TRAGIC LEGACY

Jane Tolerton on the compelling truth behind three Anzac tales

NEW ZEALAND LISTENER

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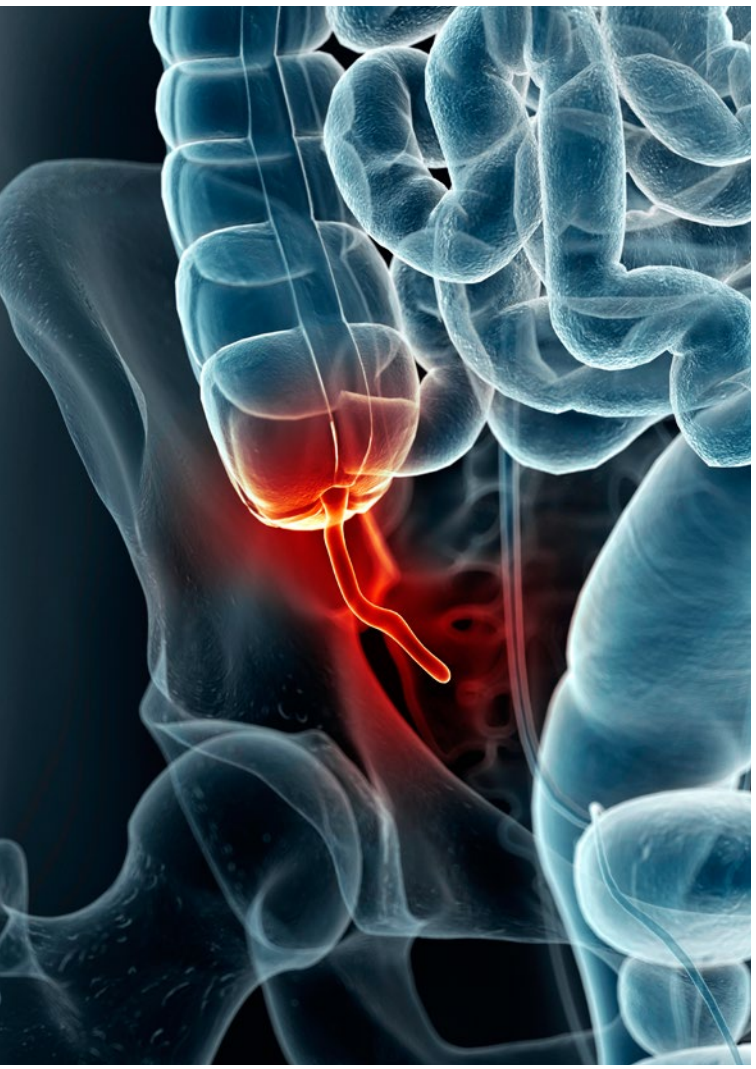
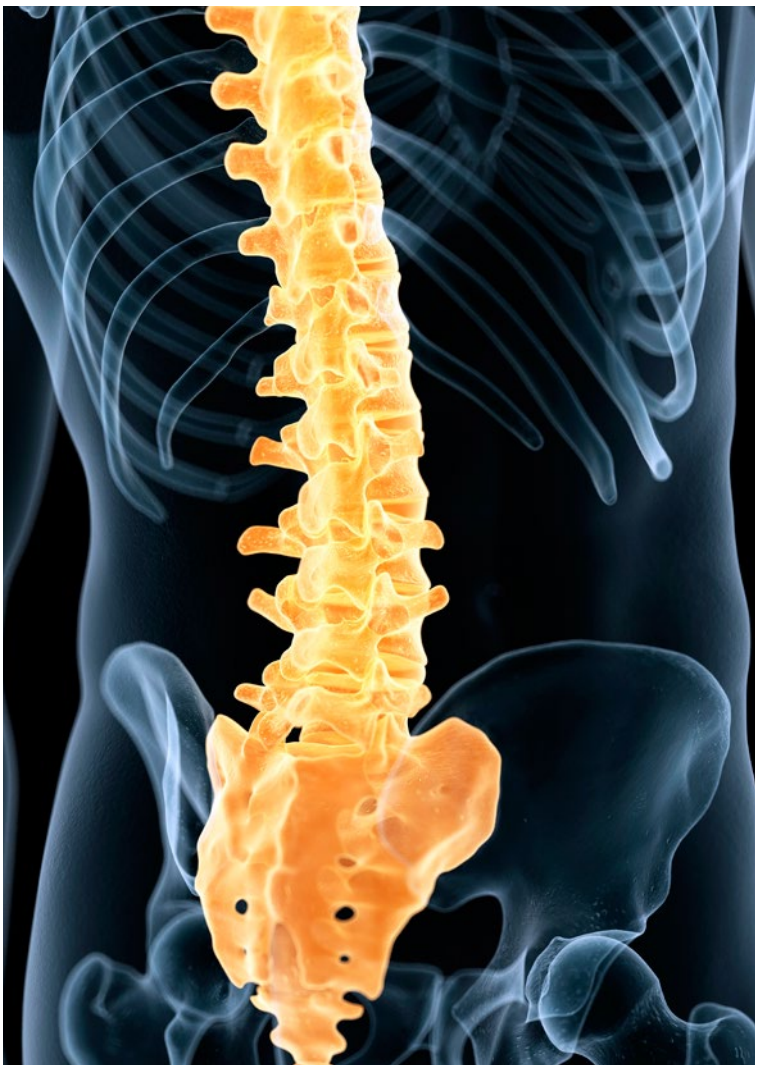




Cutting throug

A top orthopaedic surgeon believes millions of healthcare dollars are wasted on operations that may not work.

by DONNA CHISHOLM

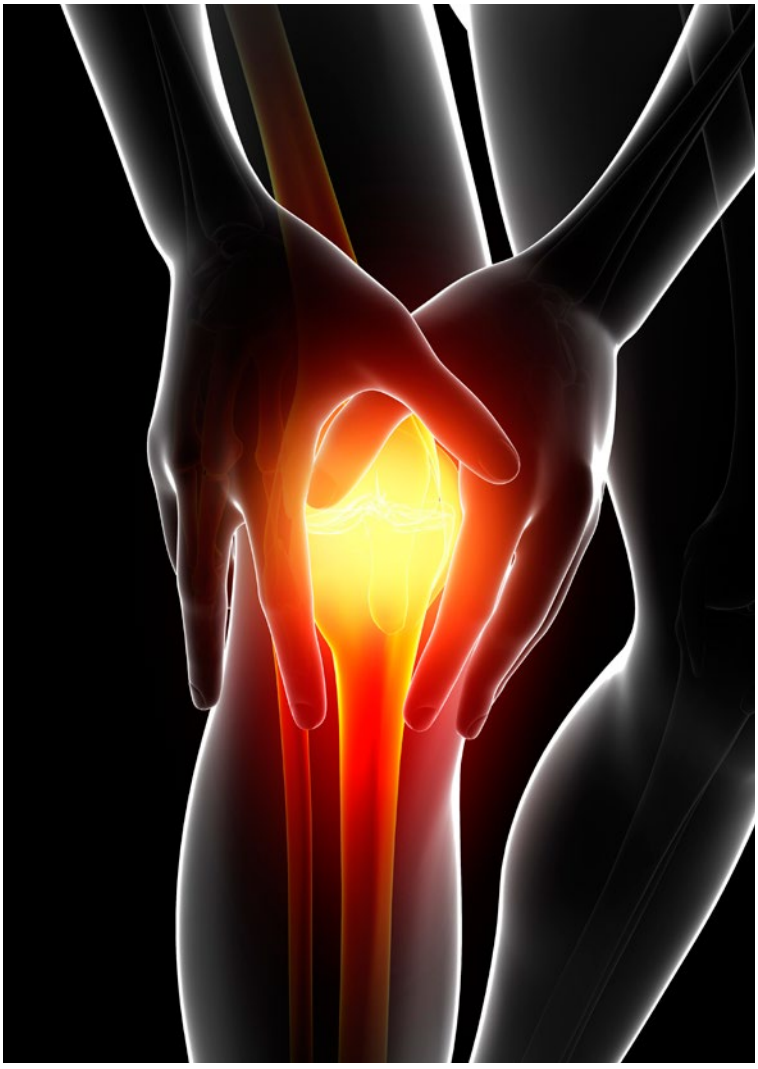
For a doctor who's taking a metaphorical scalpel to the operating decisions of his colleagues, it's surprising Sydney orthopaedic surgeon Ian Harris doesn't have a target on his forehead.

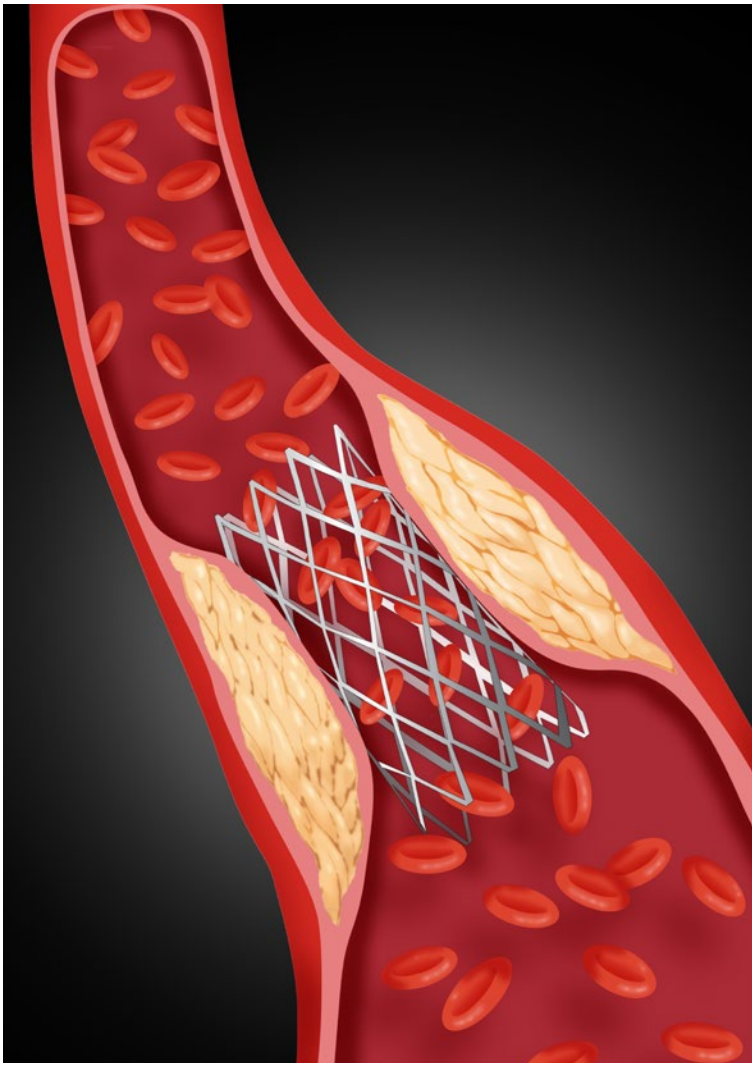
In the past few months, Harris has been spreading the seedier secrets of the surgical world, chief among them that thousands of operations commonly performed in hospitals everywhere don't actually work.

Harris is not suggesting your surgeon necessarily knows this before he or she takes a knife to your knee, your spine or your belly, but says that the evidence that some operations are effective is lacking and many may be no better than placebo – or doing nothing.

In his new book, *Surgery, The Ultimate Placebo*, Harris lists a range of operations as "today's placebo surgeries", saying their effectiveness is "under question". They include spinal fusion for back pain, knee arthroscopy, coronary stenting, some shoulder surgery and appendix removal, laparoscopy for bowel adhesions and repairs of ruptured tendons and some fractures.

Procedures that are useful in certain cases are overused in others – he puts hysterectomy and caesarean sections in this category, pointing out wide variations in





h the evidence

rates of the operations between hospitals, states and countries.

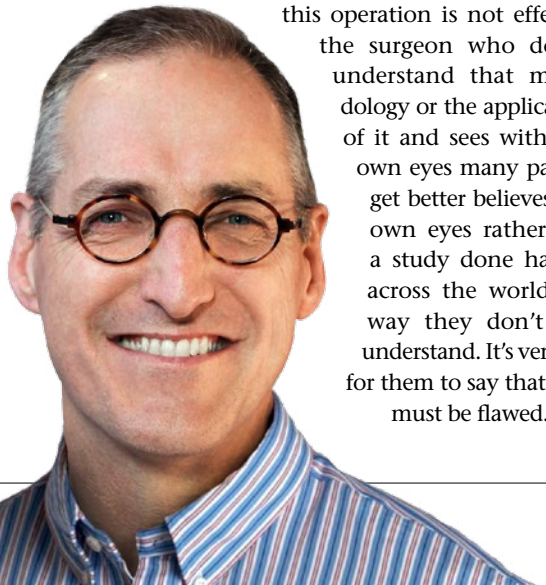
He says an absence of evidence that the operations are better than doing nothing allows surgeons to do procedures that have always been done, those that their mentors taught them to do and that everyone else is doing. And that, he says, is just not good enough.

"Surgeons do procedures that are not effective because they believe them to be effective. Their objective evaluation of the operation, and their understanding of the science, is not what it should be," he tells the *Listener* from the Sydney orthopaedic research centre he directs.

"People recognise there are problems, that we are overtreating, that the science isn't that good and things need to be cleaned up."

– surgeon Ian Harris

"If there is a high-quality study that says this operation is not effective, the surgeon who doesn't understand that methodology or the applicability of it and sees with their own eyes many patients get better believes their own eyes rather than a study done halfway across the world in a way they don't fully understand. It's very easy for them to say that study must be flawed."



GETTY IMAGES

IAN HARRIS COLLECTION

Ian Harris: "Surgeons do procedures that are not effective because they believe them to be effective."

He says in many cases the evidence for effectiveness is conflicting.

"When this happens, we find the likelihood of the procedure being performed is based on availability and perceptions of the surgeon and the patient regarding the likely effectiveness."

You might expect Harris' colleagues to be unhappy about him spreading this message of surgical waste and making a direct assault on their bottom line, but he says their response has been positive.

"People recognise there are problems out there, that we are overtreating, that the science isn't that good and things need to be cleaned up."

Somewhat surprisingly, Harris doesn't touch on one of the most contentious operations of all – ACL (anterior cruciate ligament) reconstructions on the knee.

"My take is there is definitely a role for them, but that they're overdone. It's useful in patients who have severe or symptomatic instability who cannot do what they want to do, despite physiotherapy and non-operative treatment.

"The problem is what often happens is that anybody with a torn ligament gets a reconstruction regardless of whether they're one of those patients who can't cope without it. They don't get the chance to try."

"To someone with a hammer, everything is a nail, and we jokingly sometimes talk about our orthopaedic colleagues like that, quite unfairly."

ONLY DOING THINGS THAT WORK

The book is being welcomed here, and although several influential surgical leaders disagree with some of Harris' "don't do" list of operations, they support its basic arguments.

The Health Quality and Safety Commission chair, Auckland anaesthetist Professor Alan Merry, accepts some operations are being done "just for the sake of doing something" for patients who are having ongoing problems.

"There is a widespread expectation that the fact a patient is in pain or otherwise suffering is a reason to do something. That's actually not logical. The reason to do something is because there is an expectation that what you are going to do will help."

But evidence-based medicine doesn't necessarily mean a randomised controlled trial is required as proof of a procedure's worth. "You can't answer all questions in medicine with these trials. It's not possible or affordable to do so. You need to operate on the basis of the best evidence available and that comes from multiple sources."

Doing only the things that work is the key to affordability in the health system, Merry says.

"There is a debate that says medicine is unaffordable because of progress. Everything becomes more expensive and you can't keep up … the newer stuff comes out with a hiss and a roar and everyone wants it and five years later you find it doesn't really

Ian Civil says surgery is not as "precise, accurate and as guaranteed as … people can imagine".

work and you've done bad things. There are lots of examples of that. If we give people only what we have good reason to believe works, and what really aligns with what they need and want, medicine is affordable."

He says each of the operations Harris lists has a place. "It's not true there is no place for any of them. There's not one operation there that I would say there is never an indication for, but I would say they are often overdone."

Auckland professor of surgery Ian Civil, chair of the commission's Safe Surgery NZ, says one of the concerns GPs have about sending patients to a surgeon is that it then commits them to an operation. "It's that classic quote, to someone with a hammer, everything is a nail, and we jokingly sometimes talk about our orthopaedic colleagues like that, quite unfairly."

He says he twice consulted a spinal surgeon for back and neck problems that were making him "miserable". "He said go home, take a few anti-inflammatories and it'll be completely better in six months."

Surgeons sometimes did get pressure from patients to do something "but we should never feel forced to operate just because a patient insists. That's the time when you say, 'I think you should get a second opinion, but I don't think it's the right time for your operation.'"

Some operations have fallen out of favour as new evidence emerges. For example, surgeons used to operate on 5cm aortic aneurysms. "We now realise they have to be much bigger before they pose any particular risk."

Surgeons sometimes get pressure from patients to do something "but we should never feel forced to operate just because a patient insists."

Because New Zealand was "resource constrained", valueless operations were less likely, but patients could also be educated to ask the right questions. "'If I have this operation, will I be more likely to be better in five years than if I didn't have it', and 'What are the chances I'll be worse', are great questions."

Financial incentives for surgeons can be a small driver for less effective surgery "but not for people who are busy anyway".

Civil says it's worth remembering the famous Voltaire quote that the art of medicine consists of amusing the patient while nature cures the disease.

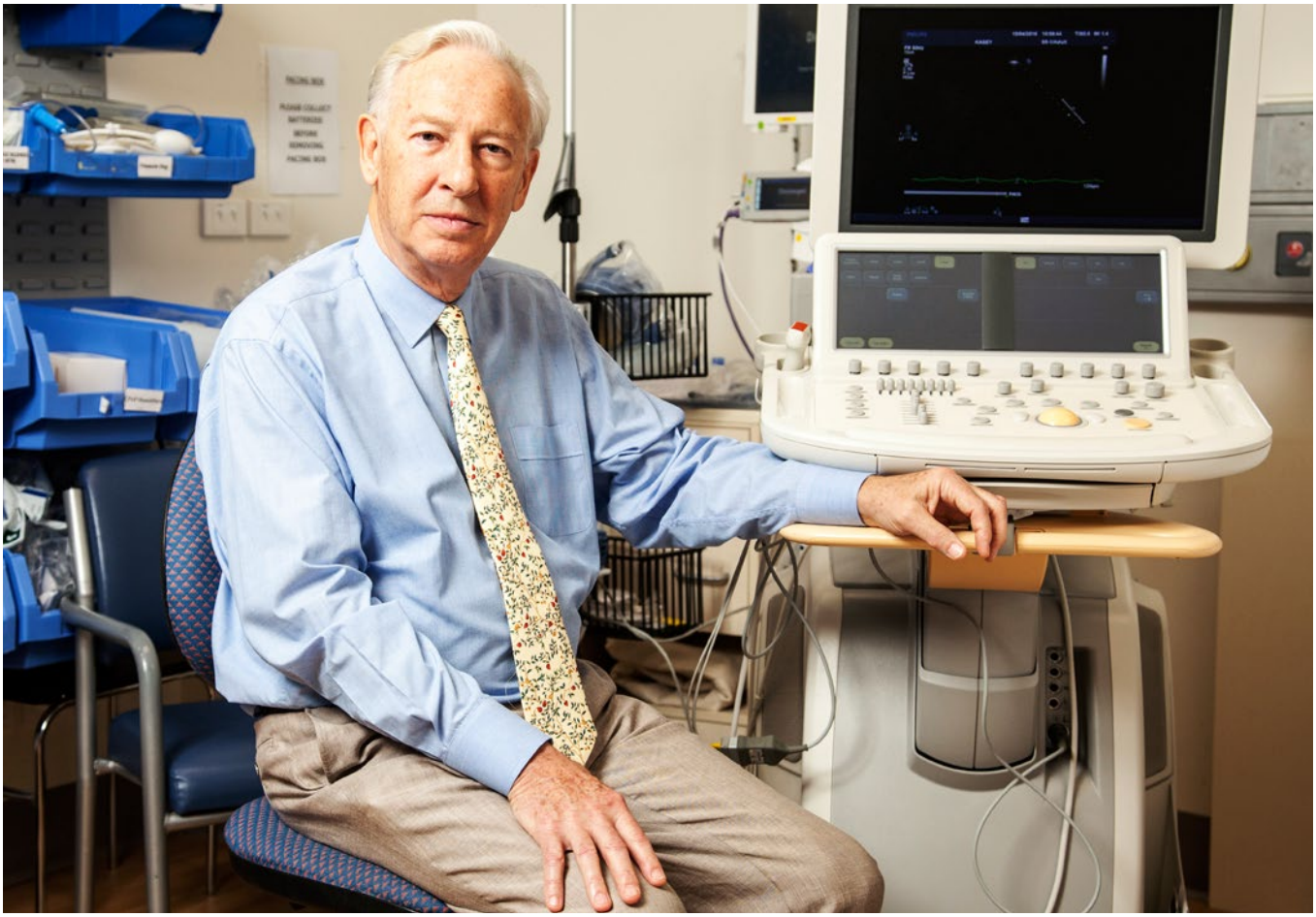
"In today's technical medical world, we can get very carried away with the perfectness of medicine, with the precision of it, the accuracy, with its ability to achieve appropriate outcomes," he says. "At times there are fantastic outcomes, but it's not as precise, as accurate and as guaranteed as sometimes naive people can imagine."

So which common operations feature on Harris' hit-list and what do our own experts think?

SPINAL FUSION

This procedure, which gets two neighbouring vertebrae to heal or weld together, is

KEN DOWNIE



KEN DOWNIE

Cardiologist Harvey White doesn't believe that stenting operations are worthless.

commonly done for wear and tear or arthritis in the lumbar spine.

Harris says there's little evidence that fusion for back pain is effective, it's very expensive (the implants alone can cost tens of thousands of dollars in each case) and there are often complications requiring further surgery. He says evidence of several randomised clinical trials comparing the surgery to non-operative treatment for back pain shows the surgery might achieve its results through the placebo effect – patients think they're better because the operation has been done, not because the operation itself has worked. But, he warns, spinal surgery is not just a sugar pill – it's much more dangerous. "The onus is on doctors to prove that spine fusion for back pain is better than placebo before subjecting so many people to the risks of such major surgery."

The *Listener* sent Harris a list of conditions for which some New Zealand surgeons are promoting the use of spinal surgery as an effective treatment, including fractured vertebrae and spinal instability, and asked if he thought those procedures weren't effective either. He said fusion for fractures is also overdone, although it may be useful for severe fractures and dislocations.

"The indication of instability is commonly used, but the evidence for this is not clear. Surgeons have generated criteria where they deem a spine to be unstable, and use this for surgery, yet they have not shown surgery is better than non-operative treatments."

"He is not sitting in front of a patient who's saying 'What are you going to do to make my life better, because my life is hell.'"

Harris says he used to do spinal fusions for degenerative back conditions, but stopped 10 years ago.

Auckland spinal surgeon Peter Robertson, a past-president of the Spine Society, says when he fuses a spine for back pain, the patient has already tried and failed with non-operative treatments, including physiotherapy, exercises and medication.

"He's correct that most back problems are self-limiting. Very few people get to the point where they need surgery for back pain. But if they're a year down the line, they are disabled in terms of their daily living and they need reasonably constant medication, it warrants us doing something if we can. If we can see on an X-ray or an MRI that everything appears normal apart from one disc space that has collapsed, you make an assumption that that is the problem and say, if we stabilise that, we have a good chance of improving your pain."

But Robertson says he wouldn't operate on people whose scans showed wear and tear at a number of levels of the spine because it would be impossible to know where the source of the pain was. "We don't have a pain scan."

He does about 10 spinal fusions for back pain a year, but says he would advise many more patients not to have surgery. "Saying no is hard work; it can be very hard work."

Patients who have surgery must be told results can be unpredictable, it doesn't make

Peter Robertson does 10 spinal fusions a year, but advises many more patients not to have surgery.

the spine normal, and there may be consequences in terms of the risk of needing further surgery.

"An awful lot of orthopaedic surgeons don't want to do spinal surgery because of these difficult patients. The patients say, 'I've had one or two years of misery and no doctor has been able to help me. I'm 40. I'm in the most productive part of my life but my job is threatened or gone, my relationship is threatened or gone, my activity with the kids is gone.' He (Harris) is not seeing it from that point of view. Someone has to look after these people. Like many scientists, he is not sitting in front of a patient who's saying, 'What are you going to do to make my life better, because my life is hell.'"

Robertson points out that patients in trials that randomly assigned them to groups for surgery or non-surgery usually had less pain and disability than patients who refused to be randomised because they didn't want to risk missing out on an operation. This meant the trial patients who had no surgery were more likely to have better results.

"He has a valid perspective, that we should always be questioning what we do and whether it is to the patient's benefit, but some of the ways he is asking us to do that are not realistic when you are dealing with people with severe pain and disability."

Trials were easier with medicines. "You can stop taking the pill, you can change the pill. You can't do that with surgery. You can't undo the operation."

There were 1250 publicly funded spinal fusion operations here in 2012-13, the latest Health Ministry figures show, and last year, the country's largest private funder, Southern Cross, spent $17 million on more than 430 of the operations, an average of nearly $40,000 each, whereas the Accident Compensation Corporation spent $24 million on more than 800 operations.

"You can stop taking the pill, you can change the pill. You can't do that with surgery. You can't undo the operation."

KNEE ARTHROSCOPY

Keyhole surgery on the knee is one of the most common orthopaedic operations. But Harris says a sham surgery study of arthroscopy in patients with knee pain and osteoarthritis showed no difference in outcomes between those who had an arthroscopy and patients who were given incisions only and no actual operation on the joint. Likewise, a placebo-controlled trial in 2013 comparing arthroscopy to sham surgery for patients with signs and symptoms of a meniscal tear in the knee also showed no difference in outcomes.

"The link between the presence of a meniscus tear and knee pain is not strong, and the link between taking it out and relieving pain is even more tenuous, but we continue to do this procedure in record numbers. You have to admit we surgeons are a dogged bunch," Harris writes.

"The bottom line is that if you have pain and degenerative changes in your knee – such as mild arthritis or an undisplaced meniscus tear – then regardless of the kind of symptoms you have, regardless of what

your X-rays look like, regardless of where the arthritis is, regardless of how bad your pain is and regardless of whether or not the MRI scans show your meniscus to be torn, and of whether or not you have an MRI at all, having an arthroscopy will not increase your chances of getting better, compared to a sham surgery. Believe me, I would love for arthroscopy to work – it's a great operation and pays well – but for arthritis and degenerative tears in the meniscus, which is most patients with pain, it doesn't."

Wanganui-based orthopaedic surgeon John van Dalen, president of the New Zealand Knee and Sports Society, says there's a difference between operations for degenerative tears in patients typically aged from 35 to 60, and for traumatic tears in younger people where arthroscopic surgery could be effective. (Public hospital figures show most knee arthroscopies are performed on patients between 35 and 60.)

Van Dalen says degenerative tears often don't cause symptoms and can be aggravated by a minor injury, or are found incidentally on an MRI scan. "Usually they will settle without arthroscopic intervention and despite imaging confirming a degenerative tear, most surgeons would not proceed with surgery."

The latest study will certainly make surgeons question the operation in patients with degenerative tears, he says, but it does not prove that arthroscopic surgery does not work. "It's a very powerful tool in the management of knee and other joint problems when used for the right indications."

The Knee Society had worked with the ACC to produce guidelines for arthroscopic surgery and this had helped curtail unnecessary operations. ACC alone spent $34 million on 7300 arthroscopies in 2015 and Southern Cross paid for nearly 1000.

CORONARY STENTS

Harris says the idea behind "revascularising" coronary arteries is very appealing.

"'My blood vessels were blocked and the doctor unblocked them' – It sounds good and seems hard to argue with, unless you look at it scientifically and ask the right questions."

He says debate continues over whether coronary artery grafts or angioplasties with stents have better outcomes, "but I am more interested in whether either of them is better than not doing them".

In his book, he says the best evidence is that there is no difference between the two methods when it comes to the chance of dying and "not much difference for anything else, except that you are more likely to need another 'revascularisation' with stenting. Even the newer, more expensive, drug-eluting stents, which contain drugs to reduce later blockages, do not confer an advantage over the old ones for keeping you alive or preventing a future heart attack," he writes.

For stable heart disease – not an acute attack – the largest and best-known study comparing stenting to not doing a stent showed no advantage to stenting in any of the outcomes measured – mortality, heart attack or hospitalisation. Even for acute coronary syndrome, such as a heart attack, a trial review showed no significant advantage in overall survival over five years for patients having routine angiography and stenting. "There are differences in many other things, but not the big one – the chance of dying."

Eminent Auckland cardiologist Professor Harvey White says in patients with heart attacks, stenting does reduce mortality, "so he's wrong about that", but he is correct that stenting doesn't prolong survival in people with chronic, stable angina and although patients should be told that, "and I do [tell them]", most "probably aren't told".

The US and Canadian Courage trial (clinical outcomes utilising revascularisation and aggressive drug evaluation), which involved nearly 2300 patients, found no difference in outcomes between patients who had aggressive medical therapy and those who received stents. "One of the messages from the trial is that you can do very well if you have good medical treatment – it's very important that you reduce bad cholesterol and control your blood pressure."

But he says there have been improvements in stents, and drug-eluting stents weren't used until the latter part of the Courage trial, in 2006. Methods for determining when to use stents by measuring blood flow across the artery blockage had also allowed better targeting of patients who might benefit from stents. "We have been stenting a number of narrowings that we don't need to and not stenting others that should be stented."

He says stents reduce angina and improve patients' quality of life, but that effect lasts for only six months. He still recommends stents for people with moderate to serious angina – symptoms that interfere with their quality of life, with minimal exertion, three or more times a week.

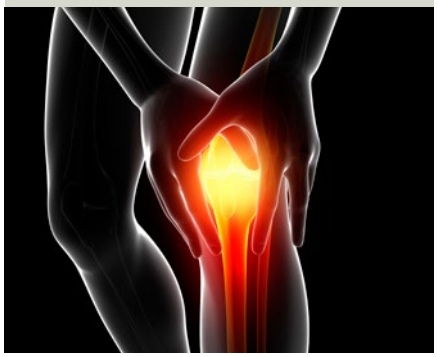
Stenting doesn't treat "non-narrowed" lesions, and he says these are the ones that are likely to cause cardiac trouble. "The way you treat those is getting the cholesterol out of them by lowering their LDL, (the so-called "bad" cholesterol). "I think if

There's a name for that

Patients who don't have an identifiable disease but still feel unwell usually get a label for their illness, depending on the specialist they see, says Ian Harris in *Surgery, the Ultimate Placebo*. "To me, this means the labels are likely to be wrong."

He says these are the labels various specialties may use when a diagnosis is unclear and include:

- **Gastroenterologist**: Irritable bowel syndrome or dyspepsia
- **Gynaecologist**: Chronic pelvic pain or premenstrual syndrome
- **Cardiologist**: Atypical chest pain
- **Rheumatologist**: Fibromyalgia
- **Respiratory physician**: Hyperventilation syndrome
- **Infectious diseases**: Chronic, post-viral fatigue syndrome
- **Neurologist**: Tension headache, migraine, restless leg syndrome
- **Dentist**: Temporomandibular joint dysfunction
- **Ear, nose and throat**: Globus syndrome
- **Allergist**: Multiple chemical sensitivity
- **Urologist**: Interstitial cystitis, painful bladder syndrome
- **Psychiatrist/GP**: Depression, anxiety disorder, somatoform disorder
- **Sports physician**: [insert nearest body part here] dysfunction.



people don't have important symptoms, they shouldn't be stented, unless they have narrowing of the artery known as the 'widow-maker', the left anterior descending artery."

Asked if he thinks the newer stents and diagnostic tools will lead to better outcomes, White says, "Probably, but we just don't know."

He doesn't believe that thousands of stenting operations – more than 5500 publicly funded procedures are performed each year – are worthless. "You might have a patient who can't take medication, or someone who doesn't have that much angina but whose father and brothers died at 40. We have no evidence either way, and it's concerning as to what is the best way to treat these patients."

Alan Merry agrees some operations are done "just for the sake of doing something".

APPENDIX REMOVAL

In his book, Harris says trials have shown that removing an appendix is unnecessary when a patient first presents with appendicitis, and that surgery is associated with a worse outcome in the long term.

"Yet if you present to any of my hospitals with suspected appendicitis, you are unlikely to be leaving with your appendix."

A study published in the *British Medical Journal* that compared immediate appendectomy with antibiotics and observation for patients with uncomplicated appendicitis (not a burst appendix, for example) concluded the overall complication rate was significantly lower in the non-operative group. "It seems we may have been overestimating the benefits of having an appendix removed straight away, and underestimating the harms from the surgery (such as infections and adhesive bowel obstructions). The fact that many patients in these studies later had an appendectomy does not alter the results of initially treating them non-operatively. The bottom line is that most appendicectomies can be avoided."

Civil knows appendicitis can be resolved with antibiotics quite effectively in many cases, but if he had abdominal pain and mild, non-perforating appendicitis, he'd still have the appendix out, even knowing antibiotics might work just as well.

"I would know I'm not going to get appendicitis again, and the odds of an adhesive bowel obstruction are very, very low."

PATIENT FEEDBACK

Merry says it's important for each patient's condition to be treated on its merits. At the Auckland Regional Pain Service, for example, staff spend a lot of time trying to persuade patients that when they've had multiple operations, none of which have helped, having another isn't likely to work either without a clear reason.

"If the reason you're having pain is that we put a screw into the nerve, taking it out makes sense, but if you're just saying, 'Well, let's just have another try', that's nonsense."

"Stenting doesn't prolong survival in people with chronic, stable angina … patients should be told that."

He says the Health Quality and Safety Commission is encouraging doctors to have more detailed conversations with patients about what matters to them.

The Medical Association and specialist colleges are also actively involved in helping patients and doctors make better decisions about when to operate.

NZMA chair Dr Stephen Child says the association strongly supports the UK-initiated Choose Wisely campaign, which asked all specialty and sub-specialty areas to nominate five tests or procedures that have been shown not to be effective.

Increasing transparency and improved monitoring and safety outcome data also contribute, and he says Southern Cross is doing its own survey on patient outcomes, although Southern Cross itself wouldn't comment on this when questioned by the *Listener*.

Child says patient feedback is also being incorporated into the funding formula for GP pay from July.

But Harris says we still have a long way to go.

"Currently, doctors appear more likely to be acting in the best interest of the patient if they act; even more so if they act aggressively. It also appears to be an admission of failure or weakness if the doctor does not (or cannot) diagnose or treat a patient.

"This drives one of the most irksome paradigms: that of the 'surgeon as hero' in which aggressive surgeons are held up as heroic, and cautious, conservative surgeons are considered cowardly. 'At least we tried', is what the family will say after their relative died undergoing 'heroic' surgery. It is harder, and possibly more courageous, to treat patients without surgery, particularly when surgery is thought to be helpful and many others are doing it.

"I have done surgery for 'ununited' fractures that had already healed, removed implants that were not causing a problem, fused sore backs and 'scoped sore knees. I have even re-operated on people with ineffective procedures after the first ineffective procedure was, well, ineffective," he writes. "I will go one further: I have operated on people who didn't have anything wrong with them in the first place. This happens because if a patient complains enough to a surgeon, one of the easiest ways of satisfying them is to operate.

"If there is a choice, if we are uncertain and we don't know if this operation is a good idea or not, we tend to operate." Now, he says, he argues the opposite.

"If I don't know if a patient will benefit or not, I don't operate and I have rarely regretted that." ▮

Surgery, the Ultimate Placebo, *by Ian Harris, (New South Books, $29.99).*

VICTOR CARTER