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Robotic Surgery (robotic assisted knee replacement)

What is robotic surgery?

One of the latest advances in joint replacement surgery is using a surgeon-controlled robotic arm. When preservation isn't an option, with robotic knee surgery, or robotic-assisted knee surgery, your surgeon controls a robotic arm that provides:

- tactile feedback (sense of touch)
- high-definition, magnified, 3-D visualisation
- auditory guidance
- precise planned bone cutting based on each patient's specific anatomy
- accurate implant placement and alignment

The robot isn't performing the procedure, but it is a highly sophisticated tool your surgeon can use to achieve excellent results.

What are the benefits of robotic surgery?

Robotic surgery was first developed to overcome the limitations of conventional surgery by using smaller incisions, 3-D magnification and improved ergonomics, which give the surgeon better control over the surgical instruments and a better view of the surgical site.

One of the most important benefits is improved accuracy, particularly with complex procedures, such as unicompartmental knee replacement (UKR).

UKR involves removing and replacing some but not all of the knee joint with a new synthetic implant (prosthesis). The success of UKR depends on accurate prosthesis positioning and overall limb alignment. This is technically challenging and may be particularly difficult in some patients depending on individual anatomy. This is where the robotic arm can help.

Using a robotic arm to assist UKR has been shown to:

- lessen the difficulty of achieving ideal implant placement and alignment
- reduce the length of hospital stay after surgery

Robotic-assisted UKR has been shown to be 2–3 times more accurate than traditional techniques for knee replacement surgery. The more accurately the implants are placed the better the immediate result, the lower risk of complications and the longer the implants can be expected to last.