

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF KANSAS**

DONALD SPORT,)	
)	
Plaintiff,)	
)	
v.)	Case No. 04-1386-KMH
)	
CONTINENTAL WESTERN)	
INSURANCE COMPANY,)	
)	
Defendant.)	
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MEMORANDUM AND ORDER

This matter is before the court on plaintiff's motion to limit the testimony of defendant's expert, Dr. Charles Bain. (Doc. 54). On March 8, 2006, the court conducted a *Daubert* hearing at which time the parties had an opportunity to question defendant's expert and present relevant evidence.¹ For the reasons set forth below, the motion shall be DENIED. The following background provides necessary context for the motion and the court's ruling.

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Marc Powell appeared on behalf of the defendant. Brad Pistotnik, Dustin DeVaughn, and Donald Snook appeared on behalf of the plaintiff. Dr. Bain participated by telephone.

Background

Highly summarized, this is an action to recover insurance benefits related to a January 2003 traffic accident which occurred while plaintiff was driving his employer's truck on K-96 Highway in Sedgwick County, Kansas. David Sheats, an uninsured motorist, was traveling in the same direction and drove his car into the back of plaintiff's dump truck.² Plaintiff contends that the accident injured his neck, lower back, and left leg and required multiple surgeries. Because Mr. Sheats was uninsured, plaintiff seeks "uninsured motorist" insurance benefits from the insurer of the truck, Continental Western Insurance Company.

Continental contends that the rear-end collision did not cause plaintiff's injuries and damages. In support of its defense, Continental retained an expert witness, Dr. Bain, whose opinions are summarized as follows:

- Based on accident reconstruction software and other computations, the impact-related change in velocity (delta V) of the truck was less than 6 miles per hour.
- If Mr. Sport were subjected to a delta V as high as 6 miles per hour, his impact-related motion would have consisted of: 1) his torso moving into the forward-moving seat back structure, 2) his head would have contacted the headrest/seat back or rear window, 3) extension of his neck would have occurred followed by forward flexion, 4) the neck movement would not have exceeded normal physiologic range of motion, 5) his feet would likely come away from the floor pedals, and 6) his hands would probably have released the steering wheel.
- A majority of volunteer test subjects exposed to this severity of rear-

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Mr. Sheats apparently fell asleep while driving. For purposes of this lawsuit, defendant agrees that Mr. Sheats caused the accident.

end impact have reported no symptoms and a number of subjects reported muscular neck discomfort lasting less than two weeks. An important aspect of treatment is a return to normal activities as soon as possible, typically within one week.

- There would have been little differential movement between Mr. Sport's thorax and lumbar spine and therefore no mechanism for injury to his lower back. While a mild reflexive muscle strain to his lower back was possible, any associated symptoms would have resolved within several days.
- Findings of disc herniations and protrusions are the result of a slow degenerative process that usually starts in the third decade of life and a significant number of asymptomatic people will have these findings. Lumbar disc protrusions and herniations are not the result of a one-time loading event unless there is bone disruption during the event.
- Mr. Sport was involved in a low speed rear-end impact that subjected him to minimal forces that had no serious or long-term injury potential. Any muscular neck pain would have resolved without treatment within four weeks and any muscular back pain would have resolved without treatment within days. Any other diagnoses and treatments were unrelated to the accident.

Plaintiff argues that Dr. Bain opines on matters for which he has no expertise and that his opinions are based on assumptions, speculation and unreliable data.³ The parties' arguments are discussed in greater detail below.

Admissibility of Expert Testimony

It is now well established that Fed. R. Evid. 702 imposes a "gatekeeper" obligation

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Specifically, plaintiff seeks to preclude Dr. Bain from testifying concerning: 1) the change in velocity of the vehicles, 2) the forces to which plaintiff was subjected, 3) the expected body movement of plaintiff, and 4) that the collision was of insufficient force to injure the plaintiff and that plaintiff's injuries were related to other factors.

on the trial court to “ensure that any and all scientific testimony or evidence admitted is not only relevant but reliable.” Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993). This obligation has a two-part inquiry. First, “[A] district court must determine if the expert’s proffered testimony ... has a ‘reliable basis in the knowledge and experience of his [or her] discipline.’” Bitler v. A.O. Smith Corp., 391 F. 3d 1114, 1120 (10th Cir. 2004)(quoting Daubert, 509 U.S. at 589). Second, the district court must inquire into whether the proposed testimony is sufficiently “relevant to the task at hand.” Daubert, 509 U.S. at 597. A proponent of expert testimony must show “a grounding in the methods and procedures of science which must be based on actual knowledge and not subjective belief or unaccepted speculation.” Mitchell v. Gencorp Inc., 165 F.3d 778, 780 (10th Cir. 1999). However, a proponent is not required to prove that the expert is “undisputably correct or that the expert’s theory is generally accepted in the scientific community.” Id. Rather, a party must show that the “method employed by the expert in reaching the conclusion is scientifically sound and that the opinion is based on facts which sufficiently satisfy Rule 702's reliability requirements.” Id.

In performing its gatekeeper function, the Supreme Court has suggested that courts consider: (1) whether a theory has been or can be tested or falsified, (2) whether the theory has been subjected to peer review and publication, (3) whether there are known or potential rates of error with regard to specific techniques, and (4) whether the theory or approach has general acceptance. Daubert, 509 U.S. at 593-94. However, the Court has made clear that this list is neither definitive nor exhaustive and that a trial judge has wide discretion both in

deciding how to assess an expert's reliability and in making a determination of that reliability. Kuhmo Tire. Co. v. Carmichael, 526 U.S. 137, 150 (1999).

As noted above, the court conducted an evidentiary hearing to assist in determining the admissibility of Dr. Bain's expert testimony at trial. Based on the doctor's testimony and curriculum vitae, the court is satisfied that he is qualified as an expert by "knowledge, skill, experience, training, or education" as required by Rule 702. With respect to medical issues, Dr. Bain is a trained physician with 19 years' experience as an emergency room doctor. In the course of his work he frequently treated individuals involved in vehicle accidents and has expertise in reviewing x-rays and MRI films.⁴ With respect to "injury causation analysis," Dr. Bain has an undergraduate degree in engineering and completed a three-week course at Northwestern University in 2003 concerning accident reconstruction.⁵ In addition, Dr. Bain has produced approximately 350 injury causation reports and co-authored a paper on vehicle accidents ("Analytical Model for Investigating Sideswipe Collisions"). Under the circumstances, Dr. Bain possesses sufficient training and experience to qualify as an expert.

The court also finds that Dr. Bain's testimony is based on sufficient facts or data under

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Plaintiff attacks Dr. Bain's medical expertise based on his lack of *specialization* in orthopedics. However, Dr. Bain has medical knowledge concerning orthopedics and this argument goes to the weight of his testimony.

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Plaintiff argues that Dr. Bain's degree is in "nuclear" (not biomechanical) engineering and that his undergraduate degree should therefore be discounted. However, Dr. Bain testified that the physics and formulas he uses in his analysis are fundamental concepts covered by all first and second year engineering students. The court is satisfied that Dr. Bain's educational background in engineering has assisted him in calculating the change in vehicle velocity.

Rule 702(1). In making his calculations concerning the delta V of plaintiff's truck, Dr. Bain reviewed 19 photographs of the vehicles, deposition testimony, witness statements, the accident report, weight of the vehicles, crush stiffness of the car from accident reconstruction literature, underride guard regulations, and measurements of the vehicles. Dr. Bain then utilized a computer software program widely used in the United States to analyze vehicle accidents (EDCRASH) to determine the delta V. Dr. Bain also calculated the delta V of plaintiff's truck by referring to published literature concerning accident reconstruction and "crush analysis." Although plaintiff's cross-examination of Dr. Bain raised valid issues concerning the use of photographs and whether a more accurate calculation could be made based on actual inspection of the vehicles, such arguments go to the weight, rather than admissibility of the opinions.⁶

Although plaintiff argues that Dr. Bain's opinions are not grounded in legitimate science, the court is persuaded that the methodology and principles employed by Dr. Bain are scientifically sound and based on facts sufficient to satisfy Rule 702's reliability requirement. The methodology utilized by Dr. Bain to reach his opinions in this case was a "process analysis" or step-wise procedure in which each subsequent step builds upon its predecessor. In the context of vehicle collisions, his sequential approach involved the following steps:

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Dr. Bain acknowledged that photographs are not as accurate as viewing and measuring the damaged vehicles. However, because of the potential for error, he testified that he allowed for such discrepancies and gave the benefit of the doubt to plaintiff when expressing his opinion that the delta V was six miles per hour.

1. analysis of the vehicle dynamics;
2. analysis of occupant kinematics;
3. analysis of biomechanics;
4. determination of injury potential; and
5. validation through medical analysis.

The analysis of vehicle dynamics, in this case the change in velocity of plaintiff's truck (ΔV), is nothing more than the application of mathematical formulas and research literature to a set of variables to arrive at a number. The use of mathematical formulas and models to estimate the force and/or changes in velocity of objects is an accepted and reliable scientific method commonly taught in college physics classes. Similarly, the analysis of occupant kinematics (body movement) is grounded in physics and observable experiments that are easily recreated. The third and fourth steps were determined through reference to published literature, an accepted basis for developing an opinion. Finally, the fifth step, validation through the review of other facts, also reflects reliability and a scientific approach. The testimony of Dr. Bain is "the product of reliable principles" and he has "applied the principles reliably to the facts of this case." Fed. R. Evid. 702(2). In this case the relation between the expert's method, the proffered conclusions, and the factual circumstances renders the testimony both reliable and relevant. Bitler, 391 F.3d at 1121.

IT IS THEREFORE ORDERED that plaintiff's motion to limit the testimony of Dr. Charles Bain (**Doc. 54**) is **DENIED**.

IT IS SO ORDERED.

Dated at Wichita, Kansas this 10th day of March 2006.

S/ Karen M. Humphreys

KAREN M. HUMPHREYS
United States Magistrate Judge