No. 43078-9-II

COURT OF APPEALS DIVISION 2
OF THE STATE OF WASHINGTON

CATHY JOHNSTON-FORBES,

Appellant

v.

DAWN MATSUNAGA,

Respondent

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DIVISION II
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STATE OF WASHINGTON
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APPELLANT'S OPENING BRIEF

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ORIGINAL

TABLE OF CONTENTS

Page

I. INTRODUCTION 1

II. ASSIGNMENT OF ERROR 2

III. ISSUES PERTAINING TO ASSIGNMENT OF ERROR .. 2

IV. STATEMENT OF THE CASE 3

A. Plaintiff's Professional Golfing Background 3

B. Safeway Classic Brings Plaintiff to Vancouver 5

C. The Collision 6

D. Plaintiff's Injuries 6

E. Medical Opinions 7

F. Tencer Named as an Expert 8

G. Motion in Limine 10

H. Trial 11

V. ARGUMENT 11

A. Standard of Review 12

B. Summary of Argument 13

C. Tencer's Testimony Should Have Been Excluded as Unreliable Scientific Evidence 15

D. Tencer's Testimony Should Have Been Excluded Under ER 702 22

1. Tencer lacks sufficient qualifications 22

a. Tencer is not a physician, thus he cannot testify to medical causation of injuries 23

b. Tencer is not a licensed engineer, thus he cannot testify to the engineering principles that form the basis of his opinions 28

i. Washington law requires a license to practice engineering . . . 28

ii. Tencer is not a licensed engineer 29

iii. Tencer's testimony involves the practice of engineering 30

2. Tencer's opinions are based on based on unsubstantiated assumptions rather than facts 33

3. Tencer testimony was not helpful to the jury, it confused the issues and mislead the jury 36

E. Tencer's Testimony Was Prejudicial to the Plaintiff and a New Trial Should Be Ordered 39

IV. CONCLUSION 42

TABLE OF CASES

STATE CASES

Page

Anderson v. Akzo Nobel Coatings, Inc.,
172 Wn.2d 593, 60 P.3d 857 (2011) . . . 11, 12, 13, 15, 16, 23

Bellevue Plaza, Inc. v. City of Bellevue,
121 Wn.2d 397, 851 P.2d 662 (1993) 33

Carlton v. Vancouver Care, LLC,
155 Wn. App. 151, 231 P.3d 1241 (2010) 23

Ma'ele v. Arrington,
111 Wn. App. 557, 45 P.3d 557 (2002) 10, 20, 26, 27

Miller v. Likins,
109 Wn. App. 140, 34 P.3d 835 (2001) 12

Queen City Farms, Inc. v. Cent. Nat. Ins. Co. of Omaha,
126 Wn.2d 50, 882 P.2d 703 (1994) 13, 33

Safeco Ins. Co. v. McGrath,
63 Wn. App. 170, 817 P.2d 861 (1991) 33

State v. Greene,
139 Wn.2d 64, 984 P.2d 1024 (1999) 13

State v. Gregory,
158 Wn.2d 759, 147 P.3d 1201 (2006) 15

State v. Riker,
123 Wn.2d 351, 869 P.2d 43 (1994) 15

Page

State v. Yates,
161 Wn.2d 714, 168 P.3d 359 (2007) 22

Stedman v. Cooper,
No. 66839-1-I, 2012 Wash. App. LEXIS 1921
(August 13, 2012) . . . . . *passim*

OTHER CASES

Clemente v. Blumenberg,
705 N.Y.S.2d 792 (1999) 20

Frye v. United States,
54 App. D.C. 46, 293 F. 1013 (1923) 12, 15

Schultz v. Wells,
13 P.3d 846 (Colo. Ct. App. 2000) 21, 22, 36, 37, 38

Tittsworth v. Robinson,
475 S.E.2d 261 (Va. 1996) 20

Whiting v. Coultrip,
755 N.E.2d 494 (Ill. App. 2001) 20

STATUES

RCW 18.43.010 . . . . . 28, 29
RCW 18.43.020 . . . . . 30, 31

RULES

Page

ER 102 11
ER 104 11
ER 403 36
ER 702 ..... 11, 13, 22, 36

OTHER AUTHORITIES

Black's Law Dictionary (6th ed. 1991) 27

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Thomas L. Bohan, ed. *Forensic Accident Investigation: Motor Vehicles –2*, (1997) 18

OPENING BRIEF

I.
INTRODUCTION

The Plaintiff, Cathy Johnston-Forbes, is an professional golfer who was injured in a motor vehicle collision while in Washington for an LPGA tournament. She is appealing the trial court's decision to admit the controversial testimony of Dr. Allan Tencer.

Tencer is an unlicensed "biomechanical engineer," who claims to be able to predict the forces that a vehicle occupant experiences in low impact collisions and whether those forces cause the tissue damage from photographs and repair estimates of the vehicles involved in the collision.

Here, Tencer testified that he calculated the forces that Ms. Johnston Forbes' "body felt during impact" and concluded that what she felt was less then what a person would feel while walking "down stairs" or "jogging." He arrived at his opinion by examining photographs of the defendant's vehicle taken some years after the crash and a single bumper repair bill that the trial court deemed so incomplete that it refused to admit it into evidence. He neither

inspected nor examined any photographs of the vehicle that plaintiff was occupying.

Tencer's opinions lack a sufficient factual foundation, his methods for arriving at them are not generally accepted in the scientific community, and he lacks the qualifications to give them. The trial court erred in allowing him testify.

II.
ASSIGNMENT OF ERROR

The trial court erred in denying Plaintiff's Motion in Limine to exclude the testimony and opinions of Allan Tencer. 1 RP 28.

III.
ISSUES PERTAINING TO ASSIGNMENT OF ERROR

1. Whether the theory and methodology that Tencer employed to determine whether plaintiff experienced "tissue stretch" are scientifically valid.
2. Whether an unlicensed biomechanical engineer is qualified to testify about engineering principles in a court of law.

3. Whether a non-medical expert is qualified to testify about the extent of damage to human body tissue caused by vehicle impact forces.

4. If an unlicensed biomechanical engineer is able to testify about the extent of damage to human body tissue caused by vehicle impact forces, whether he or she can offer a valid opinion based on examining only photographs and repair estimates.

5. Whether an expert can determine if an individual in a particular low speed collision suffered tissue damage by relying upon general vehicle safety and design testing and the general threshold for injury in performing for activities of daily living.

IV.
STATEMENT OF THE CASE

A. Plaintiff's Professional Golfing Background

Cathy Johnston-Forbes is a professional golfer. 3 RP 399. Golf has been a central part of her life since she could hold a club. 4

RP 443-46. Her father was the golf coach at Wake Forest. In fact, he was the one who took a chance and extended one of his two scholarships to an unknown by the name of Arnold Palmer. 4 RP 443.

When Cathy was in high school, she was offered a full ride golf scholarship to the University of North Carolina. 4 RP 445. Before she graduated, however, she qualified to be a member of the exclusive and prestigious Ladies Professional Golf Association ("LPGA"). After her second year on the tour, she won a major, the du Maurier Ltd. Classic, the LPGA's equivalent of the British Open. Ex 7, 4 RP 446-47.

Ms. Johnston-Ford was known for her putting abilities. 4 RP 456-57. In fact, she was so well regarded that Dave Pelz, considered the best short game instructor in the world, recruited her to film an instructional putting lesson video. 4 RP 456-58.

With the exception of some time she took off for pregnancy, she continued to regularly compete on the tour every year. 2 RP 180. That all ended, however, after the collision that gave rise to this

litigation.

B. Safeway Classic Brings Plaintiff to Vancouver

Once a year the LPGA holds a tournament in the Portland/Vancouver area called the Safeway Classic. Ms. Johnston-Forbes has always enjoyed playing the tournament and was scheduled to play in the August 2006 event. 3 RP 401-02.

Ms. Johnston-Forbes, her husband, and her two young daughters came out to Vancouver for the Safeway Classic. 3 RP 401-02. Her husband also caddied for another LPGA player. 3 RP 402.

On the first day of the tournament, Ms. Johnston-Forbes shot a four under par 68 – good enough to place her on the leader board. 3 RP 409. In fact, had she shot a 68 on the next two days of the tournament, that would have been good enough to win the tournament and its $210,000 first place prize money. 2 RP 182-83. But she didn't win the tournament. In fact, she barely finished it.

C. The Collision

After she finished her first round, Ms. Johnston-Forbes and her family were heading back to their hotel room in their 2006 Toyota Camry courtesy car that was provided by the LPGA and a local dealership – a standard perk for LPGA Tour players. 3 RP 403.

Ms. Johnston-Forbes was seated in the back seat, sandwiched between the two car seats holding her two young daughters. 3 RP 404-05. They had come to a complete stop for a red light. Ms. Johnston-Forbes was leaning forward and twisted back and to left, facing one of her daughters, and playing with her daughter's hair. 3 RP 406. It was at that moment that she was struck from behind by the defendant. 3 RP 406-07.

D. Plaintiff's Injuries

That evening Ms. Johnston-Forbes started experiencing headaches and pain and stiffening of the muscles in her neck. 3 RP 409. She struggled through the next two days of the tournament, but because of the pain, she did not do very well. 3 RP 410-11.

The headaches, and pain in her neck, continued. It also extended down into her back. 3 RP 415-16. So on the next tour stop she obtained x-rays. 3 RP 417. She had never before suffered an injury to her neck or back. 3 RP 418.

She returned home, and the pain in her back eventually resolved. But the pain in her neck did not. Eventually, in 2010, she had an MRI done, and it revealed a herniated disc in her neck. 3 RP 434. She was advised to try cortisone shots in her neck, which she did, to no success. 3 RP 434-35. She was also advised that surgery would not enable her to return to her prior pre-collision ability to practice and hit golf balls. 1 RP 129-31. As a result of her injuries, she was unable to return to the LPGA tour. 3 RP 430; 4 RP 451.

E. Medical Opinions

Both sides agreed that Ms. Johnston-Forbes was suffering from a herniated disc in her neck. The dispute was over causation.

Plaintiff's radiologist testified that Ms. Johnston-Forbes had a disc herniation at C6-7. 1 RP 40. He also testified that the MRI

showed that the herniation was caused by a force or trauma, and not by the aging process. 1 RP 41, 54, 60. Plaintiff's orthopedic surgeon agreed and opined that the herniation "was caused by the motor vehicle accident." 2 RP 95.

Defendant's expert, Dr. Tesar, examined Plaintiff prior to trial. 2 RP 222. He agreed that she suffered from a herniated disc at C6-7, although he could not state when it occurred. 2 RP 261-62.

According to Dr. Tesar, it could have happened at any time, such as while Ms. Johnston-Forbes was "sleeping" or even "bending." 2 RP 263-64. Except, according to Dr. Tesar, the herniation did not occur during the motor vehicle collision. 2 RP 240, 259.

F. Tencer Named as an Expert

Prior to trial, Defendant identified Dr. Allan Tencer as an expert who would be testifying. As a result, Plaintiff obtained his report and deposed him prior to trial.

Tencer provided the following opinion in his report "to a

reasonable degree of Biomechanical Engineering certainty:"

> Since the forces acting on Ms. Johnston-Forbes in this accident were low, relative to forces experienced in daily living, my conclusion is that the accident is not a likely source of significant forces acting on Ms. Johnston-Forbes' body.

CP 29.

The primary factual basis for his opinion was photographs taken of Defendant's vehicle some years after the collision. 3 RP 313-14. The photographs showed the front and underside of the vehicle, without any of the fenders or bumper covers removed. See Exs 24, 25, 28 & 29. Tencer also relied on a one-line $149 invoice from Tina's Touch Up in Salem Oregon for some repair work performed on Plaintiff's courtesy car's bumper. 1 RP 16-19, CP 87. The Toyota dealership, however, did not provide any description of damage to the car or repair work they performed on it. In fact, the bill from Tina's Touch Up was so incomplete and misleading that the trial court excluded it from evidence. 1 RP 19. Other than the bill from Tina's Touch Up, Tencer had no repair bills or repair estimates from either vehicle and no photographs of the vehicle that

Plaintiff was occupying. 1 RP 19.

G. Motion in Limine

Prior to trial, Plaintiff filed a motion to exclude Tencer's opinions. CP 8. The trial court denied Plaintiff's motion and allowed Tencer to testify. 1 RP 28. The trial court likely felt constrained to allow the testimony because of *Ma'ele v Arrington, infra*, on which defendant heavily relied in opposing the motion in limine. *Stedman v. Cooper, infra*, which demonstrates that the admissibility of Tencer's testimony is an evolving question, was decided since the trial.

Plaintiff also moved to exclude the repair bill and the photographs. Plaintiff argued that the repair bill was too nondescript and incomplete to be admissible – and the trial court agreed. 1 RP 19. Plaintiff argued the photographs of Defendant's vehicle were also misleading because they represented only "half of the equation." 1 RP 23. However, the trial court allowed admission of the photographs. 1 RP 25.

H. Trial

Tencer testified consistent with his report. He testified that the forces that Ms. Johnston–Forbes' "body could feel during impact" were no greater than what one feels during activities of daily living, and were less than what one would feel while walking "down stairs" or "jogging." 3 RP 325-26. The jury returned a defense verdict.

V.
ARGUMENT

Trial courts must interpret evidence rules mindful of their purpose: "that the truth may be ascertained and proceedings justly determined." ER 102. To further this purpose, trial judges are charged with gate keeping the admissibility of evidence. ER 104; *Anderson v. Akzo Nobel Coatings, Inc.*, 172 Wn.2d 593, 600, 260 P.3d 857 (2011). This is especially true when, as is the case here, the evidence sought to be admitted is expert and scientific.

The admissibility of expert testimony, generally, is governed by ER 702, "which allows qualified expert witnesses to testify if

scientific, technical, or other specialized knowledge will assist the trier of fact." But scientific testimony must first meet the requirements that the underlying theory and methodology be "generally accepted in the scientific community" and "capable of producing reliable results" – the test based on *Frye v. United States,* 54 App. D.C. 46, 293 F. 1013 (1923). *Anderson,* 172 Wn.2d at 603.

A. Standard of Review

The trial court's decision to admit or exclude expert testimony is for the most part reviewed for abuse of discretion. However, the Washington Supreme Court has said categorically that "[t]o satisfy the pursuit of truth, evidence must ... be probative, relevant, and meet the appropriate standard of probability." *Anderson*, 172 Wn.2d at 606 (emphasis added).

Similarly, it has been repeatedly stated that "an expert's opinion must have an adequate factual basis: 'conclusory or speculative expert opinions lacking an adequate foundation will not be admitted.'" *See, e.g., Miller v. Likins,* 109 Wn. App. 140, 148, 34

P.3d 835 (2001) (emphasis added); *see also Queen City Farms, Inc. v. Cent. Nat. Ins. Co. of Omaha*, 126 Wn.2d 50, 103, 882 P.2d 703, 731 (1994) ("Where there is no basis for the expert opinion other than theoretical speculation, the expert testimony should be excluded.")

In addition, expert testimony must be helpful. "Scientific evidence that does not help the trier of fact resolve any issue of fact is irrelevant and does not meet the requirements of ER 702." *State v. Greene*, 139 Wn.2d 64, 73, 984 P.2d 1024, 1029 (1999). And unreliable testimony is not helpful to the jury. *Anderson*, 172 Wn.2d at 600.

Finally, questions as to whether scientific-seeming expert testimony is sufficiently reliable to be admitted are reviewed *de novo*. *Id.* Tencer's opinions fail every one of the requirements for admissibility.

B. Summary of Argument

In the recent Division 1 case of *Stedman v. Cooper*, No.

66839-1-I, 2012 Wash. App. LEXIS 1921 (August 13, 2012), the court affirmed the trial court's decision to exclude Tencer's testimony as "logically irrelevant." In doing so, the court discussed with approval cases from other jurisdictions that criticized the misleading and insubstantial nature of the kind of testimony offered by Tencer. *Id.* at *12-15.

Here, Tencer's opinions are just as logically irrelevant and misleading as those excluded in *Stedman*. His opinions lack a sufficient factual foundation, his methods for arriving at them are not generally accepted in the scientific community, and he lacks the qualifications to give them.

Tencer is not qualified to predict the forces that a vehicle occupant experiences in low impact collisions, nor whether those forces cause the occupant tissue damage. He cannot testify to the principles of engineering because he is not a licensed engineer. He cannot testify to medical causation because he is not physician.

The trial court erred in allowing Tencer to testify. His opinions confused and misled the jury to Plaintiff's substantial

prejudice.

C. Tencer's Testimony Should Have Been Excluded as Unreliable Scientific Evidence.

In determining whether an expert can offer testimony that is scientific in nature, Washington courts consider "(1) whether the underlying theory is generally accepted in the scientific community and (2) whether there are techniques, experiments, or studies utilizing that theory which are capable of producing reliable results and are generally accepted in the scientific community." *Anderson,* 172 Wn.2d at 603 (quoting *State v. Riker,* 123 Wn.2d 351, 359, 869 P.2d 43 (1994)). As the Supreme Court has emphasized,

> The primary goal is to determine "whether the evidence offered is based on established scientific methodology." Both the scientific theory underlying the evidence and the technique or methodology used to implement it must be generally accepted in the scientific community for evidence to be admissible under *Frye*. "If there is a significant dispute among qualified scientists in the relevant scientific community, then the evidence may not be admitted," but scientific opinion need not be unanimous.

State v. Gregory, 158 Wn.2d 759, 829, 147 P.3d 1201 (2006)

(Citations omitted).

That standard requires a high degree of certainty; if qualified experts disagree on whether the theory or methodology has been established in the relevant scientific community, the evidence should be excluded. As *Anderson* emphasizes:

> [T]he degree of certainty required for general acceptance in the scientific community is much higher than the concept of probability used in civil courts. ... In order to establish a causal connection in most civil matters, the standard of confidence required is a "preponderance," or more likely than not, or more than 50 percent. By contrast, for a scientific finding to be accepted, it is customary to require a 95 percent probability that it is not due to chance alone.

Anderson, 172 Wn.2d 593 at 607-08. (Citations omitted).

In short, before experts are allowed to influence a jury's fact-finding function with their theories and methodologies, those theories and methodologies must be firmly established in the relevant scientific community.

Tencer's theory and methodology do not meet the high standard for admitting scientific evidence. Tencer's testimony is based on the theory that he can determine "how much tissue stretch"

from vehicle damage. 3 RP 358.

Tencer's method for predicting the likelihood of tissue damage involves first examining photographs and repair estimates of the vehicles. 3 RP 313-14. (In this case, Tencer only examined the photographs of the defendant's vehicle, however.) 3 RP 332. He then makes estimates about the speed of the "bullet vehicle" at impact. Then, by calculating the weights and structures of the vehicles involved, he estimates how quickly the "target vehicle" accelerated after being impacted by the "bullet vehicle." 3 RP 321. From that, he estimates the force that was imparted to the target vehicle. 3 RP 321-24.

Once he estimates the force that was imparted to the target vehicle, he then estimates the impulse force that traveled through the target vehicle's frame, body, and seats to the occupant's body. 3 RP 324. He then renders an opinion as to the amount of G force that was felt by the occupant. 3 RP 324.

Once he obtains the G force figure, he then determines "are these forces tolerable at this level of impact." 3 RP 325. To

determine whether the impact G force is tolerable, he compares it with the G forces that people normally experience while performing activities of daily living. 3 RP 325-26, CP 29. Based on these comparisons, he makes conclusions about the likelihood that the occupant suffered any tissue damage in the collision. *Id.*

According to Tencer, the force that Ms. Johnston-Forbes' body felt at impact was 2.7 Gs. That force, according to Tencer, is less than what a person would feel while walking "down stairs" or "jogging." 3 RP 325-26

But as Plaintiff pointed out in her Motion in Limine, Gunther Siegmund, one of the most respected researchers in the area of biomechanical engineering, has stated that it is "practically impossible" to make the kind of calculation to which Tencer testified:

> Occupant-injury potential may be best predicted by some measure of forces and moments transmitted through the neck; however, *estimating these forces and moments from the vehicle evidence left after a low speed impact is extremely complicated and, in most cases, practically impossible.*

Thomas L. Bohan, ed. *Forensic Accident Investigation: Motor*

Vehicles –2, ch 1 at 106 (1997) (quoting Gunther Siegmund) (emphasis added). CP 14.

In fact, Defendant's own orthopedic surgeon, Dr. Tesar, testified point blank that it cannot be done. Dr. Tesar testified that no scientific basis exists that relates the severity of a crash to the degree to which a human body's tissue is damaged:

> Q: [Mr. Bloom] So just give me your opinion, yes or no, do you believe it now? You testified that –
>
> A: [Dr. Tesar] In the studies there was no -- we have no evidence of the effect of crash severity on the development of whiplash associated disorder neck injury. We don't have the data. There's no study that we're able to look at and say, see, this causes it. And that's my opinion based on my reading of the literature.
>
> Q: That's fair, that's fair.
>
> A: And that's what I meant by what I said.
>
> Q: To summarize, you're saying there just is no credible data to relate crashing of a vehicle to injury of a neck in the occupant. Is that fair?
>
> A: Correct. There's no evidence on the crash severity.

2 RP 275-76. Again, this was Defendant's expert.

A number of jurisdictions have held Tencer's methodology

unreliable and not generally accepted in the scientific community. For example, in *Clemente v. Blumenberg*, 705 N.Y.S.2d 792, 800 (1999), the New York Supreme Court conducted an extensive review of the methodology used by Tencer and concluded that "using repair costs and photographs as a method for calculating the change in velocity of two vehicles is not a generally accepted method in any relevant field of engineering or under the laws of physics." Similarly, in *Whiting v. Coultrip*, 755 N.E.2d 494 (Ill. App. 2001), the court concluded "there is no evidence in the record that use of photographs and repair estimates is a generally accepted method in the field of engineering for determining G-forces." And, in *Tittsworth v. Robinson*, 475 S.E.2d 261 (Va. 1996), the court held that reliance on photographs alone to determine speed of vehicles and forces applied to occupants amounted to pure speculation.

Plaintiff recognizes that a decade ago this Court, in *Ma'ele v. Arrington*, 111 Wn. App. 557, 562, 4 P.3d 557 (2002), wrote that Tencer's conclusions about the connection between vehicle damage in low-speed impacts collisions and injury had been "'pretty much'

accepted." However, it is not clear that the Court was looking at "tissue stretch" opinions based on the limited information that Tencer relied upon in this case.

More importantly, what was believed to be generally accepted a decade ago is no longer the case now. As the court in *Stedman* made clear, Tencer's methodology is not "pretty much accepted." In fact, it noted that there "is great controversy in the field about the quality and comparability" of using tests for car design to assess "a threshold of applied force for injury in rear-end car accident." *Stedman v. Cooper*, No. 66839-1-I, 2012 Wash. App. LEXIS 1921, at *12 (August 13, 2012) (quoting *Schultz v. Wells,* 13 P.3d 846, 852 (Colo. Ct. App. 2000)). Moreover, the case that *Stedman* cited with approval, *Schultz v. Wells*, made clear that "there is no agreement, far from it, in the engineering field or in the automobile industry concerning whether there is such a threshold [of injury in a motor vehicle collision]." *Schultz,* 13 P.3d at 852.

Tencer's methodology – that he can predict whether a specific occupant suffered tissue damage in a specific collision without solid

knowledge of the damage to both vehicles – goes even further than that criticized in *Stedman* and *Schultz* as the subject of "great controversy." Tencer generally relies on pictures of the damaged vehicles involved in the collision. But here, he did not even have that. Tencer's testimony should have been excluded.

D. Tencer's Testimony Should Have Been Excluded Under ER 702.

Under ER 702, the "two key criteria for admission of expert testimony are a qualified witness and helpful testimony." *State v. Yates*, 161 Wn.2d 714, 762, 168 P.3d 359, 386 (2007). Tencer's testimony meets neither criteria.

1. Tencer lacks sufficient qualifications

Even if an expert could predict the forces a vehicle occupant experiences in low impact collisions and whether those forces cause the occupant tissue damage, Tencer lacks the qualifications to do so, especially in this case.

Determining the amount of force a vehicle occupant

experiences in a low impact collision and whether that force causes the occupant tissue damage, draws on both medical and engineering expertise. Tencer, however, is not qualified to testify about either. He is neither a physician nor a licensed engineer.

a. Tencer is not a physician, thus he cannot testify to medical causation of injuries

To start with, "[e]xpert medical testimony must meet the standard of reasonable medical certainty or reasonable medical probability." *Anderson v. Akzo Nobel Coatings, Inc.*, 172 Wn.2d 593, 607-08, 260 P.3d 857 (2011). That standard applies equally to opinions on the causation of injuries or conditions. If an expert cannot hold his or her opinion regarding the causation of a condition or injury with the required degree of reasonable medical or psychological certainty, then the opinion is inadmissible. *Carlton v. Vancouver Care, LLC*, 155 Wn. App. 151, 167, 231 P.3d 1241 (2010).

Tencer is not a medical expert qualified to give an opinion on causation of injury, a fact he acknowledges. 3 RP 332. In fact,

Tencer is well aware of this shortfall in his qualifications. He attempts to sidestep the requirement, however, by claiming that because his opinions are limited to the amount of tissue damage suffered, and do not include opinions on pain, he is not giving an opinion on injury:

> A: [W]hat I measure actually is how much tissue stretch.
>
> Q: Okay.
>
> A: And then the question is, how much tissue stretch, what causes pain is actually a separate issue that I –
>
> Q: Sure. The doctors.
>
> A: -- then address. Okay.

3 RP 358.

Tencer goes further. Even though he claims that he is not providing opinions on injury or pain, he asserts that he is able to testify to the amount of force that Ms. Johnston-Forbes "felt" during the impact:

> Q: Okay. Now, you're not testifying one way or another whether Ms. Johnston-Forbes was injured; correct?

A: Correct. I'm just describing the forces that she probably felt during the collision.

3 RP 340.

Tencer goes further still. Using analogies, he describes to the jury exactly what Ms. Johnston-Forbes' "body could feel" during impact and whether she would be injured by those forces.

Tencer states: "[T]he real question is, are these forces tolerable at this level of impact?" 3 RP 325. He then compares the forces that he claims Ms. Johnston-Forbes' body "felt during the collision" with those that individuals feel while performing daily activities. He then concludes that the force that Ms. Johnston-Forbes' body "felt during the collision" was less than what one wold feel while walking "down stairs" or "jogging" or 3 RP 325-26.

Although Tencer is not a medical professional, and thus not qualified to give an opinion on the cause of an injury, the clear implication from his testimony and his analogies is that Ms. Johnston-Forbes could not have been injured in the collision. As the court recently emphasized in *Stedman*, despite Tencer's claim that he is not offering an opinion on whether the plaintiff was injured, "his

clear message was that [the plaintiff] could not have been injured in the accident because the force of the impact was too small." *Stedman v. Cooper*, No. 66839-1-I, 2012 Wash. App. LEXIS 1921, at 14 (August 13, 2012).

Plaintiff recognizes that *Ma'ele v. Arrington*, 111 Wn. App. 557, 45 P.3d 557 (2002), reached a different conclusion when it described Tencer's opinion regarding injury as not a medical opinion. But that conclusion is wrong. *Ma'ele* creates a distinction without a difference when it states that "Tencer expressed no opinion about Ma'ele's symptoms or possible diagnosis from those symptoms. He did not say that Ma'ele was uninjured in the crash, although the jury was entitled to infer this from his testimony." *Id.* at 564.

In *Taber's Cyclopedic Medical Dictionary*, diagnosis is defined as follows:

> 1. The term denoting name of the disease or syndrome a person has or is believed to have. 2. The use of scientific and skillful methods to establish the cause and nature of a person's illness .... *d., medical.* The entire process of determining the cause of the patient's illness or discomfort.

Taber's Cyclopedic Medical Dictionary at 530-31 (Clayton L. Thomas, M.D. ed.) (18th ed. 1997).

Thus, it follows that the *Ma'ele* Court did not appreciate that *diagnosis* of an injurious condition includes by its very definition the *cause* of the condition. In this regard, the *Ma'ele* Court's reasoning is flawed. That flaw is compounded when the *Ma'ele* Court fails to identify Dr. Tencer's testimony for exactly what it was – impermissible medical causation testimony by a non-medical witness.

Even the legal community recognizes that at the heart of a diagnosis is the cause of the injury or illness. Black's Law Dictionary defines "diagnosis" as "[a] medical term, meaning the discovery of the *source* of a patient's illness or the determination of the nature of his disease from the study of its symptoms." *Id.* at 312 (6th ed. 1991) (Emphasis added.)

Like his testimony in *Stedman*, the clear message of Tencer's testimony here was that this collision could not have *injured* plaintiff. That was a medical opinion – an opinion that Tencer is not

qualified to give.

b. Tencer is not a licensed engineer, thus he cannot testify to the engineering principles that form the basis of his opinions

Tencer is also not licensed to practice engineering in Washington. CP 17-19. As discussed more fully below, Washington law prohibits anyone from practicing engineering in the state unless they have a Washington engineering license. The practice of engineering includes providing engineering testimony in a court of law. Thus, Tencer should have been prohibited from testifying about engineering in court.

i. Washington law requires a license to practice engineering

RCW 18.43.010 governs the practice of engineering. The statute was enacted to protect the public – "to safeguard life, health, and property, and to promote the public welfare." *Id.* The statute accomplishes its purpose by prohibiting anyone who is not a licensed professional engineer in the State of Washington from "practicing

engineering" in the State of Washington:

> In order to safeguard life, health, and property, and to promote the public welfare, any person ... offering to practice engineering ... shall hereafter be required to submit evidence that he or she is qualified so to practice and shall be registered as hereinafter provided; and it shall be unlawful for any person to ... practice in this state, engineering ..., as defined in the provisions of this chapter ..., or to use in connection with his or her name or otherwise assume, use, or advertise any title or description tending to convey the impression that he or she is a professional engineer ... unless such a person has been duly registered under the provisions of this chapter.

RCW 18.43.010.

ii. Tencer is not a licensed engineer.

Tencer does not have a license to practice engineering in the State of Washington. CP 17-19. He again seeks to sidestep the requirement by claiming that he is not practicing "engineering," he is practicing "biomechanical engineering." CP 19. Tencer does not have a license to practice biomechanical engineering, either, however. 3 RP 299. But according to Tencer, Washington does not issue a license to practice "biomechanical engineering." *Id.*

iii. Tencer's testimony involves the practice of engineering.

The practice of engineering is broadly defined in RCW 18.43.020, however, and includes "work requiring engineering education, training, and experience and the application of special knowledge of the mathematical, physical, and engineering sciences:"

> 5) (a) "Practice of engineering" means any professional service or creative work requiring engineering education, training, and experience and the application of special knowledge of the mathematical, physical, and engineering sciences to such professional services or creative work as consultation, investigation, evaluation, planning, design, and supervision of construction for the purpose of assuring compliance with specifications and design, in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works, or projects.

The same section also includes within its definition of the "practice of engineering" anyone "who practices any branch of the profession of engineering" or "through the use of some other title implies that he or she is a professional engineer; or who holds himself or herself out as able to perform, or who does perform, any engineering service or work or any other professional service designated by the practitioner or recognized by educational

authorities as engineering:"

> " (b) A person shall be construed to practice or offer to practice engineering, within the meaning and intent of this chapter, who practices any branch of the profession of engineering; or who, by verbal claim, sign, advertisement, letterhead, card, or in any other way represents himself or herself to be a professional engineer, or through the use of some other title implies that he or she is a professional engineer; or who holds himself or herself out as able to perform, or who does perform, any engineering service or work or any other professional service designated by the practitioner or recognized by educational authorities as engineering."

RCW 18.43.020.

Tencer claims that he is not practicing engineering. Yet he defines his discipline of biomechanical engineering as "an application of engineering to the human body." 3 RP 297.

Tencer can call it what he wants, but his theory and testimony involves the practice of engineering. He examined photographs of Defendant's vehicle. From those photographs, he made estimates about the damage suffered to Plaintiff's courtesy rental car. From his damage estimates, he estimated the speed of defendant's vehicle at impact. Then, by calculating the weights and structures of the both vehicles, he calculated how fast the collision impact caused

Plaintiff's vehicle to accelerate from its dead stop. From that he calculated the force the impact imparted to the Plaintiff's vehicle. 3 RP 312-21. For much of this, he relied on "engineering literature." 3 RP 316-17.

Once he calculated the force the impact imparted to Plaintiff's vehicle, he calculated the impulse force that traveled through the vehicle frame, body, and its foam seats to Ms. Johnston-Forbes' neck in terms of G force. 3 RP 324. From that, he formed opinions as to what Ms. Johnston-Forbes' body felt at impact and what happened to the tissues in her neck at impact. 3 RP 325-36.

Assuming it is even possible to make all these calculations from a photograph of a vehicle that Plaintiff was not even occupying at the time of the collision, it must, at the very least, require "engineering education, training, and experience and the application of special knowledge of the mathematical, physical, and engineering sciences" – in other words the practice of engineering.

Tencer, however, is prohibited from testifying in a Washington State courtroom to opinions that require that practice of

engineering. If he wishes to do so, the answer is simple: get a license.

2. Tencer's opinions are based on unsubstantiated assumptions rather than facts

Again, even if Tencer could predict the damage to Ms. Johnston-Forbes' tissues from the vehicle damage, here, he lacked the necessary *foundation* to do so. In fact, he had very little evidence to calculate the vehicle speeds, let alone the forces on the vehicles, or the extent of damage to Ms. Johnston-Forbes' neck tissues.

Expert opinions that are based on unsubstantiated assumptions are not admissible. *See Bellevue Plaza, Inc. v. City of Bellevue*, 121 Wn.2d 397, 851 P.2d 662 (1993). "Where there is no basis for the expert opinion other than theoretical speculation, the expert testimony should be excluded." *Queen City Farms,* 126 Wn.2d at 87-88. "It is well established that conclusory or speculative expert opinions lacking an adequate foundation will not be admitted." *Safeco Ins. Co. v. McGrath*, 63 Wn. App. 170, 817 P.2d 861 (1991).

To start with, Tencer knew next to nothing about the extent of damage suffered by the courtesy car that Plaintiff was occupying at the time of the collision. He did not inspect the car. He did not examine any photographs of the car. He did not have any description from the Toyota dealership of repair work they may have performed on the car. 1 RP 19. All he had was a one-line $149 invoice from Tina's Touch Up in Salem Oregon for unspecified work to the bumper. 1 RP 16-19, CP 87. And that bill from Tina's Touch Up was so incomplete and misleading that the trial court excluded it from evidence. 1 RP 19.

Tencer also knew next to nothing about the damage to Defendant's vehicle. 2 RP 333; CP 22. He did not examine the vehicle, but defended that by testifying in his deposition that because the collision was "five years ago now," it may not even be helpful to do so:

> A: So there comes a point where you wonder even if I was to go see the vehicle, if it's still there, you know, whether it's the same car or whether it's had more damage or repair or something else has happened to it.

CP 22.

All Tencer had were photographs taken of Defendant's vehicle, but he did not know when the photographs were taken:

> Q: Okay. Do you know if those were recent pictures taken of the vehicles?
>
> A: I don't know. They simply don't have any time stamped on them."

CP 22.

As it turns out, the photographs in his possession were taken approximately three years after the collision (3 RP 337), and in the interim a basketball hoop had fallen on the vehicle and its bumper had been painted. 3 RP 332-34, 4 RP 501-04.

Tencer also did not have sufficient information to consider Plaintiff's awkward positioning in the vehicle at the time of impact. 1 RP 13. He knew that she was seated in the back seat and leaning, but that was the extent of his knowledge. *Id.* Although he testified that Plaintiff's positioning at impact did not matter (3 RP 263; 1 RP 13), he also conceded that the more someone is twisted, the more their tissues are "susceptible to deformation." CP 25-26. He also

admitted that the farther someone is positioned away from the headrest the greater the propensity for injury. CP 23-24.

He also does not dispute the fact that Ms. Johnston-Forbes was unaware of, and unprepared for, the impending impact and that "makes the propensity for damage greater to the body." CP 27; 3 RP 386. Thus, even if Tencer were generally qualified to offer predictions of tissue damage from the amount of vehicle damage, he did not have a sufficient foundation to do so here.

3. Tencer's testimony was not helpful to the jury, it confused the issues and misled the jury

ER 702 and ER 403 go hand in hand. As a condition of admissibility, ER 702 requires the expert testimony be helpful to the jury. ER 403, on the other hand, serves to exclude otherwise relevant evidence "if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or misleading the jury ...."

In *Stedman,* the court concluded that "*Schultz* persuasively explains" why testimony like Tencer's is misleading. *Stedman v.*

Cooper, No. 66839-1-I, 2012 Wash. App. LEXIS 1921, at *14 (August 13, 2012).

The misleading nature identified in *Schultz* was two-fold. First, conclusions reached about the threshold amount of force to cause injury were based on "the circumstances of the tests that did not correspond with the circumstances of a rear-end car accident," including a failure to consider the "'expectation factor' of knowing one is going to be hit, as opposed to being unaware of an impending collision." *Stedman v. Cooper*, No. 66839-1-I, 2012 Wash. App. LEXIS 1921, at *13 (August 13, 2012) (quoting *Schultz,* 13 P.3d at 852). Second, testimony about the G-forces that occur from daily human activities "would be very misleading" because it "did not take into consideration the entire mechanical movement of a body during a car collision, in that it did not address forces from other directions and the position of the body at the time of the accident." *Schultz*, 13 P.3d at 852.

The same dangers noted in *Stedman* and *Schultz* – to potentially confuse and mislead the jury – are present here with

Tencer's testimony. To start with, Tencer's comparison of the forces that Ms. Johnston-Forbes' "body felt during impact" as being less than what a person would feel while walking "down stairs" or "jogging," is terribly misleading. 3 RP 325-26. As articulated in *Schultz,* the forces one feels in the body when stepping from one stair to another have little correlation with the forces that one feels in the neck when their vehicle is struck in a rear-end collision. 13 P.3d at 852.

In addition, the effect of a force on a body differs depending on the activity, the experience the person had performing the activity, and the state of person's awareness. For example, when a person steps from one stair to another they utilize their life-long experience of performing that activity – the "expectation factor" – to anticipate the impact and execute the activity in a manner that best absorbs the force in their foot and leg. *See, e.g. Stedman v. Cooper*, No. 66839-1-I, 2012 Wash. App. LEXIS 1921, at *13 (August 13, 2012) (quoting *Schultz,* 13 P.3d at 852). On the other hand, a person that is unexpectedly rear-ended and whose neck is violently thrown

back and then forward, generally has neither the ability to brace for the force nor the experience as to how best absorb it. A better comparison would be to drop a blindfolded person, head first the distance of one step. Then, at least, you would have the right body part and state of awareness.

Add to this, the testimony of Defendant's own expert physician, Dr. Tesar, who told the jury that – contrary to what Tencer says – no one can predict the amount of tissue damage that an occupant suffers by the amount of damage the occupant's vehicle sustains. 2 RP 275-76. Tencer's claim to the contrary did not assist the jury; rather it confused and misled the jury.

E. Tencer's Testimony Was Prejudicial to the Plaintiff and a New Trial Should Be Ordered

Allowing Tencer to testify and provide his opinions on tissue damage and forces that Ms. Johnston-Forbes felt constituted prejudicial error.

Plaintiff's medical evidence that the collision caused her

injury was strong. Plaintiff's radiologist opined that Ms. Johnston-Forbes had "a herniation of disc material from one of the lower cervical intervertebral discs, the C6-7 disc" (1 RP 40), and that the herniation was caused by a force or trauma to her head or neck, as opposed to the aging process (1 RP 60). Plaintiff's orthopedic surgeon agreed with the radiologist and also opined that her "disc protrusion at C6-7 was caused by the motor vehicle accident." 1 RP 95.

Had Tencer's opinion been excluded, Defendant would have been left with only Dr. Tesar to counter Plaintiff's medical evidence that the collision injured Ms. Johnston-Forbes. In fact, aside from the Defendant herself, Dr. Tesar was Defendant's only other witness.

Dr. Tesar's opinion that the collision did not cause Ms. Johnston-Forbes' herniated disc was weak, however. He maintained that even if Ms. Johnston-Forbes had in fact experienced immediate pain following the collision his opinion would remain unchanged. 2 RP 272-73.

In seemingly the same breath, Dr. Tesar also testified that Ms.

Johnston-Forbes could have herniated her disc with activity as insignificant as bending or even sleeping:

> Q: [Y]ou can say to a degree of probable medical certainty that she may have had it from sleep, it may have happened from bending, but it didn't happen on 2006 in this collision.
>
> A: Correct ....

2 RP 264.

Had Tesar's opinion been Defendant's only expert evidence to counter Plaintiff's evidence that the collision caused her disc to herniate, the jury may have rejected Tesar's reasoning with the simple question: If Plaintiff could have herniated her disc by simply bending, then why could it not have happened during the collision, when she was not only bending, but twisting back around to her left?

The jury likely could have found Dr. Tesar's opinions on causation inconsistent and may have rejected them all together. Had it done so, there would have been no basis for reaching a defense verdict – other than the improper testimony of Allan Tencer.

VI.
CONCLUSION

Tencer's claim that he can predict the threshold for injury of a particular person in a low speed collision by examining photographs of damaged vehicles and repair estimates is methodology that has not been generally accepted in the scientific community.

Even if an expert were able to do so, Tencer does not possess the necessary qualifications. Making such a determination draws on both medical and engineering expertise. Tencer, however, is not qualified to testify about either. He is neither a physician nor a licensed engineer.

Finally, even if Tencer could predict injury from photographs and repair estimates, and he possessed the necessary qualifications, here, he lacked the necessary *foundation* to do so. He did not even know the damage suffered by the very car that Plaintiff occupied at the time of the collision. That alone makes the basis for his opinion pure speculation.

The trial court erred in allowing Tencer to testify. His opinions confused and misled the jury to Plaintiff's substantial

prejudice. This Court should reverse the trial court's decision to allow Tencer to testify and remand to the trial court for a new trial.

Respectfully submitted,

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CERTIFICATE

I certify that I mailed a copy of the OPENING BRIEF OF APPELLANT to Douglas Foley, Defendant's/Respondent's attorney, at 13115 NE 4th Street, Ste. 260, Vancouver, Washington 98684, postage prepaid, on September 7, 2012.

Michael H. Bloom
Attorney for Appellant

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