



Medical GPS guides delicate spinal surgery

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DR Leong Tan has his own GPS navigation system, only he uses it for surgery and not in the car.

Allamanda Private Hospital bought the \$500,000 O-Arm machine for spinal surgery.

It takes a 3D scan of a patient and transfers it to the Stealth Station, a navigation system linked to the O-Arm.

The system guides the surgeon through procedures and takes another scan at the end of the operation to make sure everything was done correctly.

Previously doctors had to rely on frequent X-rays of a patient

to check what they were doing. The new machine saves hours for surgeons and reduces the risks for patients.

Dr Tan invited the Bulletin into the operating theatre to see the machine in action.

Using the navigation system, Dr Tan repaired a fractured upper cervical spine, using the screen as a guide as he inserted screws.

Even with the images to help him, Dr Tan's drill was only millimetres away from the vertebral artery and spinal cord – one slight move and he could

have left his patient paralysed.

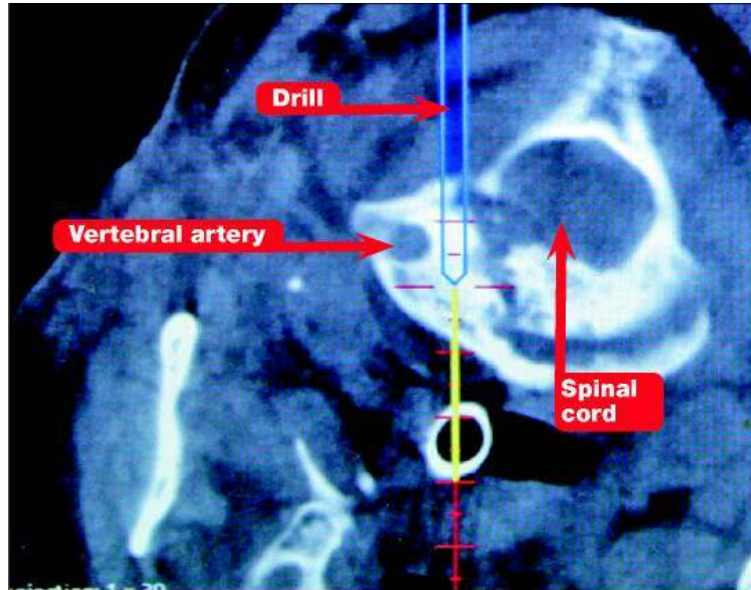
He said the old procedure was nerve-racking.

"We had to rely on the normal anatomy of a patient and find our own pathway down the spine," he said.

"It's a lot more dangerous.

"There's only a three or four millimetre working margin so anytime I'm off that margin I can cause major structural injuries."

Dr Tan said the new procedure took about three hours.



Images taken in real time allow for precision surgery



Dr Michael Chong and Dr Leong Tan operate using the imaging system

Photo: MIKE BATTERHAM