pediatric Radiology Annual Meeting, Carlsbad CA, April 2009.
  125. Yeom, K., Partap S, Rosenberg J, Telischak N, Minn A, Fisher P, Edward M, Barnes P: Effect of Patient Age and Radiotherapy Dosage on the Incidence of Magnetic Resonance Imaging (MRI) Detected Microhemorrhage Following Treatment for Pediatric Medulloblastoma: RSNA, Chicago Nov 27-Dec 3, 2010.
  126. Yeom K, Andre J MD, Rosenberg J, Mobley B, Vogel H, Fisher P, Edwards M, Barnes P: Prognostic Features of Childhood Medulloblastoma by Magnetic Resonance Imaging: ASNR, Boston, MA, May 15-20, 2010.
  127. Holdsworth S, Yeom K, Skare S, Barnes P, Bammer R: Clinical Application of Readout-Segmented (RS)-EPI for Diffusion-Weighted Imaging in Pediatric Brain: 18th Annual Meeting of the ISMRM, Stockholm, Sweden May 1-7, 2010.
  128. Skare S, Holdsworth S, Yeom K, Barnes P, Bammer R: Comparison between Readout-Segmented (RS)-EPI and an improved distortion correction method for Short-Axis Propeller (SAP)-EPI: 18th Annual Meeting of the ISMRM, Stockholm, Sweden May 1-7, 2010.
  129. Holdsworth S, Skare S, Yeom K, Barnes P, Bammer R: T1-weighted 3D SAP-EPI for use in pediatric imaging: Society for Pediatric Radiology, Boston MA, April 14-17, 2010 (Caffey Award).
  130. Holdsworth S, Skare S, Yeom K, Barnes P, Bammer R: 3D SAP-EPI in motion-corrected fast susceptibility weighted imaging: Society for Pediatric Radiology, Boston MA, April 14-17, 2010 (Caffey Award).
  131. Skare S, Holdsworth S, Yeom K, Barnes P, Bammer R: High-resolution diffusion imaging of unsedated pediatric patients with 3D motion correction: Society for Pediatric Radiology, Boston MA, April 14-17, 2010 (Caffey Award).
  132. Holdsworth S, Yeom K, Skare S, Barnes P, Bammer R: Clinical evaluation of Readout-Segmented (RS)-EPI for Diffusion-Weighted Imaging: Society for Pediatric Radiology, Boston MA, April 14-17, 2010 (Caffey Award).
  133. Keller K, Barnes P, Ayoub D, Ophoven J. Dating the CML: a radiologic-pathologic case report and review of the literature. Scientific Poster Presentation Society for Pediatric Radiology Annual Meeting, Boston MA, April 2010.

134. Soman S, Holdsworth S, Barnes P, Bammer R, Yeom K. Susceptibility-Weighted Imaging Postprocessing to Enhance Clinical Utility of Conventional 2D Gradient Echo in Pediatric Neuroimaging In: *ASNR 49<sup>th</sup> Annual Meeting & the ASNR Foundation Symposium*. Seattle, WA, June 4-9, 2011, 11-O-561.
135. Soman S, Holdsworth S, Skare S, AndreJ, Aksoy M, Bammer R, Barnes P, Yeom K. Evaluating Number of Acquisitions for Non fiber tracking DTI Applications in Pediatric Neuroimaging. In *IPR LONDON June 2011- 6th Congress and Exhibition of the joint Societies of Paediatric Radiology*. ID 568. 2011
136. Mitchell C., Yeom K., Rubesova E., Barnes P., Barth R. Evaluating Discordant Lesions in Fetal Brain US and MRI. In *IPR LONDON June 2011- 6th Congress and Exhibition of the joint Societies of Paediatric Radiology*. ID 1209. 2011
137. Soman S, Holdsworth S, Barnes P, Bammer R, Yeom K. SWI Post Processing To Enhance Clinical Utility of Conventional 2D GRE In Pediatric Neuroimaging. In *IPR LONDON June 2011- 6th Congress and Exhibition of the joint Societies of Paediatric Radiology*. ID 1267. 2011
138. Holdsworth S, O'Halloran R, Yeom K, Barnes P, Aksoy M, Skare S, Bammer R. Diffusion Weighted Imaging of Spinal Tumors with Reduced Field of View EPI. In *IPR London June 2011- 6th Congress and Exhibition of the Joint Societies of Paediatric Radiology*. ID 1261. 2011
139. Lober R, Alexander A, **Barnes P**, Edwards M. Arterial spin labeling cerebral blood flow as a correlate of clinically significant hydrocephalus in children with brain tumors. Scientific paper, Society for Pediatric Radiology 55<sup>th</sup> Annual Meeting, San Francisco, CA, April 18, 2012. *Pediatr Radiol* 2012;42 (Suppl 2):S246.
140. Lober R, Yeom K, **Barnes P**, Edwards M. Prognostic role of diffusion-weighted MRI in pediatric optic pathway glioma. Scientific paper, Society for Pediatric Radiology 55<sup>th</sup> Annual Meeting, San Francisco, CA, April 18, 2012. *Pediatr Radiol* 2012;42 (Suppl 2):S246.
141. Lober R, Edwards M, **Barnes P**, Yeom K. Application of diffusion tensor tractography in pediatric optic pathway glioma. Lober R, Yeom K, Barnes P, Edwards M. Prognostic role of diffusion-weighted MRI in pediatric optic pathway glioma. Scientific paper, Society for Pediatric Radiology 55<sup>th</sup> Annual Meeting, San Francisco, CA, April 18, 2012. *Pediatr Radiol* 2012;42 (Suppl 2):S248.
142. Barnes P, Bulas D, Slovis T, Wrage L, Higgins, Hintz S (NICHD NRN). MRI and US of the extreme preterm brain. Scientific paper, Society for Pediatric Radiology 55<sup>th</sup> Annual Meeting, San Francisco, CA, April 18, 2012. *Pediatr Radiol* 2012;42 (Suppl 2):S266.
143. Yeom K, Lober R, Campen C, **Barnes P**. Diminished ASL intracranial perfusion in children with neurofibromatosis 1. Scientific paper, Society for Pediatric Radiology 55<sup>th</sup> Annual Meeting, San Francisco, CA, April 18, 2012. *Pediatr Radiol* 2012;42 (Suppl 2):S274.
144. Barnes P, Shankaran S, Hintz S, Laptok A, Higgins R, McDonald S. MRI

in trial of therapeutic hypothermia for term hypoxic-ischemic encephalopathy. Scientific paper, Society for Pediatric Radiology 55<sup>th</sup> Annual Meeting, San Francisco, CA, April 18, 2012. *Pediatr Radiol* 2012;42 (Suppl 2):S276.

**Chapters, Reviews, and Editorials:**

1. Horton D, Barnes P, Pendleton B, Pollay M. Spina bifida, early clinical and radiologic diagnosis. *Journal of the Oklahoma State Medical Association*, 1989;82:15-19.
2. Barnes P. Magnetic resonance in spinal dysraphism. *Contemporary Diagnostic Radiology* 1990;13(20):1-6.
3. Strand R, Humphrey C, Barnes P. Imaging of petrous temporal bone abnormalities in infancy and childhood. In: Healy G, ed. *Common problems in pediatric otolaryngology*. Chicago: Year Book Medical Publishers, 1990:121-130.
4. Humphrey C, Strand R, Barnes P. Imaging of the head and neck in childhood. In: Healy G, ed. *Common problems in pediatric otolaryngology*. Chicago: Year Book Medical Publishers, 1990:217-236.
5. Barnes P. Magnetic resonance in pediatric and adolescent neuroimaging. In: Bodensteiner J, ed. *Pediatric neurology, The Neurologic Clinics of North America* 1990;8(3):741-757.
6. Barnes P. Imaging of the pediatric central nervous system including magnetic resonance. *Current Opinions in Pediatrics - Pediatric Radiology. Current Science Review* 1990;2(#1):3-8.
7. Barnes PD, Wilkinson RH. Radiographic diagnosis of sinusitis in children. *Pediatr Infect Dis J* 1991;10(8):628-629.
8. Jones KM, Mulkern RV, Schwartz RB, Oshio K, Barnes PD, Jolesz FA. Current concepts in fast spin echo MRI of the brain and spine. *AJR* 1992;158:1313-1320.

**Page 48**

9. Barnes P. Imaging of the CNS in pediatrics and adolescence. In Bodensteiner J (ed): *Pediatric Neurology Symposium. Pediatric Clinics of North America*. W.B.Saunders Co., Philadelphia, 1992;39(4):743-776.
10. Barnes PD, Mulkern RV. Physical and biological principles of magnetic resonance imaging. In Wolpert S and Barnes P: *MRI in Pediatric Neuroradiology*. St. Louis: Mosby-Year Book, 1992:3-40.
11. Barnes PD, Urion DK, Share JC. Clinical principles of pediatric neuroradiology. In Wolpert S and Barnes P: *MRI in Pediatric Neuroradiology*. St. Louis: Mosby-Year Book, 1992:41-82.
12. Barnes PD, Kupsky WJ, Strand RD. Cranial and intracranial tumors. In Wolpert S and Barnes P: *MRI in Pediatric Neuroradiology*. St. Louis: Mosby-Year Book, 1992:204-298.

13. Barnes PD, Korf BR. Neurocutaneous Syndromes. In Wolpert S and Barnes P: MRI in Pediatric Neuroradiology. St. Louis: Mosby-Year Book, 1992:299-330.
14. Barnes PD. Developmental abnormalities of the spine and spinal neuraxis. In Wolpert S and Barnes P: MRI in Pediatric Neuroradiology. St. Louis: Mosby-Year Book, 1992:331-411.
15. Barnes PD. Acquired abnormalities of the spine and spinal neuraxis. In Wolpert S and Barnes P: MRI in Pediatric Neuroradiology. St. Louis: Mosby-Year Book, 1992:412-464.
16. Barnes PD, O'Tuama LA, Tzika AA. Investigating the central nervous system. In Volpe J (ed): Neurology. Current Opinion in Pediatrics. 1993;5(6):643-652.
17. Barnes P, Blickman J. Pediatric neuroimaging. In Blickman J: Requisites in Pediatric Radiology. St. Louis: Mosby-Year Book Publishers, 1993.
18. Barnes P, Young Poussaint T, Burrows P. Imaging of pediatric CNS infections. In Barkovich A and Naidich T (eds): The Neurologic Clinics of North America 1994;4:367-391.
19. Barnes P, Burrows P, Hoffer F, Mulliken J. Hemangiomas and vascular malformations of the head and neck: MR characterization (Editorial). AJNR 1994;15:193-195.
20. Barnes PD. Posterior fossa and intraspinal lesions. In Seibert J, Harwood-Nash D (eds): Current Concepts and Categorical Course in Pediatric Radiology. The Society for Pediatric Radiology. Oakbrook, IL: RSNA Publications, 1994:39-46.
21. Barnes PD, Young Poussaint T, Robertson RL. Imaging of the pediatric spine and spinal neuraxis. In Lee: Spine: State of the Art Reviews. Spinal Imaging. Philadelphia: Hanley & Belfus, 1995;9(1):73-92.
22. Barnes P. Increased intracranial pressure. In Kirks D, Harwood-Nash D, Poznanski A, Seibert J (eds): Emergency Pediatric Radiology. Reston, VA: American Roentgen Ray Society Categorical Course Syllabus, 1995:23-27.

**Page 49**

23. Tarbell NJ, Barnes PD. Optic pathway and hypothalamic gliomas. In Samuels M and Feske S (eds): Office Practice of Neurology. New York: Churchill Livingstone, 1996:830-833.
24. Barnes PD, Robson CD, Robertson RL, Young Poussaint T. Pediatric orbital and visual pathway lesions. Neuroimaging Clinics of North America 1996;6(1):179-198.
25. Burrows P, Robertson R, Barnes P. Angiography and the evaluation of cerebrovascular disease in childhood. Neuroimaging Clinics of North America 1996;6(3):561-588.
26. Barnes PD, Robertson RL, Young Poussaint T. Structural imaging of CNS tumors. In Black and Loeffler (eds): Cancer of the Nervous System. Cambridge: Blackwell Science, 1997.

27. Black PM, Madsen JR, Barnes PD. Congenital malformations of the cerebrum. In Tindall GT, Cooper PR, Barrow DL: *The Practice of Neurosurgery*. Baltimore:Williams & Wilkins, 1997.
28. Robertson RL, Ball WS, Jr., Barnes PD. Imaging of the Skull and Brain. In: Kirks DR, ed. *Practical Pediatric Imaging. Diagnostic Radiology of Infants and Children*. 3rd ed. Philadelphia: Lippincott-Raven Publishing, Ch. 2, 1997.
29. Robson CD, Barnes PD, Kim FM. Imaging of the Head and Neck. In: Kirks DR, ed. *Practical Pediatric Imaging. Diagnostic Radiology of Infants and Children*. 3rd ed. Philadelphia: Lippincott-Raven Publishing, Ch. 3, 1997.
30. Poussaint TY, Ball WS, Jr., Barnes PD. Imaging of the spine and spinal cord. In: Kirks DR, ed. *Practical Pediatric Imaging. Diagnostic Radiology of Infants and Children*. 3rd ed. Philadelphia: Lippincott-Raven Publishing, Ch. 2, 1997.
31. Huppi PS, Barnes PD. Magnetic resonance techniques in the evaluation of the newborn brain in neuroradiologic disorders in the newborn. Philadelphia:WB Saunders, *Clin in Perinatology* 1997;24(3):693-723.
32. Barnes PD. Congenital brain and spinal anomalies (ARRS Categorical Course). In Ramsey RG (ed), *Practical MRI*, Reston, VA:American Roentgen Ray Society, 1997.
33. Medina LS, Barnes PD. The role of neuroimaging in children with headache. In: Campbell RE. *Contemporary Diagnostic Radiology* 1997;20(20):1-5.
34. Barnes PD, Robertson RL. Neuroradiologic evaluation of the cerebral palsies. In: Miller G, Clark G, eds. *The Cerebral Palsies: Causes, Consequences, and Management*. Boston: Butterworth-Heinemann; p. 109-50, 1998.
35. Barnes PD, Taylor GA. Imaging of the Neonatal Central Nervous System. *Neurosurgery Clin North Am*, 1998;1:17-48.

**Page 50**

36. Barnes P, Blickman J. Pediatric neuroimaging. In Blickman J: *Pediatric Radiology: The Requisites*, 2nd ed. St.Louis: Mosby-Year Book Publishers, Ch. 8, 1998.
37. Kleinman PK, Barnes PD. Head trauma. In Kleinman PK, ed. *Imaging of Child Abuse*, 2nd ed. St. Louis: Mosby-Year Book Publishers, Ch. 15, 1998.
38. Barnes PD, Mulkern RV. Physical, biological, and clinical principles of MRI. In Kleinman, PK, ed. *Imaging of Child Abuse*, 2nd ed. St. Louis- Mosby-Year Book Publishers, Ch. 22, 1998.
39. Robertson RL, Robson CD, Barnes PD, Burrows PE. Vascular anomalies of the head and neck in children. *Neuroimaging Clin North Am* 1999; 9: 115-132.

40. Poussaint TY, Gudas T, Barnes PD. Imaging of Neuroendocrine Disorders of Childhood. *Neuroimaging Clin North Am* 1999; 9: 157-175.
41. Robson CD, Robertson RL, Barnes PD. Imaging of Pediatric Temporal Bone Abnormalities. *Neuroimaging Clin North Am* 1999; 9: 133-155.
42. Kim FM, Poussaint TY, Barnes PD. Neuroimaging of Scoliosis in Childhood. *Neuroimaging Clin North Am* 1999; 9: 195-221.
43. Maria BL, Hoang K, Robertson RL, Barnes PD, Chugani, Moore G. Imaging CNS pathology in Sturge-Weber syndrome. In Roach S, Bodensteiner J. *Sturge-Weber Syndrome*. New York: McGraw-Hill, 1999.
44. Levine D, Barnes PD, Edelman RR. Obstetric MR imaging. *Radiology* 1999;211:609-617.
45. Barnes PD, Robson CD. CT findings in hyperacute nonaccidental brain injury. *Pediatric Radiology* 2000; 30: 74-81.
46. Barnes PD, Naidich TP. Subacute and chronic encephalopathies of childhood. In Barnes PD (ed). *Problem-focused strategies in pediatric neuroradiology: an interactive symposium*. Oak Brook, IL: Radiologic Society of North America, 2000.
47. Barnes PD, Kim FM, Crawley C. Developmental anomalies of the craniocervical junction and cervical spine. *MRI Clin N Am*, 2000; 8:651-674.
48. Poussaint TY, Barnes PD. Imaging of the Developmentally delayed child. *Magn Reson Imaging Clin N Am* 2001; 6 (10): 99-120.
49. Barnes PD. Neuroimaging and the Timing of Fetal and Neonatal Brain Injury. *J Perinatol* 2001; 21 (1): 44-60.
50. Barnes PD. Editorial reply: CT findings in hyperacute nonaccidental brain injury. *Pediatr Radiol* 2001; 31 (9): B 673-674.
51. Barnes PD. Editorial: Imaging in the pediatric patient with headache. *Int. Pediatr.* 2002; 17: 67.
52. Madsen JR, Poussaint TY, Barnes PD. Congenital malformations of the cerebellum and posterior fossa: radiologic diagnosis and surgical treatment.. 2002.
53. Barnes PD. *Approaches to Neuroimaging in Children with Neurologic Disorders: UpToDate – pediatrics*, 2002.
54. Barnes PD. *Magnetic Resonance Imaging of the Fetal and Neonatal Central Nervous System. NeoReviews*, 2002.
55. Barnes PD. Ethical issues in imaging nonaccidental injury: child abuse. *Top Magn Reson Imaging* 2002; 13: 85-93.
56. Blankenburg F, Barnes P. Structural and functional imaging of hypoxic-ischemic injury (HII) in the fetal and neonatal brain. In Stevenson D, Benitz W, Sunshine P (eds), *Fetal and Neonatal Brain Injury*, 3<sup>rd</sup> edition, Cambridge University Press, New York, NY, 2003.
57. Miller M, Leestma J, Barnes P, Carlstrom T, Gardner H, Plunkett J, Stephenson J, Thibault K, Uscinski R, Niedermier J, Galaznik. A sojourn in the abyss: hypothesis, theory, and established truth in infant head injury. *Pediatrics*. 2004;114(1):326.
58. BARNES, P. Child Abuse: Cerebral Trauma. In: Reid, J, ed. *Pediatric*

- Radiology Curriculum [Internet]. Cleveland, OH: Cleveland Clinic Center for Online Medical Education and Training; 2005. Available from: <https://www.cchs.net/pediatricradiology>. System Requirements: login required; access is free.
59. Kim F, Barnes P. Epilepsy in Children. In Latchaw RE, Kucharczyk J, Moseley ME (eds), *Diagnostic and Therapeutic Imaging of the Nervous System*, Elsevier Publishers, Philadelphia, PA, 2004.
  60. Levine D, Barnes P. MR imaging of fetal CNS abnormalities. In: Levine D, *Atlas of Fetal MRI*, Boca Raton FL, Taylor & Francis Group, 2005.
  61. Barnes P. Neuroimaging of the Spine and Spinal Neuraxis in Childhood. In Kim D, Betz R, Huhn S, Newton P. *Surgery of the Pediatric Spine*. In press, 2007.
  62. Barnes P. Imaging of the CNS in Suspected or Alleged NAI. *ASPNR Gyration Newsletter* 2007; 2: 5-7 <[www.aspnr.org](http://www.aspnr.org)>
  63. Barnes PD. Guest Editor. Imaging of the Developing Brain. *Topics in Magnetic Resonance Imaging*, in press 2007.
  64. Barnes PD, Krasnokutsky M. Imaging of the Central Nervous System in Suspected or Alleged Nonaccidental Injury, including the Mimics. *Top Magn Reson Imaging* 2007; 18:53-74
  65. Vertinsky AT, Barnes PD. Macrocephaly, Increased Intracranial Pressure, and Hydrocephalus. *Top Magn Reson Imaging* 2007; 18:31-51.
  66. Barnes P. Neuroimaging in the Evaluation of Pattern and Timing of Fetal and Neonatal Brain Abnormalities. In Stevenson D, Benitz W, Sunshine P (eds), *Fetal and Neonatal Brain Injury*, Cambridge University Press, New York, NY, 4<sup>th</sup> edition, 2009.
  67. Barnes P. Pediatric Brain Imaging. In Blickman J, Parker B, Barnes P: *Pediatric Radiology: The Requisites*, 3rd ed. Philadelphia PA, Elsevier, In press July 2009.
  68. Barnes P. Pediatric Spine Imaging. In Blickman J, Parker B, Barnes P: *Pediatric Radiology: The Requisites*, 3rd ed. Philadelphia PA, Elsevier, In press July 2009.
  69. Barnes P. Pediatric Head & Neck Imaging. In Blickman J, Parker B, Barnes P: *Pediatric Radiology: The Requisites*, 3rd ed. Philadelphia PA, Elsevier, In press July 2009.
  70. Keller K, Barnes P. Rickets vs. abuse – the evidence: Reply. *Pediatr Radiol* 2009;39:1130.
  71. Hahn J, Barnes P. Neuroimaging advances in holoprosencephaly: refining the spectrum of the midline malformation. *Am J Med Genet Part C Semin Med Genet* 2010;154C: 120-132.
  72. Circular Reasoning. Squier W, Mack J, Lantz PE, Barnes PD, Scheimberg I, Eastman JT, Cohen M, Stephens PJ, Mileusnic-Polchan D. *Minn Med*. 2010 Mar;93(3):8.
  73. Ayoub D, Plunkett J, Keller KA, Barnes PD. Are Paterson's critics too biased to recognize rickets? *Acta Paediatr*. 2010 Sep;99(9):1282-1283.
  74. Barnes P, Galaznik J, Gardner H, Shuman M. Infant acute life-threatening

- event – dysphagic choking versus nonaccidental injury. Reply (Semin  
Pediatr Neurol 2010;17:279-280) to Commentary (275-278).
75. Findley, Keith A., **Barnes, Patrick David**, Moran, David A. and Squier,  
Waney, Shaken Baby Syndrome, Abusive Head Trauma, and Actual  
Innocence: Getting It Right (April 30, 2012). Houston Journal of Health  
Law and Policy, Forthcoming; Univ. of Wisconsin Legal Studies Research  
Paper No. 1195. Available at SSRN: <http://ssrn.com/abstract=2048374>.

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**Books, Monographs, and Text Books:**

1. Wolpert S and Barnes P, Editors, MRI in pediatric neuroradiology. St.  
Louis: Mosby-Year Book Publishers, 1992.
2. Edwards-Brown MK, Barnes PD, Guest Co-Editors, Pediatric  
Neuroradiology, Neuroimaging Clinics of North America, WB Saunders,  
1999.
3. Barnes PD, Editor, Problem-focused strategies in pediatric  
neuroradiology: an interactive symposium. Oak Brook, IL: Radiologic  
Society of North America, 2000.
4. Blickman J, Parker B, Barnes P: Pediatric Radiology: The Requisites, 3rd  
ed. Philadelphia PA, Elsevier, July 2009.

**Clinical Communications:**

1. Leonard J, Vanhoutte J, Stacy T, Barnes P. Pelvic kidney, a  
contraindication to herniography. American Journal of Diseases of  
Childhood 1978;132:1042.
2. Leonard J, Barnes P, Kerns J. Splenic hemangioma. Clinical Nuclear  
Medicine 1981;6:89.
3. Sexauer C, Krous H, Kaplan R, Barnes P, Humphrey G. Supratentorial  
primitive neuroectodermal tumor: clinical response to vincristine,  
cyclophosphamide, and BCNH. Pediatric Oncology 1981;1:235-237.
4. Jerel J, Schochet S, Barnes P, Krous H. Turner's syndrome and vein of  
Galen aneurysm -- a previously unreported association. Acta  
Neuropathologica 1981;55:189-191.
5. Leonard J, Allen E, Barnes P. Hepatic artery-portal vein fistula,  
scintigraphic detection. Clinical Nuclear Medicine 1983;8:441-442.
6. Hope E, Bodensteiner J, Barnes P. Cerebral infarction related to neck  
position in an adolescent. Pediatrics 1983;72:335-337.
7. Brownsworth R, Bodensteiner J, Schaefer G, Barnes P. CT and MRI  
findings in late onset globoid cell leukodystrophy (Krabbe's disease).  
Pediatric Neurology 1985;1:242-244.
8. Hall J, Simmons E, Danylchuck K, Barnes P. Cervical spine instability  
and neurologic involvement in Klippel-Feil Syndrome. J Bone and Joint  
Surgery 1990;72-A(#3):460-462.
9. Gay CT, Bodensteiner JB, Barnes PD. Extensive wormian bones in a  
patient with the Hallermann-Streiff syndrome. J Child Neurol  
1990;5(1):50-51.

10. Jones KM, Barnes PD. MRI diagnosis of brain death. *AJNR* 1992;13:65-66.
11. Appignani BA, Jones KM, Barnes PD. Primary endodermal sinus tumor of the orbit: MR findings. *AJR* 1992;159:399-401.
12. Appignani B, Landy H, Barnes P. MRI in "idiopathic" central DI of childhood. Case reports. *AJNR* 1993;14:1407-1410.

**Page 52**

13. Decker T, Jones K, Barnes P. Sturge-Weber Syndrome with posterior fossa involvement, a case report. *AJNR* 1994;15(2):389-392.
14. Bobele GB, Sexauer C, Barnes P, Krous HF, Bodensteiner JB. Esthesioneuroblastoma presenting as an orbital mass in a young child. *Medical and Pediatric Oncology* 1994;22:269-273.
15. Estroff JA, Parad RB, Barnes PD, Madsen JP, Benacerraf BR. Posterior fossa arachnoid cyst: an in utero mimicker of Dandy-Walker malformation. *J Ultrasound Med* 1995;14:787-790.
16. Davis R, Thiele E, Barnes P, Riviello JJ. Neuromyelitis optica in childhood: a case report with sequential MRI findings. *J Child Neurology* 1996;11:164-167.
17. Robson CD, Barnes PD, Rodriguez ML, Taylor GA. Scalp mass in a child following treatment for craniopharyngioma. *Pediatr Radiol* 1996;26:236-238.
18. Barnes PD. Partial complex seizures in an 11-year-old girl. *Semin Pediatr Neurol* 1996;3(3):182-186.
19. Barnes PD. Atypical idiopathic scoliosis in childhood. *Semin Pediatr Neurol* 1996;3(3):207.
20. Schut L, Stieg PE, Scott RM, Barnes PD, Folkerth RD. Case problems in neurological surgery. Management of a pediatric hypothalamic mass. *Neurosurg* 1996;38:806-811.
21. Martinez-Perez D, Vander Woude DL, Barnes PD, Scott RM, Mulliken JB. Jugular foraminal stenosis in Crouzon syndrome. *Pediatr Neurosurg* 1996;25:252-255.
22. Medina LS, Barnes PD, Donovan MJ, Taylor GA. Intraconal mass in the orbit of an infant. *Pediatr Radiol* 1997;27:682-684.
23. McLone DG, Stieg PE, Scott RM, Barnett F, Barnes PD, Folkerth RD. Case problems in neurological surgery. Cerebellar epilepsy. *Neurosurgery* 1997;42:1106-1111.
24. Robson CD, Price DL, Barnes PD. Radiologic-Pathologic Conference of Children's Hospital, Boston: Pineal region mass in a neonate. *Pediatr Radiol* 1997;27:829-831.
25. Barnes PD, Robson CD. An Unresponsive Infant in the Emergency Room - The Hyperacute Subdural Hematoma of Child Abuse. *Semin Pediatr Neurol* 1999; 6 (3):225-227.

26. Inder T, Juppi PS, Maier SE, Jolesz FA, di Salvo D, Robertson, RL, Barnes PD, Volpe JJ. Early detection of periventricular leukomalacia by diffusion weighted MR imaging techniques. *J Pediatr* 1999; 134: 631-634.
27. Inder TE, Huppi PS, Zientara GP, Jolesz FA, Holling EE, Robertson RL, Barnes PD, Volpe JJ. The postmigrational development of polymicrogyria documented by MRI from 31 weeks postconceptional age. *Annals of Neurology* 1999; 45: 798-801.
28. Barnes PD, Robson CD. CT findings in hyperacute nonaccidental brain injury. *Pediatric Radiology* 2000; 30: 74-81.

**Page 53**

29. Levine D, Barnes P, Korf B, Edelman R. Tuberculous sclerosis in the fetus: second trimester diagnosis of subependymal tubers with ultrafast MR imaging. *AJR* 2000; 175: 1067-1069.
30. Dodd RL, Barnes PD, Huhn SL. Spontaneous resolution of a prepontine arachnoid cyst. *Pediatr Neurosurg* 2002;37: 152-157.
31. Lehman N, Jorden M, Huhn S, Barnes P, Nelson G, Fisher P, Horoupian D. Cortical Ependymoma. Case report and review. *Pediatr Neurosurg* 2003;39:50-54.
32. Hahn JS, Lewis AJ, Barnes PD. Hydranencephaly owing to twin-twin transfusion: serial fetal US and MRI findings. *J Child Neurol*, 2003; 18:367-70.
33. Hou L, Bababeygy S, Sarkissian V, Fisher P, Vogel H, Barnes P, Huhn S. Congenital Glioblastoma Multiforme: Case Report and Review of the Literature. *Pediatr Neurosurg* 2008; 44(4):304-312.
34. Barnes P, Krasnokutsky M, Monson K, Ophoven J. Traumatic spinal cord injury: accidental versus nonaccidental injury. *Semin Pediatr Neurol* 2008;15:178-184.
35. Mogensen M, Lin A, Chang K, Berry G, Barnes P, Fischbein N. Salivary gland anlage tumor in a neonate presenting with respiratory distress radiographic and pathologic correlation. *AJNR Am J Neuroradiol* Dec 26 [Epub ahead of print].
36. Hsu A, Hou L, Veeravagu A, Barnes P, Huhn S. Resolution of syringomyelia after release of tethered cord. *Surg Neurol* 2009;13 [Epub ahead of print].
37. Barnes P, Galaznik J, Gardner H, Shuman M. Infant acute life-threatening event – dysphagic choking versus nonaccidental injury. *Sem Ped Neurol* 2010; 17: 7-11.
38. Chang W\*, Gupta N, Duane D, Barnes P, Yeom K. Atypical Imaging Findings in the Setting of Methylmalonic Aciduria in an Infant. *Radiology Case Reports* (online) 2012; 7:749 (\*Medical Student)

**Other Educational Materials:**

1. Barnes P. Normal breast biology. In: Haberman J, ed. Syllabus for national thermography and mammography technicians training program. The Oklahoma Breast Cancer Demonstration Project, University of

- Oklahoma Health Sciences Center, University of Oklahoma Press, 1975, Ch. 2.
2. Barnes P. Abnormal breast biology. In: Haberman J, ed. Syllabus for national thermography and mammography technicians training program. The Oklahoma Breast Cancer Demonstration Project, University of Oklahoma Health Sciences Center, University of Oklahoma Press, 1975, Ch. 3.
  3. Barnes P. Pediatric Central Nervous System Imaging, CT and MRI Update 1987 Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-graduate Course, Cambridge, MA., Oct. 1987.
  4. Barnes P. Magnetic Resonance-Diagnostic Imaging Principles, Pediatric Imaging 1987 Syllabus, The Children's Hospital and Harvard Medical School Post-graduate Course, Boston, MA., Oct. 1987.
  5. Barnes P. The Impact of MR on Central Nervous System Imaging in Childhood, Pediatric Imaging 1987 Syllabus, The Children's Hospital and Harvard Medical School Post-graduate Course, Boston, MA., Oct. 1987.
  6. Barnes P. Scoliosis and the Neuroradiologist, Pediatric Imaging 1987 Syllabus, The Children's Hospital and Harvard Medical School Post-graduate Course, Boston, MA, Oct. 1987.
  7. Barnes P. Magnetic Resonance in Pediatric Imaging 1988, Pediatric Medicine Post-graduate course syllabus, The Children's Hospital and Harvard Medical School, Boston, MA., Sept.1988.
  8. Barnes P. Magnetic Resonance Imaging of the Pediatric Central Nervous System, Part I - Brain and Part II -Spine, MRI and CT Update 1988 Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-graduate Course, Cambridge, Mass., Oct. 1988.
  9. Barnes P. Magnetic Resonance Imaging, Child Neurology 1988 Syllabus, The Children's Hospital, Massachusetts General Hospital, and Harvard Medical School Post-graduate Course, Boston, Mass., Oct. 1988.
  10. Barnes P. Magnetic Resonance in Pediatric Neuroimaging, and Magnetic Resonance Imaging in Spinal Dysraphism. MRI and CT Update 1989 Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-graduate Course, Cambridge, Mass., Oct. 1989.

**Page 54**

11. Barnes P. Magnetic Resonance in Pediatric and Adolescent Neuroimaging, Child Neurology 1989 Syllabus, Massachusetts General Hospital, The Children's Hospital and Harvard Medical School Post-graduate Course, Boston, Mass., Oct. 1989.
12. Barnes P. MR Imaging in the Pediatric Central Nervous System, MRI and CT Update 1990 Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, Cambridge, MA., Oct. 1990.

13. Barnes P. MR Imaging in the Pediatric Central Nervous System, MRI and CT Update 1991 Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, Cambridge, MA, Oct. 1991.
14. Barnes P. MRI in the Pediatric CNS, Intensive Review of Neurology 1991 Syllabus, Harvard Longwood Neurological Training Program Post-Graduate Course, Boston, MA, Oct. 1991.
15. Barnes P. Sedation in Pediatrics. American Society of Neuroradiology, Video Lecture Series, 1992.
16. Barnes P. Cerebral Dysgenetic Syndromes, Clinical and MRI Correlates, Child Neurology 1992 Syllabus, Massachusetts General Hospital, The Children's Hospital, and Harvard Medical School Post-Graduate Course, Boston, MA, Oct. 1992.
17. Barnes P. Pediatric CNS Tumor Imaging, Harvard Medical School Post-Graduate Course in Neurosurgery-Brain Tumors, Boston, MA, November 30, 1992.
18. Barnes P. MR Imaging in Obstetrical Malpractice Suits. RESOURCE; a monthly news program of current issues in health care risk management, audio tape series, RISK Management Foundation of the Harvard Medical Institutions, Inc., January 1993.
19. Barnes P. Neuroimaging-The Pediatric Brain, Practical Pediatric Imaging Syllabus, The Children's Hospital and Harvard Medical School Post-Graduate Course, Brewster, MA, July 1993.
20. Barnes P. Malformations of the Brain, Neuroradiology Syllabus, Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Boston, MA, Sept. 1993.
21. Barnes P. Posterior Fossa and Craniocervical Junction Anomalies, Neuroradiology Syllabus, Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Boston, MA, Sept. 1993.
22. Barnes P. Pediatric Neuroimaging: The Brain, Practical Pediatric Imaging: Update '94 Syllabus, The Children's Hospital and Harvard Medical School Post-Graduate Course, New Seabury, MA, August 1994.
23. Barnes P. Brain Tumors in Children, Neuroradiology Syllabus, Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Boston, MA, October 1994.

**Page 55**

24. Barnes P. Pediatric MRI - Sedation and Monitoring. 1994 Annual Regional Meeting Syllabus, Society of Magnetic Resonance Technologists, Boston, MA, October 1994.
25. Barnes P. Pediatric Brain Imaging, MRI and CT Update 1994 Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, Cambridge, MA, October 1994.

26. Barnes P. Pediatric Brain Imaging, Protocols and Pitfalls, Practical Pediatric Imaging: Update '95 Syllabus, Children's Hospital and Harvard Medical School Post-Graduate Course, New Seabury, MA, July 1995.
27. Barnes P. Inflammatory CNS Conditions in Childhood and Spine and Spinal Cord Anomalies in Childhood. Basic and Current Concepts in Neuroradiology, Head & Neck Radiology and Neuro MRI Syllabus, Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Boston, MA, September 1995.
28. Barnes P. Developmental Brain Abnormalities. Magnetic Resonance Imaging and CT Update Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, Cambridge, MA, October 1995.
29. Barnes P. Inflammatory CNS Conditions in Childhood, Program Eight; The Spine and Spinal Canal Anomalies in Children, Program Ten. Video Review Course, Massachusetts General Hospital Neuroradiology and Head & Neck Radiology Review, Educational Symposia, Inc., 1995.
30. Barnes P. Pediatric Neuroradiology. Brigham and Women's Hospital, Massachusetts General Hospital, Harvard Medical School Radiology Review Course Syllabus. Cambridge, MA, April 1996.
31. Barnes P. Imaging of the Orbits and Sinuses. Practical Pediatric Imaging: Update '96 Syllabus, Children's Hospital and Harvard Medical School Post-Graduate Course. Boston, MA, July 1996.
32. Barnes PD. Congenital Brain Anomalies, and Brain Tumors in Children. Basic and Current Concepts in Neuroradiology, Head & Neck Radiology and Neuro MRI Syllabus, Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Boston, MA, October 1996.
33. Barnes PD. Hydrocephalus. Magnetic Resonance Imaging and CT Update Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course, Cambridge, MA, October 1996.
34. Barnes PD. Imaging of Cranial and Intracranial Tumors of Childhood. The Brain Tumor Center, Brigham and Women's Hospital, Children's Hospital, Joint Center of Radiation Therapy, and Dana Farber Cancer Institute Tumors of the CNS Post-Graduate Course, Boston, MA, November 25, 1996.
35. Barnes PD. Neuroimaging Symposium. Congress Report, IPR 1996, Schering AG, 1996, Berlin, Germany.

**Page 56**

36. Barnes PD. Imaging of Macrocephaly. Practical Pediatric Imaging: Update '97 Syllabus, Children's Hospital and Harvard Medical School Post-Graduate Course, Boston, MA, July 21, 1997.
37. Barnes PD. Brain Tumors in the Pediatric Age, and Congenital and Developmental Conditions of the Spine and Spinal Canal, Basic and Current Concepts in Neuroradiology, Head & Neck Radiology and Neuro

- MRI Syllabus, Massachusetts General Hospital and Harvard Medical School Post-Graduate Course, Boston, MA, September 15 and 16, 1997.
38. Barnes PD. Congenital Brain Anomalies, Magnetic Resonance Imaging and CT Update Syllabus, The Brigham and Women's Hospital and Harvard Medical School Post-graduate Course, Cambridge, MA, October 31, 1997.
39. Barnes PD. Radiologic Diagnosis of Tumors in Children, Tumors of the CNS and Brain Tumor Management Syllabus, Joint Venture Neurooncology, The Partners Health Care System, Dana Farber Cancer Institute, and Harvard Medical School Post-Graduate Course, Boston, MA, November 24, 1997.
40. Barnes PD. Imaging the Spine in Scoliosis. Focus Session-Scoliosis, American Society of Neuroradiology 36th Annual Meeting, Program Syllabus, Philadelphia, PA, May 20, 1998.
41. Barnes PD. Congenital and Developmental Conditions of the Spine and Spinal Cord. Concepts in Neuroradiology, Head & Neck Radiology, and Clinical Functional MRI and Spectroscopy. The Massachusetts General Hospital and Harvard Medical School Post-Graduate Course Syllabus, Boston, MA, September 16, 1998.
42. Barnes PD. Major Congenital Brain Anomalies. Pediatric Neuroradiology Session, The Brigham and Women's Hospital and Harvard Medical School Post-Graduate Course Syllabus, MRI / CT Update 1998, Boston, MA, October 30, 1998.
43. Barnes PD. Radiologic Diagnosis of Brain Tumors in Children, Tumors of the Central Nervous System: Management of Brain Tumors Post-graduate Course Syllabus, Brigham and Women's Hospital, Massachusetts General Hospital, Children's Hospital, Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA September 13, 1999.
44. Barnes PD. Congenital and Developmental Conditions of the Spine and Spinal Cord, Neuroradiology, Head & Neck Radiology, Clinical Functional MRI and Spectroscopy Post-graduate Course Syllabus, Massachusetts General Hospital, Massachusetts Eye & Ear Infirmary, Harvard Medical School, Boston, MA, October 6, 1999.
45. Barnes PD. Potential Pitfalls in Pediatric Neuroradiology, MRI/CT Update Post-graduate Course Syllabus, Brigham & Women's Hospital, Harvard Medical School, Boston, MA, October 29, 1999.

**Page 57**

46. Barnes PD. Neuroimaging and the timing of fetal brain injury, & The Neuroimaging expert, Birth Injury and the Law VIII Course Syllabus, Medical Intelligence Corporation Conference, Las Vegas, Nevada October 19, 2000.
47. Barnes PD. Imaging of Fetal & Neonatal CNS Injury Parts I-III, 17<sup>th</sup> Annual Conference on Obstetrics, Gynecology, Perinatal Medicine, Neonatology, and the Law, Course Syllabus, Jan. 2-5, 2001, San Juan, PR.

48. Barnes PD. Pediatric Spine Imaging, Fetal and Infant Neuro-MR, Pediatric Brain Imaging I-II, MR Update 2001, Neuroradiology and Musculoskeletal Imaging Advances, Stanford Radiology Course Syllabus, Las Vegas, Nevada, Feb. 16, 2001.
49. Barnes PD. Current and Advanced Imaging of the Fetal and Neonatal CNS. Mid-Coastal California Perinatal Outreach Program, 23<sup>rd</sup> Annual Meeting, Stanford University School of Medicine Course Syllabus, Monterey, CA, Jan. 2003.
50. Barnes PD. MDCT applications in Pediatric Neuroradiology (Brain, Spine, Head & Neck). 6<sup>th</sup> Annual International Symposium on Multidetector-Row CT. Stanford University Medical Center Course Syllabus, San Francisco CA, June 23, 2004.
51. Barnes PD. Child abuse: the role of neuroimaging in the clinical and forensic evaluation of suspected nonaccidental injury including its mimics. 12<sup>th</sup> Annual Pediatric Update, Lucille Packard Children's Hospital and Stanford University Medical Center Course Syllabus, July 16, 2004.
52. Barnes PD. Diagnostic imaging of neonatal brain injury. California Association of Neonatologists (CAN) and American Academy of Pediatrics (AAP) District IX Section on Perinatal Pediatrics, 11<sup>th</sup> Annual Conference, Current Topics and Controversies in Perinatal and Neonatal Medicine Course Syllabus, Coronado CA, March 6, 2005.
53. Barnes P. Child abuse: the role of neuroimaging in the clinical and forensic evaluation of suspected nonaccidental injury including its mimics. 13<sup>th</sup> Annual Pediatric Update, Lucile Packard Children's Hospital and Stanford University Medical Center Course Syllabus, July 8, 2005.
54. Barnes P. Imaging of the Pediatric Central Nervous System and Head & Neck: MRI, CT, US, Nuclear Medicine – Which to do? 14<sup>th</sup> Annual Pediatric Update, Lucile Packard Children's Hospital and Stanford University Medical Center Course Syllabus, July 21, 2006.
55. Barnes PD. Lecturer. Advances in Pediatric CT and MRI: Head & Neck Imaging I (Orbit, Sinus, Ear), Head & Neck Imaging II (Face & Neck), Spine Imaging I (Developmental Anomalies), Spine Imaging II (Acquired Conditions), Brain Imaging III (Acute neurologic conditions – Trauma [including child abuse], hemorrhage, vascular disease), Brain Imaging V (Subacute neurologic conditions – Tumors, epilepsy). Department of Radiology, Stanford School of Medicine Postgraduate Course. Las Vegas, Nevada, March 17, 2007. Course Syllabus.
56. Website: Tutorial in Pediatric Neuroradiology ( Brain, Spine, Head & Neck, Fetal-Neonatal); Child Abuse & the Mimics 2009/2010  
<http://www.stanford.edu/~pbarnes/>.