



Dr. David Hanscom

## **An Evidence-Based Approach to the Effectiveness of Surgery**

An interview with Ian Harris, M.D.  
on Back in Control Radio with Dr. David Hanscom

Podcast Date: May 29, 2019  
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Tom: Hello everybody and welcome to another episode of Back in Control radio with Dr. David Hanscom. David, welcome.

David: Thank you, Tom. We have a very special guest today, Dr. Ian Harris from Sydney, Australia. We'll let him introduce himself because he has a CV that's about 25 or 30 pages long—he is a very accomplished person, very conscientious, and very well intentioned in his work. I met Dr. Harris after reading and being impressed by his book, 'Surgery, the Ultimate Placebo.'

In talking with Dr. Harris, I learned that he has really spent a remarkable amount of time in many medical fields, not just orthopedics, looking at the different procedures that have been documented to be ineffective, yet we still keep performing them. In my new book out this fall titled, *Do You Really Need Spine Surgery?* I focus on the issue of continuing to perform ineffective procedures in the specific area of spinal surgery. As he goes into all the variables that affect surgical outcomes, Dr. Harris will talk about startling data I have also noted, in a paper\* out of Baltimore, showing that only 10% of spine surgeons are acknowledging the data on ineffective procedures before they recommend doing spine surgery. I'd like to welcome back Dr. Ian Harris. Ian, thanks for being on the show and if you could tell us a bit about what you're doing, we would appreciate it.

Dr. Harris: Well, first of all, thanks for having me. Yes. So I'm an orthopedic surgeon in practice in Sydney, Australia, but also as my career progresses, I'm becoming more and more of an academic and a researcher. I was a spine surgeon and I'm still a general orthopedic surgeon, but the majority of my time now is taken up by doing research, looking mainly into the effectiveness of surgery or the lack thereof. So I'll do systematic reviews, randomized trials, and we're even starting to do some placebo surgery trials here in Australia.

David: Your research seems quite unique to me. Is there anybody else in the world that is focused on this, as you are, about the effectiveness or ineffectiveness of different procedures?

Dr. Harris: Yes, there are. There's a fairly vibrant group of researchers worldwide who are starting to do this more *high quality* scientific study of surgery. So, for things like placebo controlled trials, I would say there's a handful of them in Scandinavia and the UK, a little bit in Canada, and interest from many other countries, including the US—but not much in the way of placebo surgery trials coming out of there recently, although there have been, of course, in the past.

David: Your perspective and focus are still quite unusual. As a surgeon who really believes that most surgery should *not* be performed, you know that when surgery needs to be done, and is done correctly, it works beautifully.

Ian, you were a spine surgeon and like me, I'm sure you were relatively aggressive in performing surgery because you thought it was the right thing to do. You're trained that way, you feel good about being proactive for your patient. And I actually, early in my

career I felt guilty, really felt guilty if couldn't find a reason to perform surgery. Because I felt I was the last hope, and I had to give the answer. So I'm really curious. I know my journey pretty well. I think most of my audience does, too. But I'm really curious, from your perspective, how you went from being an active spine surgeon into taking a more research-based approach, and starting to question what you were doing.

Dr. Harris: I guess my eyes were opened when I started to get into academia. I did a Masters of Clinical Epidemiology, or Evidence Based Medicine, and I followed that up with a PHD in Surgical Outcomes. And I started to see that the real way to determine effectiveness was to test things in a proper scientific manner. And that up until now, the way I was determining effectiveness, and the way my surgical colleagues were determining effectiveness, was basically seeing if their patients felt better afterwards. *And you soon realize that what we see as correlation we are assuming is causation.*

So, if I did back fusions on people with back pain and they were coming back sometime later saying they felt better, I was assuming it was because I had fused their back, but we now know that it's probably a lot of other things. It could have been the physiotherapy they had, it could have been just time itself, and unless you have a proper control group, you don't know whether the surgery you're doing is really effective at all. This really came to light in the field of knee surgery where, as you know, knee arthroscopy was, and still may be, the most common procedure done in orthopedics in the world. It's done on a lot of degenerative worn out knees, and we found out that it was not effective. There have been several placebo studies showing that the patients are no better off by undergoing arthroscopy than by taking a placebo.

David: Right. And with the arthroscopy course of treatment—I mean it's expensive. There are some rules to it, but it's not nearly as risky as some of the bigger operations, or like cardiac surgery and spine surgery. I want to drill down on spine surgery in a big way in the second part of the interview, but I'm still curious that how many, just ballpark, how many procedures have you looked at that you have documented to be basically ineffective and just give us a sample list of maybe five or eight of those. Just list them. I'm just curious what you have found that simply doesn't work.

Dr. Harris: In the field of orthopedics I haven't done most of the research. I just, you know, review research that other people have done. But my particular area is trauma, so fractures and in the spine we review the evidence on fixing spine fractures and this is something that I thought was completely necessary. I did a fellowship in the states and came back, you know, very keen to fuse all of the burst fractures, which are the most common type of spine fracture that we see. Thinking that they all needed it. But when you look at the literature and you look at the studies that compare treating it with surgery to treating it without surgery, there's really no difference except that the surgical treatment costs a lot more, and it's associated with more complications—a real eye-opener for me.

David: Well, what about in other fields? You did some work in cardiac surgery.

Dr. Harris: Probably the big one in cardiac procedures would be cardiac stenting. I mean, that is absolutely an epidemic. There are so many cardiac stents done and yet study after study, older studies and now more recent studies just published in the last year or two,

have shown that cardiac stenting for a narrowed coronary artery, not in the presence of a heart attack, in the presence of what we call stable angina, is no better than *not* stenting. And this has been shown over and over. I know examples where people go to get their heart tested, they have an angiogram that shows a narrowing and immediately the cardiologist says, well, we need to open up the narrowing.

And that kind of makes intuitive sense. It's very difficult to argue with that kind of logic. But when you think about it quite hard, it's kind of like, well, it doesn't necessarily make sense. There are other things at play, and certainly the studies have shown that *if you open up the artery or if you don't open up the artery, it doesn't make any difference at all to their future risk of heart attack or death.*

David: Wow. And of course all these procedures, with a stent, you're putting a catheter up into the body. Catheters break, they go into the wrong part, and as you well know, nobody that undergoes surgery expects to have a complication, otherwise it wouldn't be a complication—right? And so there's such a casual approach to the complications that can happen to people.

When it does happen, it's pretty devastating, to put a mildly, especially when you know you had a choice about it. When I see a patient who really had a choice of others doing semi-elective surgery\* they end up with a significant complication. They're pretty frustrated. That would be the understatement. They're pretty frustrated with what happened—particularly at themselves from making that decision in the first place.

I just want to touch on total knees for a second, in light of some data coming out now. When I was a resident 30+ years ago, we weren't putting total joints in people less than 70 years old. Almost empirically, we felt there was too much risk of loosening. As time went on, they were done in increasingly younger, active patients. Now the literature, knee replacement literature particularly, reflects that younger patients in their fifties and sixties getting knee replacements aren't that happy. Is that true?

Dr. Harris: Yes. The case of total knee replacements is an interesting one because historically it came along a little later than total hip replacement. And total hip replacement was, and is, a very successful operation. The satisfaction rates are very high in the order of sort of 95%, and it works very well for an arthritic hip. So that was sort of applied to the knee. But for whatever reason, the satisfaction rates have never been as high for knee replacement and they sit often around 80% so you get around 20% of people who are not satisfied with the results of the knee replacement, which is a fairly high number.

David: Right.

Dr. Harris: And the difficulty is determining why that is. Is it because it's being overdone? Certainly there's a lot of variation in the rates of surgery. When you compare, for example, Organisation for Economic Co-operation and Development (OECD) countries you can see that the US and Australia have very high rates of knee replacement compared to other European countries, Canada and New Zealand, and similar countries that really shouldn't have a wildly different rate of surgery.

David: Right. Well, it's interesting, after I wrote a couple of papers about this, several people said to me that they didn't realize this. I was trained, like all orthopedic surgeons, that when you have bone on bone arthritis, you just fix it. That's just what you do. Right? There are two papers that were very nicely done that show that the *severity of arthritis did not correlate with the severity of the pain*. In other words, people with bone on bone arthritis often would not have pain. In fact, people with the most pain often had minimal arthritis. *The correlation to severity of arthritis was very low, but they actually found out it **did** correlate with a simple five point stress scale\**. So if they're under stress, knees hurt. Actually it was for knees, hips, and total shoulders.

Going back to the cardiac stent thing, what struck me is that you have a narrowing of the coronary artery. It seems normal that you should, or seems logical you should go ahead and open it back up. And with spinal stenosis, I just have people picture the narrow part of an hour glass, and a combination of bones, ligaments, and disc material squeezing in on the spinal nerves. The normal spinal canal is only about 15 millimeters in diameter, and usually at around eight or nine millimeters, people start getting symptoms in their legs. There is an operation in which they open it up called a laminotomy or laminectomy, and people generally do pretty darn well.

A few years ago, I started to notice that when we did the *Prehab* focusing on sleep, stress, and exercise as we prepped the patient for surgery, we had patients return for their final pre-surgery visit and report that their pain was gone, and they cancelled surgery. I was already quite conservative, but then all these surgical patients started canceling their surgery! My conversion rates of surgery dropped down to about four and a half percent. I honestly could not make a living doing elective surgery. Even with spinal stenosis surgery (and I believe they would've done well and been fine) they didn't want it or need it because their pain disappeared. Have you made that observation in your practice, or has that been talked about in the Australian world?

Dr. Harris: That's a really a good question about spinal stenosis. Because if you ask spinal surgeons, and you correct me if I'm wrong, but if you said to a group of spinal surgeons, what's probably one of the most effective operations that you do, and they'll probably say taking out a massive disc or doing a laminectomy for lumbar spinal stenosis. That's really bread and butter. Everybody sees that as a really effective operation. Now, when you look at the evidence for it, it isn't that clear. People will think 100% of patients with spinal stenosis get better with surgery, and that no one will get better without surgery. And when you start looking at the high quality comparative studies, you're kind of like, oh hang on a minute. Only about 60% of patients are getting better with surgery, and 45% are getting better without surgery. This is not a huge difference. *And so we're actually doing a placebo study of lumbar spine decompression for lumbar spine stenosis.*

David: I'm embarrassed that I didn't publish this paper. We actually collected the data, but I retired before I published the paper. One of my Fellows collected the data. We had 120 patients. We excluded soft disc ruptures, all these patients had radiculopathy or trouble walking called neurogenic claudication.

Dr. Harris: How did you treat them?

David: You're familiar with my book ***Back In Control, A Surgeon's Roadmap Out of Chronic Pain***. The first thing we dealt with was sleep. And the data shows really clearly that if you deprive that person of one night's sleep, their pain threshold experimentally changes dramatically. That study out of Israel showed that lack of sleep actually *induces* chronic pain. So sleep is our number one. And then we just dealt with stress and what would happen, we realized that people with spine stenosis have had the stenosis for years.

They presented with these old findings, but something changed. And invariably when we talked to these people just a little bit, we found that they were undergoing severe, even extreme life stresses, and we would just wait it out with them, help them get them some assistance. And once you got past the situational stress, pain disappeared. *Stress changes the body's chemistry and changes the pain threshold.*

So we find patients benefit from just a combination of medication management, supporting them, and especially understanding that the family issues—the situational issues—really cause flare ups in pre-existing conditions.

Dr. Harris: Yeah, that is interesting because, I think, and that's what is really eye opening—when you look at these operations that we were trained to do, and we've been doing for years, and suddenly you turn around and you think, wow, I think it's probably not needed. And that's difficult, I think for the lay person, for the patient to understand. It is very difficult for them not to say, *'hang on a minute, you've got an operation, a surgical procedure that people all over the world are performing, and have been performing for years, that doesn't work? I mean, it doesn't make any sense. It must work.'*

David: Right. Well also, as you know, as you go along in your surgical career, complications happen. I had a patient develop *E. coli* sepsis from slight urinary retention after laminectomy. She died. I'll never forget that. As you know, over time, a surgeon realizes how real complications are. How devastating they are. And I think most surgeons, as they go through their careers, start to become more conservative anyway.

Dr. Harris: Yes.

David: As you pointed out, after years of experience in spine surgery with spinal fusion procedures, and using arthroscopy for diagnosis and treatment for degenerative knees, the data says these procedures don't work. Why do you think medicine keeps ignoring the data?

Dr. Harris: You're asking all the right questions. Well, there are many reasons, but one reason that I am trying to tackle in my work is the lack of understanding of science. There's a lack of exposure to science in the public, but there's also a lack of an understanding of science by surgeons themselves. They do not understand the biases and logical fallacies that they fall into when they are trying to determine the effectiveness of an operation.

As I said before, we know that performing knee arthroscopy for degenerative knees just doesn't work. The degenerative knees have very fluctuant symptoms where it will be very painful for a while, then it won't be too bad for a couple of months, then it'll be bad

for a week and then good for a year. It's all over the place. So if you see a patient who's particularly bad with their knee arthritis flaring up for the last week or two, you know that patient's going to get better. That patient isn't going to live life with this flare up.

And so what happens is we see them during the flare up, we operate on them, and then we see them sometime later. It could be a couple of weeks later or a couple of months later. And when they're finally back to where they were before, or their symptoms have improved, we physicians believe that those symptoms have improved because of what we did. Would they have improved anyway? This may be a natural thing to think, but it's not a scientific way of thinking. *A lot of surgeons just say, well look, my patients get better, and that's how I know it works.*

I'll give you one example, which I think is a good one. Just a few weeks ago I was speaking at a spine conference in Melbourne, and they asked me to talk about whether lumbar spine stenosis surgery is effective or not, and do we need to do a placebo trial? So I gave the evidence and I said, look, I don't think the evidence is very strong that this is really an effective operation, and we need to do tests to find out if it is. The rebuttal came from a young spine surgeon who got up and said, *"We know that this procedure is effective. We don't need to test it anymore. We all know it's effective and this is how we know."* And then he showed a slide of a thank you card from a patient, and that, to me, just summed it all up. You know, this is not a way of knowing things. This is not a way of determining effectiveness, and he just doesn't understand that.

David: No. Well, let me tell you another quick story. It's on my website. It's called, *Synovial Cyst Resolving*. I had a woman with a large synovial cyst, which is a benign growth within the spine. It was very tight pushing on the nerves to her legs. I saw her once and offered her surgery, but I also told her that we have a process—a structured program—to calm down the nervous system. I offered her information on that option and she disappeared. Eight months later, I got this beautiful letter thanking me for not doing the surgery. She was fine. Huge, huge synovial cyst, structural problem. So, same thing as the letter your surgeon got except thanking the doctor for NOT doing surgery—but you're right, that is not a good way of practicing medicine.

I'd like to close by briefly discussing some of the financial incentives that we are dealing with in modern medicine, particularly in the United States. There's a saying that if the judge and the executioner are the same person, nary a neck would be spared, and right now surgeons make about 80% of their income from surgery. Yet, as I mentioned earlier, only 10% of surgeons are acknowledging the data and the variables that affect outcomes—only 10%.

As you also know, many surgeons make the decision to do surgery on the first visit. They don't know the patient. They don't really know what's going on in that person's life. They don't know the patient's state of body chemistry. They know nothing, and without belaboring the point too much, I think that's a conflict that is not solvable unless the whole structure of how we pay doctors is changed. I think it is that serious a problem.

Dr. Harris: It is, and people often raise this. I will admit, I often don't talk much about the financial incentive, and I didn't mention it much in my book, but I agree it does play a role. We

see it as an issue because we know when we change the financial incentives, the operations change accordingly. And we know that the rates of surgery in countries like the US and Germany where surgeons are paid handsomely for operating on people, the operation rates are the highest in the world. And in countries that have a nationalized or public health system like Canada and the UK, the rates are some of the lowest in the world. So, you know, where's the truth? You know, is it somewhere in between? Either way, someone's wrong here.

David: At the end of the day, I think the only way to solve this problem is to say that the surgeon *can't* be the one to make that *final decision* about whether or not to go to surgery. You're putting the patient at risk, you're using society's resources, and in spine surgery particularly, the risks are pretty horrendous—especially now that we're doing bigger operations, and it's really a huge problem.

I'll close this part of our discussion with the recent news in which we're finding out that probably 70% of all U.S. healthcare dollars are going to administrators. It's become a horrendous problem; they're pushing us to be more and more productive and pushing procedures geared towards people that have insurance which will pay for the procedure even if it is now known to be ineffective. *It's really out of control when one of the risk factors for undergoing unnecessary surgery is having good insurance.* People feel safe having insurance, but that's actually not totally true.

Dr. Harris: Yes.

David: We're talking specifically about spine surgery in the second half of this discussion next week, but any particular final thoughts as far as just the general flavor of the world of procedures?

Dr. Harris: No, I think we've covered it really well. I think you asked the best questions, so I'll leave it at that.

David: Well, thank you very much, and we'll be talking to Dr. Harris next week specifically about spine surgery.

Tom: David and Ian, thank you for joining us. I want to remind our listeners to return next week for another episode of **Back in Control Radio** with Dr. David Hanscom. Please visit the website at [www.backincontrol.com](http://www.backincontrol.com).

Thanks for listening today, and join us next week for **Back in Control Radio**.

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\***Semi-elective surgery** is a surgery that must be done to preserve the patient's life, but does not need to be performed immediately.

**Note:** The original transcript of this episode of Back in Control Radio with Dr. David Hanscom has been edited for readability