

Q & A

DC Products Review Asks

WHAT IS MECHANICAL ADJUSTING ALL ABOUT?

by Vicki Nuber

While exhibiting at the FCA National Convention in late August, Darick Publishing's booth just happened to be opposite that of Sense Technology. I've known Christian Evans from Sense Technology for years; we've chatted many times, and Sense Technology has often advertised in *DC Products Review* over the years. In fact, we have quite a few companies that market similar types of products with our publication; however, as a lay person, understanding what their equipment does or doesn't do was still a mystery to me. So, I asked Christian if he'd minded answering a few questions that I'd share with our readers. One thing lead to another and I ended up interviewing his dad, Dr. Joseph Evans Ph.D., the creator of Sense Technology.

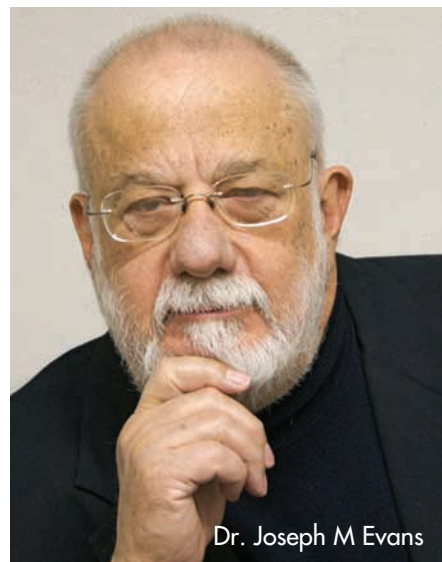
This article is not meant to be read as an endorsement or as an advertising piece for Sense Technology, believe me, it's very challenging to try to educate you, our readers, without sounding like an advertising messenger. I realize the pitfalls of this type of editorial so read this with a questioning mindset. These questions are my questions asked

from the perspective of total ignorance with the goal of gaining an understanding of what mechanical adjusting is all about.

Question 1. How did PulStar and Multiple Impulse Therapy get started?

I was working with an industrial designer, Rex Moore, on another project. Rex's brother-in-law, who was a chiropractor, sent Rex an adjustment tool and requested that Rex redesign it to make it more reliable. As Rex and I reviewed the device we realized that the transfer of energy from the device to the patient was uncontrolled. If the chiropractor squeezed the device with no patient contact, no energy was transferred to the patient. Further the energy transferred to the patient was highly dependent on the contact pressure. So we devised a design that ensured repeatable and precisely controlled energy transfer to the patient on each adjustment.

This design became the original "Precision Adjuster." Dr. Vernon Pierce helped us market this instrument. He had observed under fluoroscopy that the instrument tip penetrated slightly further when the single impulse was applied a second



Dr. Joseph M Evans

and third time at the same point. So we redesigned the instrument to provide three impulses in a row. Later, Dr. Pierce and Dr. Rubadue asked that we provide a continuous stream of impulses and we were able to meet their request. I had realized that if we incorporated a force sensor in the impulse head, we might be able to measure the effects of the adjustment as well as provide an analysis of the resistance or stiffness of the patient at each vertebral location. Dr. Pierce's group of clinicians provided the funding by purchasing the initial instruments which were called Force Recording

and Analysis Systems (FRAS). Later Dr. Rolla Pennell urged us to find a name with more pizzazz, so the PulStar was born.

Question 2. What is for want of a better word, "multiple impulse therapy?" Where did it come from?

A typical chiropractic adjustment is comprised of the application of a preload to take slack out of the joint followed by the application of a rapid thrust into the joint (an impulse) to restore normal function. Although the chiropractor may apply a number of impulses to a single joint complex during a patient visit, normally the adjustment consists of a single impulse. Multiple Impulse Therapy (MIT) typically comprises a preload to the joint followed by a train of small impulses that may vary in frequency from 2 to 90 Hz. These impulses are typically much smaller in magnitude than the single manual impulse.

Question 3. Is this this type of therapy meant to replace hands-on adjustments?

PulStar practitioners using MIT have found that patients prefer MIT for its low force levels, precision and effective pain relief. Some but not all chiropractors now use MIT exclusively for their adjustments.

Question 4. How does it work?

Like any chiropractic adjustment, MIT applies proprioceptive stimulation to the joint, ligaments, muscles, and fascia of the involved motor unit in order to restore function, relax involved musculature, and reduce edema.

Question 5. In your opinion, why should a chiropractor use this technology?

Our opinion doesn't count for much, but in the opinion of patients who seek chiropractic care, the PulStar MIT therapy eliminates the fear of chiropractic adjustment while providing extremely rapid and effective pain relief. Chiropractors using the instrumentation tell us that they can be more specific in their adjustments, and can provide

adjustments at a higher frequency (up to 90 Hz or 90 adjustments per second) with greatly reduced strain on their own bodies.

Many chiropractors, such as Milo Wilcox of Livingwell Chiropractic in Salina, Kansas, feel that they have extended their practice life because of the PulStar. The PulStar protocols (which are being made available at no cost on the Sense Technology website), include an objective visual assessment of the patient's spine prior to treatment as well as post treatment. Both the patient and the chiropractor can see where the problems are as well as the effectiveness of the adjustment. Seeing is believing.

Question 6. In the final analysis am I as a patient getting the same results from your machine as I am with a manual adjustment?

Clinical studies published in peer reviewed journals show that, in the hands of an experienced PulStar clinician, on average, a patient will experience 16 times faster pain relief than a patient treated with traditional chiropractic manual adjustments.

Question 7. What are some of the myths or misconceptions of using this technology?

The PulStar users tell us that, once the initial learning period is over, the pre-adjustment spinal assessment takes no more than 30 seconds. Their initial concerns that the protocol would slow them down was found not to be the case. They also report that the visual display of spinal assessment is a powerful educational tool when it comes to showing the need for continuing care. Even though patients rapidly become symptom free under PulStar care, many choose to continue care when they see that the spinal assessment indicates the need. So the PulStar protocol does not slow the practitioner down and also aids the clinician in providing effective continuing care.

Question 8a. Is this technology easy to learn? How long does it

take to master this skill?

While we offer seminars in the use of the PulStar protocols, we don't teach chiropractic. All PulStar clinicians are already master chiropractors. Therefore, the PulStar basic protocol is extremely easy for them to master. One weekend of hands-on tutelage under the supervision of an experienced PulStar instructor will enable a chiropractor to confidently start patient treatment on the following Monday. That said, we view the practice of any healing art as a lifetime commitment to learning.

There are currently four levels of PulStar MIT protocols with a fifth in preparation. These are: Basic, Positional Adjusting, Asymmetrical Adjusting, Soft Tissue and Extremity Adjusting, and an athletic performance protocol is in the works.

The PulStar MIT system is so new to the field of chiropractic that its potential is still unrealized. Two key concepts dominate the clinical group using this instrumentation: application of basic chiropractic principles to the use of the PulStar instrumentation, and share your clinical insights and results.

The application of basic chiropractic principles means that a PulStar practitioner must maintain an independent frame of mind regarding the use of the PulStar and MIT. The PulStar protocols are not cookbook prescriptions for its use. Rather they are presented as distillations of the experience of other users and serve as a guide to the effective use of MIT.

The PulStar clinician is encouraged to discard doctrine in favor of intelligent and considered application of basic principles seen in the light of the advanced possibilities provided by the technology of the PulStar system.

I'll give you just one example to illustrate my point. Dr. Randy Shallow had a back pain patient who he felt had a lumbar problem that

simply did not show up when the patient was examined in the prone position. Since the patient complained that the pain was present only when they were in the standing position, Dr. Shallow decided to assess the spine in the standing position. Dr. Shallow reported that, "The problem just jumped out at me."

After sharing Dr. Shallow's experience, other users reported that they were also getting better results with patients who suffered pain primarily

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ly when standing by assessing the problem in the standing position. So we produced an adjustable height patient support that is used to assess the patient standing in many different positions. The positions are designed to preload specific joint motor units.

Dr. Shallow's observations and decision to share the results resulted in major benefits to the entire group as they can now reliably assess patients not only in the traditional prone position but also in the sitting and standing positions depending on the source of their complaint. We call this the "Standing Positional System." Turns out that its use actually speeds up the examination and treatment process because it is quicker for a patient to simply walk up to the system rather than having to climb onto a table or even be placed in the horizontal position using a Hi-Low table. In retrospect, it seems obvious that the standing position should be important. After all, patients are routinely x-rayed in the standing or load bearing position.

Question 8b. That is interesting, but I can't let you off the hook so easily. What other examples of your innovation can you give?

Fair enough. Here are three recent examples for your readers. We have increased the impulse frequency

range from twenty Hz (Hz equals impulses per second) up to ninety Hz. We use this capability to improve the effectiveness of our trigger point mode which starts at two Hz and sweeps to ninety Hz, and our myofacial mode where the chiropractor can control the impulse frequency from twenty to fifty Hz while stripping along a muscle.

My second example is that in addition to multiple impulse adjustments, we have added multiple impulse assessment of each verte-

bral motor unit. This allows us to use even lower assessment forces while improving assessment accuracy and repeatability.

Thirdly, we have added an assessment indicator that points to a discontinuity in spinal response at the joint space rather than the vertebra itself. Remember that bones don't subluxate but joints do.

Question 9. Where do you see PulStar and MIT going in the future?

Our record of continuously improving the PulStar and the protocols for its use is unparalleled and I would expect that will continue. We have recently added the trigger point and myofacial treatment modes where, in trigger point mode, the impulse frequency starts at 4Hz and increases to 90 Hz in the PulStar G3, and in myofacial mode the frequency is set by the clinician depending on the pressure applied to the tissue.

We have also recently introduced a multiple impulse analysis mode where instead of using only one low energy impulse to analyze each vertebral location, the clinician can choose up to five impulses that are delivered very quickly and the results then averaged for better repeatability. This analysis mode has allowed the use of even lower assessment force levels for improved patient comfort and compliance.

We traditionally make several major improvements each year and upgrade the current instruments in the field when the owner attends a seminar. While unrelenting improvements in features and capability has been our focus, I am most excited by our vision of the PulStar Wellness System currently under development.

Wellness is a concept that is capable of unifying the chiropractic profession. Regardless of technique, chiropractors at heart believe that continued care will prevent recurrence of symptoms and support improvements in general health. Recent insights into the basis of the subluxation and nerve interference provided by Dr. Stevan Walton, our Director of Clinical Development, have provided the basis for the creation of the PulStar Wellness system. We are really excited about our wellness concept and have recruited a small team of chiropractors to test the effectiveness of the system.

I began this article explaining what I was attempting to do from a lay person's vantage point. I'm not a chiropractor. I am a believer and user however of chiropractic. I've been adjusted by many chiropractors using various techniques over the past 40 years, some of which have actually caused me additional discomfort and pain. I've also been adjusted by various mechanical adjusting equipment. As a lay person I have to agree with what patients are telling those practitioners that use these devices – it's less painful. In fact, almost always when I've been adjusted using one of these devices, not only do I feel better, but the adjustment was painless. The fear of having a chiropractic adjustment is removed for me. The whiplash that I feel when conventional traction is done to my neck is not there. Works for me. Does it for you? You decide.

About The Author — Vicki Nuber is the editor-in-chief of DC Products Review.