

New technologies in spinal surgery

Human touch underpins surgical safety

Newest isn't necessarily best in many areas of life, and back surgery is no exception.

People often think that newer technology automatically means a patient will have better outcomes from back surgery.

But this is far from the truth, says Dr Michael Wong, neurosurgeon and spinal expert from Melbourne's EPC Health Clinic.

"You need to remember that spinal implant companies are constantly inventing new types of implants and new surgical techniques with the aim of improving their sales," he says.

"And to complicate things, just because something is safe, that doesn't mean it's the best available."

Although a product may be certified as safe by international authorities, its long term performance may not be known for many years, long after the surgery has been completed.

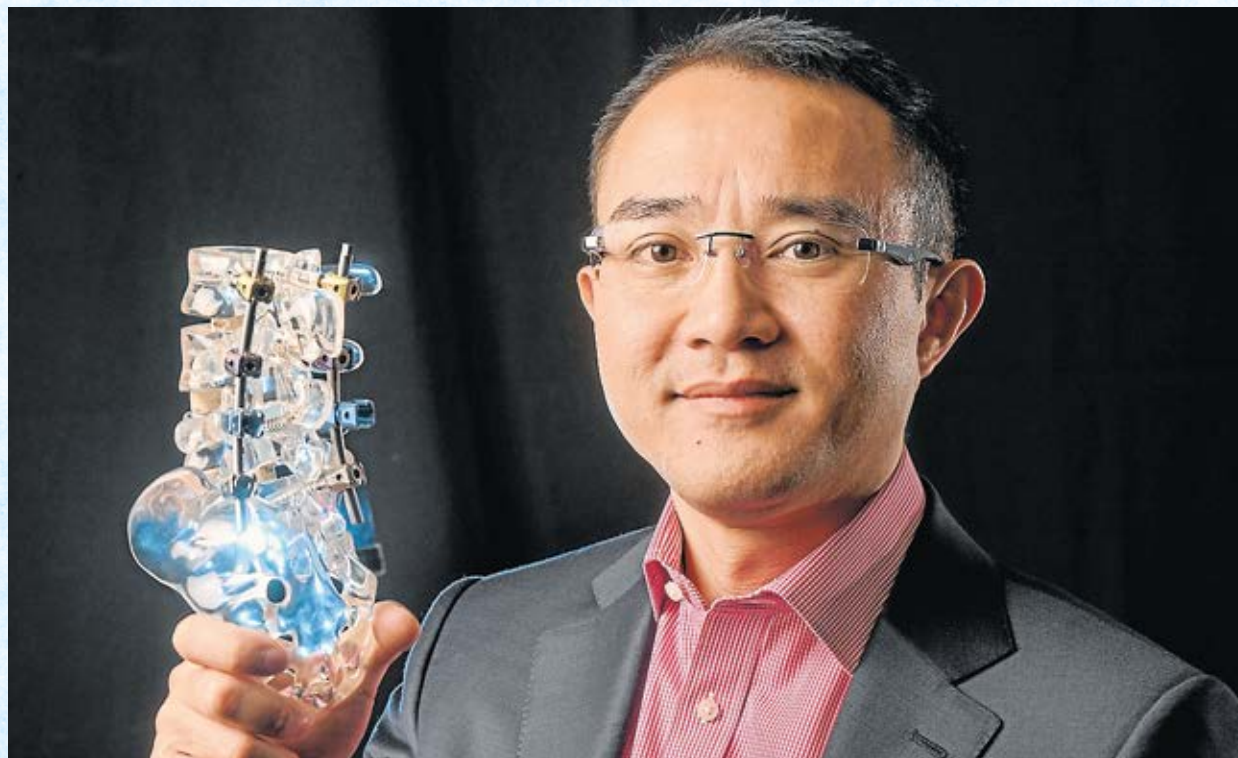
So patients should not just seek out novel technologies, but should rely on proven technologies – that is, those with a long history of success, Dr Wong says.

That said, some technological advances have genuinely improved back surgery, he says.

One of the most exciting of these is three dimensional (3D) printed titanium implants.

3D printing can reproduce almost exactly the unique features of the internal section of a bone. This is particularly important for crafting the artificial spacers that doctors insert during spinal fusion surgery to replace damaged discs and cushion the bones.

The more the spacers can be made to mimic the size, shape and internal structure of your own bone, the better the bones will



Dr Michael Wong says patients should rely on proven technologies.
Photo: Eddie Jim

fuse and the less likely you will be to suffer pain in the future.

Another advantage of 3D printed titanium implants is that the surgeon does not have to take bone from another part of the body, often the hip, to create a copy of the bone they are replacing.

This saves the patient the additional pain and risk of the extra operation.

"But when real bone is needed, new technology allows us to improve the preparation of bone grafts when we need to

use donor ones," Dr Wong says. "Higher quality bone grafts mean less complications when we fuse sections of spinal bone together to protect the spinal cord or nerves, and that means less pain."

Today, surgeons use spinal navigation and robotic devices to guide the placement of spinal screws.

While this has benefits, no amount of improvement in technology has yet replaced the skill and dexterity of an experienced surgeon, Dr Wong says.

Better results are achieved by more accuracy, safety and efficiency in surgeons themselves. Technology is only an aid.

"Reliance on technologies can lead to problems if the technology fails and the surgeon is not experienced enough to perform the procedure.

"This would be similar to catching an aeroplane with a pilot who relies on an auto-pilot but can't fly a plane manually when things go wrong. You wouldn't consider flying with that pilot."