

What is wrong with the medical system's of treating back pain? Low back pain is the single biggest cause of disability world wide. Rates of MRI's have been rapidly increasing over the last 25 years, Rates of spinal fusion have increased by almost 65% in the last 15 years and yet we have seen no improvement in patient outcomes. (7) The opioid crisis can, in some cases, be directly tied to our poor ability to treat low back pain.

In 2018 the NIH developed The Pain Consortium which is a major research and funding move to discover how to treat low back pain and decrease opioid addiction. But to really understand a problem, we must know how it began.

In the 1800's there were no real specialists. Everyone was a general practitioner. In the 1880's in Europe specialists began to form as physicians found areas of expertise and wanted to advance the practice of medicine in these areas. They began to have more advanced exams, developed better ways of figuring out one problem from another with exam and detailed history taking. Over the years the history and exam became refined. Generations of physicians, through trial and error improved their exam, found better exam techniques, asked better questions, refined their skill. When laboratory tests became more prevalent, many of the older doctors would complain that the younger doctors wouldn't spend as much time on history and physical exam as they would trying to figure out which and how many tests to order. Xrays and CT scans further pushed medicine away from the basics of medicine. As the younger doctors became more comfortable with tests and imaging, they began to insist that they could diagnose just as well with tests and the physical exam became passe. The art of medicine was hard and took years to master while the science of medicine was black and white and could be shown through differential diagnosis, lab tests, imaging studies and evidence based medicine. This battle was just beginning as pain management became a specialty.

In the 1920s, epidurals, which is an injection of medication into the spinal canal, began to be used for decreasing pain in childbirth, and anesthesiologists around the world became adept at performing epidurals in this manner. In the 1950s the first epidurals were done for patients with back pain with pain down the leg, known as sciatica. A steroid was injected into the epidural space, and these steroids were meant to decrease inflammation. Primary care physicians would do a back exam and send the patient to someone who was experienced in performing the epidural. No real decision was made by the physician doing the epidural; they were just the person doing the procedure.

In the 1960s and 1970s facet joints were added along with Sacroiliac joint injections. This expanded the procedural skill of the anesthesiologist, but not the diagnostic skill. Then in the 1980s the MRI began being used in a universal way to visualize the back. With this came even more diagnoses of back pain. As these diagnoses developed, physicians began to look increasingly towards anesthesiologists to do more procedures. It was a natural flow from epidurals to these other procedures, and in almost every other case in history, this would have led to back pain experts. People who became experts at evaluating the back, examining the back, experts at reading MRI's of the back and using their practiced exam and experience to treat the back in a thoughtful practiced manner. But this was the time when the history and physical exam was being questioned. Now that we had the MRI, maybe we didn't need the exam at all. This is how pain management became the great experiment.

To avoid becoming an expert, an algorithm had to be developed. The main questions in the algorithm became: Is there pain down the leg, and what is the radiologist's reading of the MRI? If there was pain down the leg, this was called radicular pain, and if there was

not, it was called axial pain. If there is pain down the leg, then an MRI is performed.

A point about MRI's before we move on: the MRI is a wonderful exam with extraordinary helpful findings that confirm a diagnosis made on physical exam. It is not a diagnosis. The number of people we see with MRI findings that are not helpful would astound you. The noteworthy study was a 1994 study by Jensen (2) and published in the New England Journal of Medicine, 98 people of all ages without any pain received MRI exams and 52% had disc bulges. In her book "Crooked"(3) Cathryn Jakobson Ramin notes that Dr. Rick Deyo replied to the 1994 study on MRI findings and wrote a commentary "I hope this study is very influential, many doctors routinely use MRIs to diagnose back pain. Misuse of this imaging method is a bigger problem than the physicians and patients realize. The opportunity to be misled is substantial." The book continues, when the Agency for Health Care Policy and Research a branch of the United States Public Health Service asked Deyo and colleagues to establish treatment guidelines for acute low back pain-that is, lumbar back pain of recent onset-they concluded that doctors and other healthcare providers should refrain from using imaging tests like x-rays, CT scans and MRIs in the early stages of the back pain episode. The orthopedic spine surgery community responded furiously, setting up letter-writing committees and insisting that Congress do something. It worked: AHCPR's budget vanished, the spine care panel was disbanded, and it's well considered guidelines, which, had they been followed, would've saved billions of dollars in the United States, wound up in the dustbin. In the meantime, between 2000 and 2005, the number of MRI machines in hospitals and private radiology centers more than tripled.

What has occurred is predictable. If your algorithm is based on MRI findings and the MRI is positive in greater than 1/2 of patients without pain, it goes to reason that many patients, with pain from

something other than a disc bulge, will have a disc bulge diagnosis made in our current system.

I had a patient from Tennessee ask me one time for ideas on how to treat her “sciatica” before traveling to see me. I sent her a video message describing many different causes of pain down the leg in which only one was from a disc bulge. Without an exam, every sciatica is a disc bulge if the MRI says so.

You might think that this is no big deal, but it is. If you have a disc bulge, you will often get a steroid epidural. Steroid epidurals have no immediate diagnostic value. The steroid works over the next 2-10 days as the the inflammation in the spinal canal is decreased. But so is the inflammation everywhere else in the body. So, with a steroid epidural, everything feels better for a little while. Including all the other causes for back pain. In this time, the doctor may tell you that a positive result proves that the disc bulge is the cause of your pain. If the pain returns, you get another one and if pain comes comes back, often a third. If the pain continues, you are sent to a neurosurgeon for back surgery based on the positive improvement from the epidural. So then you could have back surgery for a disc bulge that may have never been the cause of your pain. If the epidural does provide relief, the patient is instructed to come back when the pain returns, but no more frequently than every 3-4 months. This leads to repeat rounds of injections where some patients receive 2-3 epidurals every 3 months for years and years. If the pain is not down the leg, the algorithm suggests treating one thing at a time in order to make a diagnosis. First the facet joints, if that doesn't work then the sacroiliac joints, then possibly the hips or other areas. The problem is that pain in one area of the back leads to pain in another as we move differently to protect ourselves from that pain. So facet pain becomes facet AND sacroiliac joint pain, which can then cause hip pain and more as a number of other pain generators become irritated. In the midst of this, the weakness that

develops can lead to a disc bulge that does cause leg pain. It is very confusing at times, and most people have several different pain generators that all need to be treated. If you are going to use an algorithm that treats one thing at a time, then you must have a problem that is singular. With abdominal pain, appendicitis does not cause gall bladder disease. Once you find a cause of abdominal pain, you can stop looking. Not so with back pain. If there are several things that can occur at the same time, then the algorithm is useless. When one thing is treated at a time, the results are predictably poor.

The great experiment has failed. Injections, surgery and other means of treatment in back pain care have all failed. (4) Cochrane Database review from 2008 shows that there is insufficient evidence to support the use of injection therapy in low back pain. Facet joints alone were shown to have poor results. Sacroiliac joint injections alone were shown to have worse results. Epidurals were shown to be largely ineffective. It is not the procedures that are ineffective, but the application of the procedures. If you are doing tests based on an algorithm, you are on a fishing expedition and poor results are expected. As these studies have come out, increasingly saying that the current algorithm doesn't work, the insurance companies are left with having to pay for the only treatments that we have but have been shown not to work effectively. So, they did what they have always done, get the best experts together and create a set of guidelines that have to be followed precisely to ensure that every fishing expedition is limited. They also have set up as many roadblocks as possible to put off procedures for at least 6 weeks so that a patient can get better on their own before being put into the algorithm. More studies are commissioned, but it is always more studies of the current system. The answer is simple, but very few see it. The Back Letter, an industry magazine for doctors who work with back pain, in the April 2013 issue (6), had an editorial talking

about a recent Global Burden of Disease study (5) that found that back pain was the single most disabling “disease” worldwide, and we are no closer to finding a solution than we were years ago. Dr. Aage Indahl is quoted as saying, “We’ve been wandering in the wilderness for forty years, and we have nothing to show for it.” Dr. Indahl advises, “let’s get crazy. We need crazy ideas.” But crazy ideas are not supported in this environment. We need to begin with this crazy idea. Tear everything down and begin again. Back pain doctors need to become experts at history and physical exam. Experts at reading our own MRI’s, influencers in rehab, mental health, functional medicine, etc. Other branches of medicine need to combine together and fight to improve this debacle of human suffering. They will then find that the injections do work when they are an extension of care, MRIs are helpful when they are used to confirm rather than diagnose, physical therapy should be a cornerstone of treatment not another option, and some people do need spinal fusion and other spine surgeries. Chiropractors, massage therapists, accupunturists, psychologists, nutritionists, fascia release experts and others are all part of a complex puzzle. A puzzle that can only be figured out when we go 1800’s on it. Let’s get back to the basics and grow into the tests... like everyone else did. So let’s all follow where this leads and see if we can Get Crazy.

### **(end of whiteboard) Commentary by me, possible a video headshot**

My indictment of the back pain field is not an ending, but a beginning. In my website, blogs, and podcasts, we will attempt to break this down even further and then build it back up in the way that I feel it needs to be built. A bold strategy that will earn me much heartache and misplaced ridicule. This effort will inherently offend those that I wish to partner with. My intent is to praise, cajole, prod,

and poke back pain physicians, insurance companies, researchers and others in this field. I hope to inspire, educate, and lead if necessary in this path to a new understanding of back pain care. Years from now, I hope that I can look back at this video and realize the ignorance from where I was when it was delivered because if I can, it will mean that we have come so far and helped so many people that the effort was worth all the discomfort.

1. MRI findings in the lumbar spines of asymptomatic elite Junior tennis players: G Rajeswaran et al. *skeletal radiology* 43(7) April 2014
2. Magnetic resonance imaging of the lumbar spine and people without back pain: Maureen c. Jensen et al. *New England Journal of Medicine* July 1994: 331:69-73
3. *Crooked: Outwitting the Back Pain Industry and Getting on the road to recovery*, Cathryn Jakobson Ramin. HarperCollins 2017
4. Injection therapy for subacute and chronic low-back pain. *Cochrane Database Syst Rev.* 2008 Jul 16;(3):CD001824. doi: 10.1002/14651858.CD001824.pub3.  
Staal JB1, de Bie R, de Vet HC, Hildebrandt J, Nelemans P.
5. Eur Spine J. 2018 Sep;27(Suppl 6):796-801. doi: 10.1007/s00586-017-5432-9. Epub 2018 Feb 26.The Global Spine Care Initiative: a summary of the global burden of low back and neck pain studies.Hurwitz EL1, Randhawa K2,3, Yu H2,3, Côté P2,3, Haldeman S4,5,6
6. Is Creativity in Back Pain Research in Short Supply? Is Genius Extinct?The Back Letter. 28(4):41, April 2013.
7. Care for low back pain: can health systems deliver? A Traeger et al: *Bulletin of the World Health Organization*: 30 April 2019