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## Aussie surgeons spearheading robotic spine technology

In a southern hemisphere-first, Australian surgeons are using state-of-the-art robotic technology to transform conventional freehand surgery for people living with degenerative spinal disease.

The new Renaissance technology is available to patients who require spinal fusion surgery – a procedure performed on around 100 Australians with degenerative or traumatic spinal conditions each week.<sup>1</sup> The introduction of Renaissance means patients experience less post-operative pain, lower complication rates and faster recovery times.<sup>2,3,4</sup>

The new technique is made available thanks to the shared vision of Dr Jonathon Ball, a neurosurgeon from Sydney's Royal North Shore Hospital, and Dr Brian Hsu, a leading Sydney-based orthopaedic spine surgeon.

According to Drs Ball and Hsu, who will be attending tomorrow's Spine Society of Australia's 25th Annual Scientific Meeting in Brisbane, the technology facilitates less invasive procedures compared to traditional freehand surgery.

"The Renaissance robot allows surgeons to perform highly-customised procedures and deliver unparalleled precision, which in some cases, allows for minimally-invasive surgery. This means, optimal outcomes for patients with less time spent in hospital," said Dr Ball.

Back pain results in approximately 100,000 hospitalisations in Australia each year.<sup>5</sup> Depending on the cause and symptoms, back problems are managed in a variety of ways, including spinal fusion surgery in eligible patients.<sup>5</sup>

Dr Hsu says, "Surgeons also benefit from the technology, with the ability to deliver the procedure with higher levels of accuracy, and less exposure to harmful radiation compared to traditional surgery."

Compared to freehand surgery, the robotic-guided surgery has been shown to reduce average length of hospital stay by 27 per cent, reduce patient complications by 48 per cent, improve implant accuracy by 70 per cent and reduce x-ray dosage by 56 per cent.<sup>4</sup>

Severe, chronic back problems often lead to poorer quality of life, psychological distress, mental disorders and disability.<sup>6</sup>

According to Australian health data, people with back problems were 1.2 times as likely to report high or very high levels of psychological distress than those without the condition, and 1.7 times as likely to report any mental disorders, such as depression.<sup>7</sup>

Pauline Cooper, 59, a foster carer and school volunteer from Sydney who was diagnosed with scoliosis 10 years ago, says the robotic surgery has changed her life.

"I didn't want a band-aid solution for my back pain. I wanted a better lifestyle for myself and my children and grandchildren," said Pauline, who has two sons, a foster son and two young grandchildren.

“I used to experience constant, agonising pain and towards the end I could barely stand in the shower and found it hard to sleep.”

At the time, Pauline was raising her teenage sons and had foster children in-and-out of her care.

“In hindsight, I don’t know how I did it, but I decided to just battle through the pain because I didn’t know how else to manage it.”

“After the robotic surgery, I couldn’t believe the results. I was stunned. Following surgery and a couple days in intensive care to recover, I was walking and relatively pain-free. The surgeons have been amazed with my road to recovery,” said Pauline.

Pauline says she is now able to keep up with her grandson, Zed, aged four. “I told my grandson that after my operation I wanted to run after him and tickle him. And now, he dares me to do just that,” jokes Pauline.

The Renaissance spine surgery is performed in various stages. First, the virtual 3D imaging creates a preoperative blueprint of the ideal surgery for each patient. Once in the operating room, Renaissance guides the surgeon precisely to the pre-planned location in the spine, and the 3D image is synchronised with the robotic technology. The surgeon uses the robot to perform the procedure, with full control at all times.

The Renaissance robot technology, which is supplied to Australia and New Zealand by Life Healthcare, is increasingly being used as a global standard of care. This first installation places Australia at the forefront of robotic surgical technology in line with world front-runners such as the US and Germany.

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### About Life Healthcare

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