'Placebo' or 'sham' surgery is not a cruel trick—it can be very effective

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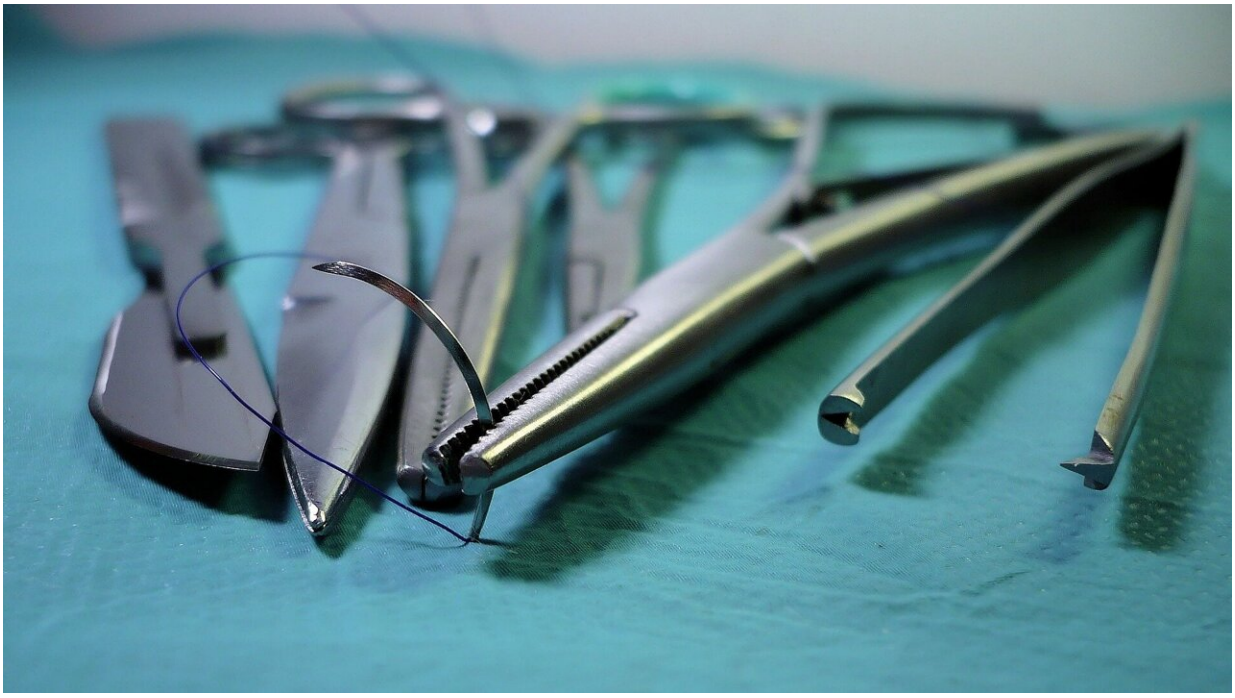

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Ten years ago, a scan showed that I had torn the meniscus in my knee. The pain was bad and I was limping a lot of the time. My doctor recommended arthroscopic knee surgery to fix it.

Being scared of scalpels, I asked whether there were other options. He said I could try physiotherapy, but that it was unlikely to work. I tried the

physio and did the recommended exercises diligently, and my knee pain and function returned to almost normal. I even ran my first (and only) marathon a year later.

Physio isn't the only thing that might work as well as arthroscopic knee surgery. In the 1990s, Dr. Bruce Moseley found 180 patients who had such severe knee pain that they had trouble getting out of their chairs. They then either received real or sham (placebo) arthroscopy.

Real arthroscopy involved giving painkillers and inserting a small metal tube (an arthroscope) into the knee to repair damaged cartilage and remove loose bone fragments that cause pain.

The sham (placebo) arthroscopy procedure included painkillers and a small cut on their knees, but there was no arthroscope, no repairing of damaged cartilage and no cleaning out loose fragments of bone.

Patients receiving the sham procedure thought they were receiving the real one (this is called "blinding"). And the doctors and nurses mimicked the sounds of real surgery.

Blinding is considered important for preventing patients' expectations from influencing the results.

All the patients were monitored for two years to see how many stairs they could climb before their pain got in the way. The results were clear: the sham procedure was as good for pain and function. Also, because the sham surgery is less invasive, it is less harmful. For example, there is a lower risk of infection.

Moseley's results have been replicated several times.

On this basis, we might expect that the less invasive sham procedure

replaced the more invasive—and more harmful—real version. Yet over a million arthroscopies are performed in the US each year, costing US$5,000 each (£3,935) or US$5 billion. And about 40,000 are done in the UK each year, costing £1,681 each (£67 million in total).

A similar story can be told about sham surgery for many other conditions. For example, sham vertebroplasty (sticking a needle into the spine where an injection of cement would normally go) works as well as the real thing (injecting cement to heal a fractured vertebra).

Unfortunately, the cement glue can leak, possibly causing more fractures .

More broadly, a review of 53 placebo-controlled surgery trials found that sham surgery was as good as the real thing in over half of the studies. Sham knee and back surgery works as well as real surgery for pain. Pretending to put brain implants works as well as real implants for reducing migraine attacks. Fake laser surgery works as well as real laser surgery to stop gastrointestinal bleeding. And fake surgery works as well as real surgery for making sphincters function more efficiently.

Three reasons ethicists (wrongly) reject it

There are three main reasons why sham surgeries have not replaced the real versions despite their benefits. First, some ethicists claim that the sham procedure is too risky. But I would argue the sham version is usually less risky than the real procedure, yet it can work just as well.

Second, some people believe that sham surgery requires deception (telling people who get the sham surgery that it might be the real thing) to be effective. While Moseley's patients were blinded, many trials show that sham interventions can be delivered "honestly" (whereby patients are told that the placebo is a placebo) and still work.

Finally, the name. Sham surgery is not a sham or a placebo. Sham surgery activates the wound-healing cascade.

All living organisms are very good at regenerating themselves when they get cut. A planarian flatworm's head can even grow back if you cut it off. Human heads can't grow back, but many parts of the human repair themselves spontaneously. Whether a cut is from a thorn or a surgeon's scalpel, the wound-healing cascade begins.

It involves blood clots to stop the bleeding, white blood cells phagocytosing (devouring) harmful bacteria, and creating new tissue and blood vessels to feed the tissue and close up the wound. Finally, scar tissue and skin cover the wound.

All this happens to any patient receiving any sham surgery. So the wound healing cascade that started following the sham surgery could change the mechanics of knees, shoulders and backs in ways that reduce pain and improve function (research is required to confirm this).

Also, placebo surgery often includes painkillers. With less pain, people feel freer to move around, and the moving around often can reduce pain and improve function.

A better name for so-called placebo or sham surgery is therefore "minimally invasive surgery." Patients suffering from conditions where the placebo surgery has performed as well as the more invasive, expensive and risky surgery could be offered the option of minimally invasive surgery. They could be given honest instructions about what the procedure involved.

Given that doctors are bound by the Hippocratic oath to help and avoid harm, and that minimally invasive surgery helps as much as more invasive surgery without harming as much, it is arguably an ethical

requirement.

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