

# DEFENDING MINOR IMPACT SOFT TISSUE INJURIES

## Minor Impact Soft Tissue Injuries (MIST)

Conventional wisdom

No damage to vehicle = no injury to the occupant

There is no scientific evidence that supports the notion that occupants of a vehicle are not injured when there is little to no property damage.

“Crushing can be good”

Crumpling of a vehicle helps to absorb the forces exerted during a crash.

Conservation of Energy: Energy can neither be created nor destroyed; it can only be converted.

- Energy must go somewhere → occupants of the vehicle

Pole Vaulter – Landing pad or concrete?

NASCAR vehicles are designed to disperse energy.

Diandra Leslie-Pelecky, PhD

Cage in the race car protects the driver from crushing forces.

Head restraints are now used to limit movement - ->INERTIA

Dale Earnhardt → head was not restrained

Doctors in practice do NOT treat crushing injuries.

Doctors treat injuries due to a change in inertia

# DEFENDING MINOR IMPACT SOFT TISSUE INJURIES

## INSURANCE COMPANY DEFENSES IN MIST CASES

**Junk Science:** The attaching of technical names and phrases to thoughts, concepts and ideas that has no real scientific basis all in effort to lend credibility to a position to reducing claim costs.

- **Murray Allen, MD et al**
  - **Acceleration Perturbations of Daily Living: A Comparison To Whiplash (Spine 1994)**
    - Sneezing and whiplash cause the same G forces
    - Scientifically flawed

[Spine \(Phila Pa 1976\)](#), 1994 Jun 1;19(11):1285-90.

### **Acceleration perturbations of daily living. A comparison to 'whiplash'.**

[Allen ME<sup>1</sup>](#), [Weir-Jones I](#), [Motiuk DR](#), [Flewin KR](#), [Goring RD](#), [Kobetic R](#), [Broadhurst A](#).

#### **⊕ Author information**

#### **Abstract**

**STUDY DESIGN:** This study measured repeated human head accelerations (g) during daily activities.

**OBJECTIVES:** Perturbations of daily living were compared to similar data from low velocity rear-end motor vehicle accidents.

**SUMMARY OF BACKGROUND DATA:** Past assumptions suggest that motor vehicle accident severity does not correlate with the degree of sustained injury. Early engineering studies indicated that occupant disturbance in a low velocity motor vehicle accident is minor.

**METHODS:** Eight volunteers were perturbed with 13 daily activities. Helmets on the heads of volunteers were instrumented with tri-planar accelerometers with output sampling of 500 Hz, sensitivity of 0.02 g, and a range of +/- 20 g.

**RESULTS:** There was wide inter-subject response for various perturbations. Plopping backward into a chair caused maximum peak acceleration horizontally at 5.6 g and vertically at 8.5 g, with force vector of 10.1 g at 54.9 degrees. Mean impulse duration was 0.19 sec. There was no hint of injury in any subject.

**CONCLUSIONS:** Perturbations of daily living compared similarly to the jostling expected in low velocity "whiplash"-type motor vehicle accidents.

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9:33 AM hypertextbook.com				
	Jenny Hua	Matthew Grabczynski	Stephanie Ma	Average
Sneeze	2.189	1.800	0.957	1.649
Cough	1.790	0.899	0.957	1.215
Slap on Back	1.287	1.956	1.524	1.589
Hop off step	6.902	4.796	4.715	5.471
Plop down on chair	5.888	4.377	4.610	4.958
Crowd jostle	N/A	N/A	N/A	N/A

Compare to Dr. Allen's we have:

	Dr. Allen's	Our Average Value	% of our value to Dr. Allen's
Sneeze	2.9	1.649	57%
Cough	3.5	1.215	35%
Slap on back	4.1	1.589	39%
Hop off step	8.1	5.471	68%
Plop down on chair	10.1	4.958	49%

Use the **Daubert** and **Frye** standard to keep junk science evidence out

The **Daubert** standard provides a [rule of evidence](#) regarding the admissibility of [expert witnesses'](#) [testimony](#) during [United States](#) federal legal proceedings. Pursuant to this standard, a party may raise a **Daubert motion**, which is a special case of [motion in limine](#) raised before or during [trial](#) to exclude the presentation of unqualified [evidence](#) to the [jury](#). The **Daubert trilogy** refers to the three [United States Supreme Court](#) cases that articulated the Daubert standard:

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- [\*Daubert v. Merrell Dow Pharmaceuticals\*](#), which held in 1993 that Rule 702 of the [Federal Rules of Evidence](#) did not incorporate the [Frye "general acceptance" test](#) as a basis for assessing the admissibility of scientific expert testimony, **but that the rule incorporated a flexible reliability standard instead;**
- [\*General Electric Co. v. Joiner\*](#),<sup>[1]</sup> which held that a district court judge may exclude expert testimony **when there are gaps between the evidence relied on by an expert and his conclusion,** and that an abuse-of-discretion standard of review is the proper standard for appellate courts to use in reviewing a trial court's decision of whether it should admit expert testimony;
- [\*Kumho Tire Co. v. Carmichael\*](#),<sup>[2]</sup> which held in 1999 that the judge's gatekeeping function identified in *Daubert* applies to all expert testimony, including that which is non-scientific.

The ***Frye* standard**, ***Frye* test**, or **general acceptance test** is a test to determine the [admissibility](#) of [scientific evidence](#). **It provides that expert opinion based on a scientific technique is admissible only where the technique is generally accepted as reliable in the relevant scientific community.**

In [\*Daubert v. Merrell Dow Pharmaceuticals\*](#), 509 U.S. 579 (1994), the Supreme Court held that the [Federal Rules of Evidence](#) superseded *Frye* as the standard for admissibility of expert evidence in federal courts.<sup>[1]</sup> Some states, however, still adhere to the *Frye* standard.

This standard comes from *Frye v. United States*, [293 F. 1013](#) (D.C. Cir. 1923), a case discussing the admissibility of [polygraph](#) test as evidence. **The Court in *Frye* held that expert testimony must be**

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based on scientific methods that are sufficiently established and accepted.<sup>[2]</sup>

The court wrote:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while the courts will go a long way in admitting experimental testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs.

In many, but not all jurisdictions, the *Frye* standard has been superseded by the [\*Daubert\* standard](#).

States still following *Frye* include: California, Illinois, Maryland, Minnesota, New Jersey, New York, Pennsylvania, and Washington.

Effective July 1, 2013, Florida no longer adheres to the *Frye* standard.

Effective July 1, 2014, Kansas adopted *Daubert* and no longer follows the *Frye* standard.

An accident reconstructionist should not be allowed to render an opinion as to whether a person was injured in a crash. That would constitute a medical decision which should only be made by a qualified licensed doctor.

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## DEFENSES IN PERSONAL INJURY

SAE 973341 – Günter Siegmund, et al

Delta  $v = 2.5 - 5.0G$

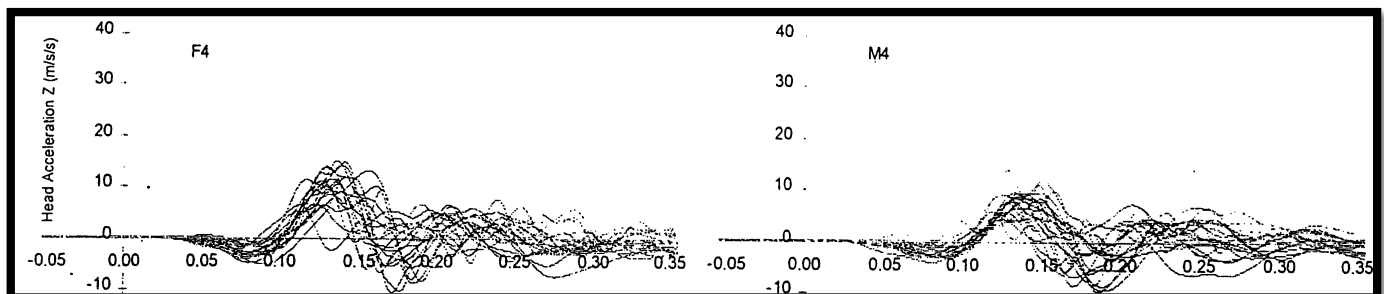
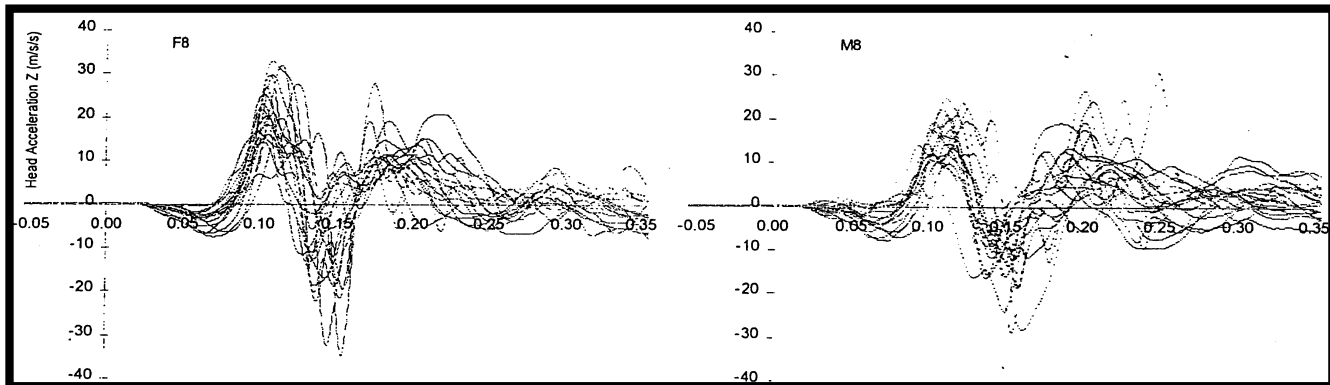
**100% variation in peak head acceleration**

### Head/Neck Kinematic Response of Human Subjects in Low-Speed Rear-End Collisions

Gunter P. Siegmund, David J. King, and Jonathan M. Lawrence  
MacInnis Engineering Associates

Jeffrey B. Wheeler, John R. Brault, and Terry A. Smith  
Biomechanics Research & Consulting, Inc.

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# DEFENDING MINOR IMPACT SOFT TISSUE INJURIES

## SAE Study



**Figures 20a and 20b: Two photographs used together for one crush estimation exercise.**

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In the two-photograph exercise, 52 participants provided 8 crush estimates and 51 EBS estimates. The average estimated crush was 13.1 inches with a standard deviation of 3.3 inches. The EBS results are given in Table 7.

<b>EBS, mph (kph)</b>	<b># of responses</b>
11 – 15 (17.7 - 24.2)	5
16 - 20 (25.8 - 32.2)	12
21 - 25 (33.8 - 40.3)	18
26 - 30 (41.9 - 48.3)	12
31 – 35 (49.9 - 56.4)	3
36 – 40 (58.0 - 64.4)	0
41 - 45 (66.0 - 72.5)	1

**Table 7: Crush depth estimates from two photographs.**

## CLAIM SEGMENTATION

### 1. First Call Settlements

- \$200 - \$500
- 48-72 hours post claim
- Bonus the caller

### 2. Minor Impact Soft Tissue (MIST)

- Claims under \$1,000 - \$5,000 of damage
- SFXOL – Settle for x or less
- Non-binding arbitration
  - If lose – litigate



# DEFENDING MINOR IMPACT SOFT TISSUE INJURIES

- Calvin Thur, JD – thurlaw.com
- Refer to the SUI/SID for fraud
- Use “junk science”
- **Junk Science:** The attaching of technical names and phrases to thoughts, concepts and ideas that have no real scientific basis in an effort to lend credibility to an opinion for the purpose of reducing claim costs for insurers.
- Use conventional wisdom
  - No damage = no injury
  - There is not one published report saying that property damage is a predictor of injury.
- Gunter Sigmund – SAE
  - 2.5 delta V (scratching bumper) = 6.7 - 12G
  - 10-20 times greater than Allstate told adjusters

\* The truth is that not many people will be injured in a 2.5G crash

- We do not deal with possibilities but rather probabilities
  - > Than 50% chance
- Ex: the chance of dying in a commercial plane crash
  - 1 in 7 million
  - Fly everyday for 19,000 years

# DEFENDING MINOR IMPACT SOFT TISSUE INJURIES

However, if you die on a plane crash, what are the chances of dying a plane crash?

## § This is why it is important for the doctor to be a detective

- Take a complete history
- Perform a thorough exam
- Formulate your medical decision making
- “Based on the patients past and current medical history, as well as my complete physical examination, it is my opinion that, in all reasonable medical probability, the patient’s injuries are the direct result of the crash that took place on \_\_\_\_\_ and for no other reason.”
- You will be asked, “What are you basing your opinion on?”
  - History of the patient – past MVC’s, WC claims, home injuries
  - Physical Exam
  - Functional
    - ROM – inclinometer (spine) and goniometer (extremities)
    - Muscle Testing - Computerized
    - Algometry – Test pain level
    - Dynamic sEMG – p. 45 AMA Guide To ROM Assessment

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## ■ Outcome Assessment Tools

- You must use every objective test available
- Accident reconstructionist should not be allowed to render an opinion RESTROSPECTIVELY of whether it is possible for a person to be injured in a crash
  - ❖ Everyone has a different injury threshold
  - ❖ Gary Johnson, JD – previous degeneration is why people are fragile
  - ❖ Michael Freeman, PhD, DC – Crash reconstruction expert
  - ❖ Bill Barton, JD – people have certain dispositions to be injured
- ✚ Most people over 40 have some degree degeneration but have no symptoms and can go on for a lifetime without any pain or disability

# DEFENDING MINOR IMPACT SOFT TISSUE INJURIES

## Ways To Get A Claim Out Of The MIST Category

○ Attorney needs to write letter to carrier within 30 days

- Target or bullet vehicle have > \$1,500 damage
- Preferred body shop
  - Used/aftermarket parts
  - Reduced labor rate
  - Time sensitive
- Independent estimate or dealership
  - Tear down
  - Laser alignment of frame
  - Wheel alignment
  - OEM parts
- Either bumper moved more than one inch – need photo
- Submarining of the bullet vehicle
  - Check undercarriage of target vehicle
- Target or bullet vehicle require > 2 hours of frame repair
- The damage goes beyond the rear wheel well
- Multiple cars involved and multiple impacts
- Bike racks, wenchers
- Any injured party has a visible bodily injury
- Previous damage to either vehicle
- Trailer hitches
- > 65 years of age
- Women