

We Get Letters & Email

Ignorance & Prejudice by Coroner's Office

Dear Editor:

I have several concerns I would like to be brought to light regarding the [Katie May tragedy](#) ("An Education in Stroke Risk and Chiropractic," January 2017 *DC*), in addition to the issues discussed on "The Dr. Oz Show," which were all very good points.

First of all, to state the obvious, the patient's history and reason for her chiropractic visits included neck pain from a falling injury. While no one has discussed publicly whether or not the injury was a direct trauma to the neck or some other mechanism such as a whiplash-type mechanism, there was clearly physical injury / strain to the neck. Since this could have been the source of the blunt-force trauma concluded as the mechanism of injury for the aneurysm by the coroner, it is of great import that this piece of historical information be ascertained.

So, at the very least, if the coroner wanted to cite blunt-force trauma as the mechanism, or a likely or apparent cause (verbiage that would have been more careful and conservative) of the aneurysm/stroke, then it should have just been left as blunt-force trauma, without concluding it was caused by the spine manipulation, especially in light of the history of neck injury.

Second, a spine adjustment, especially in the cervical spine, and in its myriad of forms and techniques, is not necessarily well-characterized by blunt-force trauma in the least. We do not strike the neck. On the other hand, however, the preceding injury from the fall that led to the treatment could have easily been characterized by a direct blunt-force trauma to the neck.

Third, the aneurysm was in the carotid artery, anteriorly located, *not* in the vertebrobasilar artery, which runs inside the spinal cord and is actually the artery deemed to be tested for sufficiency with such tests associated with blood flow to the brain, such as VBAI tests. So, even if such tests were done in light of a suspicion of any of the five D's, etc., they would not clear the carotid artery anyway.

It is highly unlikely that the adjustment technique used blunt force or that it could have struck the v-b artery, even if it was such a technique, given its location; and even more highly unlikely that the contact point(s) would be anywhere near the anterior location of the carotid artery.

So, if indeed the coroner thought the dissection was caused by blunt-force trauma, much more thought and investigation should have gone into the process before any decision was made that the mechanism of the blunt-force trauma was a chiropractic spinal adjustment. That leads us to these conclusions:

1. "Blunt-force trauma" is a poor characterization for the description of a chiropractic spinal adjustment. While it is true force is used and we do use the term *thrust*, we are not striking the neck, but rather pulling or pushing, distracting, bending, twisting, etc., and not all techniques use velocity or

force at all. And even if we were to strike the body, which we do not (as, for example, some massage therapy techniques do), we certainly do not use arteries as contact points for any of our techniques.

2. Therefore, it is highly unlikely to cause an aneurysm by the "blunt-force trauma" mechanism from a spinal adjustment as reported by the coroner.

3. It was, in my professional opinion, poor, negligent, premature judgment rendered by a professional making a judgment outside his area of expertise, especially when doing so without any prior investigation of the needed information or considerations as outlined above.

4. Therefore, it should and could have just been reported as a blunt-force trauma consistent with the history of neck injury. But instead, it smacks of ignorance and prejudice, which unfortunately is known to exist historically to varying degrees in the medical profession, as evidenced by prior legal matters.

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Too Much Laser?

Dear Editor:

Therapeutic lasers are ubiquitous in modern health care, not only in chiropractic, but also in all fields of human and animal health care. However, there is still considerable confusion about the optimum parameters for treatment effectiveness. The multiple variables involved (power, power density, wavelength, dosage and more) can create a dizzying, confusing array of information.

Let's define one term - *energy density*, also known as dosage or fluence. (I will use these three terms interchangeably.) The energy density is a measure of the amount of energy delivered per unit area.

Energy is measured in Joules (J) and area in square centimeters (cm²), so energy density is measured in Joules per square centimeter (J/cm²).

The palm of your hand is roughly 100 cm². To easily estimate the size of the treatment area, count the number of "palms" being treated and multiply by 100. As an example, treating the cervical spine would cover an area of about four palms or 400 cm².

At the recent Parker Seminars Las Vegas, Dr. Dan Murphy gave a presentation on hormesis in laser therapy, stating that not enough laser produces no effect, the right amount will give the desired effect, and too much laser can be detrimental. Dr. Murphy presented studies which pointed to 10 J/cm² as being the threshold, and that any dosage beyond that could be detrimental.

However, one of the studies he presented was conducted *in vitro*. It should be obvious there is a significant difference between cells in a Petri dish and our human patients. After all, a Diversified thrust on a monolayer of cells would destroy them - but that does not mean we are killing our patients with adjustments!

With only had 50 minutes to speak, Dr. Murphy did not have the time to present a sample dose calculation. Let's do that for two different therapy lasers used in chiropractic practice, using a five-

minute treatment time.

Laser #1: power of 5 milliwatts, applied to the patient in a line-generated beam which is 3 millimeters wide (0.3 cm) and 20 centimeters long. In five minutes, a 5 milliwatt laser will deliver 1.5 J (0.005 W x 5 min x 60 sec/min). The treatment area is 0.3 cm x 20 cm, or 6 cm². Thus the dosage is 1.5 J / 6 cm² or 0.25 J/cm².

Laser #2: power of 12 Watts, applied to the patient over a total treatment area of 400cm², as discussed above. In five minutes the laser generates 3,600J (12 W x 5 min x 60 sec/min). The dosage is then 3,600 J / 400 cm² or 9 J/cm².

The current [World Association of Laser Therapy](#) (WALT) guidelines recommend dosages between 1 and 12 J/cm². The paper "Biphasic Dose Response in Low Level Light Therapy" concludes, "In general, fluences of red or NIR as low as 3 or 5 J/cm² will be beneficial in vivo, but a large dose like 50 or 100 J/cm² will lose the beneficial effect and may even become detrimental."

From our dosage example, laser #1 delivers too low a dosage to be effective, only 0.25 J/cm². Laser #2 is a class 4 therapy laser and delivers the proper dosage, and is certainly not detrimental since it is far below the 50 J/cm² stated in the biphasic dose paper.

Laser therapy is an amazing modality, changing thousands of human and animal lives every single day. The future of laser therapy is optimizing treatment parameters to deliver the best laser therapy possible to our patients.

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