

striding AHEAD



Dr Aditya Khemka tells 'SAVVY' that the new bionic surgery he has pioneered has helped amputees walk forward confidently.

Five years ago, 21-year-old Rory Semple lost his left leg in a motorcycle accident, which caused a lot of damage to his entire body. After 28 operations spanning over 18 months, and being fitted with a suction prosthetic leg for almost that same period, he was still suffering.

"There were so many things I struggled with. I couldn't sit on bar stools because they would slide out from under me. I'd break toilet seats. I also suffered a lot from the heat. My stump would shrink or swell up and the suction prosthetic would fall off," Rory reveals.

So it was with great reluctance that he went to meet Dr Munjed Al Muderis and Dr Aditya Khemka — the surgeons who gave him a new bionic limb and changed his life.

SAVVY SPECIAL



Para-Olympians are among those who have benefited from the revolutionary technique.

"As soon as I saw the way one of their patients was moving around, I knew this was something I definitely wanted. After the procedure, I was surprised how easy it was to walk. I felt like I had my leg back again. All my problems pretty much went away immediately," says Rory, about the bionic leg he was soon fitted with.

Because the leg is connected to the skeleton, patients often remark that they can 'feel the ground' under their artificial foot. It bears little resemblance to traditional prosthetics, which can be painful, impractical and cumbersome. "They go from being a disabled person to someone who is special - with something extra. We are on the verge of changing the future for amputee management worldwide," says Dr Khemka.

PROS

- Improves quality of life
- Allows the patient to walk on uneven terrain
- Osseoperception – gain ability to feel the ground

CONS

- Superficial infections easily treated with oral antibiotics
- Surgical risks

PROCEDURE

- Single-stage surgical procedure involving placement of the titanium rod
- Five-Seven days in the hospital
- Accelerated physiotherapy and rehabilitation
- Integrated multi-disciplinary approach


RESULTS & MORE

Para-Olympians are among those who have benefited from this revolutionary technique. One patient even took his bionic leg parachuting. In fact, the British military is sending a double-amputee halfway around the world to the centre in Australia for a trial, with a view to routinely referring soldiers who have lost their legs in combat.

The last three decades have seen a huge development in prosthetic components. However, in comparison, they lack novelty in the socket sleeve used to attach the prosthesis. It is precisely the attachment of the prosthesis to the body that is crucial for it to function efficiently.

"Osseointegration or bionic surgery, as it is popularly referred to, is the need of the hour, and moreover to the ever increasing amputee population in India," says Dr Khemka.

With the aim of setting up a centre of excellence for osseointegration in India soon, the confident surgeon signs off.

A man with a bionic leg is standing on a glass balcony overlooking a city. He is wearing a grey polo shirt and light-colored shorts. The bionic leg is a complex mechanical device with a black foot and a silver and black upper section. The background shows a dense urban landscape with many buildings and roads. The sky is overcast.

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OSSEOINTEGRATION OR BIONIC SURGERY

Dr Aditya Khemka is one of only a handful of orthopaedic surgeons in the world performing osseointegration. His ambition to become a leader in osseointegration surgery started when he was a young child after he saw the Hollywood film 'The Terminator'.

This passion inspired him to develop and expand a special technology for amputees, along with a leading surgeon from Australia, to enable mobility, enhance comfort, reduce pain and facilitate a better quality of life.

The radical procedure sees a titanium rod implanted directly into an amputee's bone, creating a protruding artificial bone that is connected directly to a robotic limb. The resulting bionic leg – in which the bone and muscle grow around the upper part of the rod and a system of hydraulics, sensors and a lithium battery drive the lower limb – allows patients almost the same range of motion and movement as an able-bodied person.