

PATIENT INFORMATION · BROCHURE No. 14

Robotic Surgery (da Vinci)

A patient's guide to robotic-assisted minimally invasive surgery — what it is, when it helps, and how it fits into Dr Marais's practice.

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What robotic surgery actually is

Robotic surgery is a refinement of laparoscopic (keyhole) surgery. The surgeon operates seated at a console a few metres from the patient, controlling miniaturised, wristed instruments through the same small incisions used in conventional laparoscopy. The robot never operates on its own — every movement of every instrument is the surgeon's own hand movement, translated in real time and with natural hand tremor filtered out.

Dr Marais is a **certified da Vinci console surgeon** on the Intuitive Surgical robotic platform. Certification is a structured pathway on top of specialist surgical training — didactic coursework, simulation and cadaveric work, proctored initial cases, and documented case volumes before independent practice. It is a specific qualification, not something every surgeon offering laparoscopic surgery holds.

How the da Vinci system works

A da Vinci operation has three physical components working together:

- **The surgeon console.** Dr Marais sits with his hands in the controls and his eyes on a stereoscopic 3D high-definition view of the operative field, magnified up to ten times life size.
- **The patient cart.** Four robotic arms are docked to the laparoscopic ports placed in the patient's abdomen. The arms hold the camera and the instruments.
- **The vision cart.** The imaging and processing system that links the console to the patient cart in real time.

The instruments used at the tips of those arms are called **EndoWrist** instruments — tools that bend and rotate the way a human wrist does, but inside the abdomen through a 5–12 mm incision. The console scales the surgeon's hand movements and filters out natural physiological tremor, making very fine dissection and precise suturing possible in tight anatomical spaces.

When robotic surgery is used in this practice

The robot is a tool, not a decision. The right operation for you is the one that gives the safest, most durable result — sometimes that's robotic, sometimes conventional laparoscopy, and occasionally open surgery. In Dr Marais's practice the clearest current benefit of a robotic approach is in:

- **Complex hernia repair** — inguinal, ventral, incisional and hiatal hernias. Wristed instruments make it easier to place mesh precisely in the retro-rectus plane, to close large defects with meticulous suturing, and to work high in the abdomen at the hiatus.
- **Recurrent and revisional cases** — where scar tissue from previous surgery makes conventional laparoscopy harder.
- **Selected upper-GI and adrenal work** — where 3D vision and wristed dissection around delicate vessels change what's possible.

For straightforward laparoscopic operations — an uncomplicated gallbladder removal, for example — conventional laparoscopy is quicker and equally good. Dr Marais will tell you honestly at consultation whether a robotic approach genuinely adds value for your specific case, or whether another route is better.

What to expect

Before surgery

A full pre-operative consultation covers your history, the anatomy on any imaging, medical-aid pre-authorisation, and a written surgical quote. Blood tests and, where relevant, an anaesthetic review are arranged through the practice.

On the day

Robotic surgery is performed under general anaesthetic. Several small (5–12 mm) port incisions are made in the abdomen; carbon dioxide gas creates the working space; the robotic arms are docked and the operation is performed from the console. Duration depends on the procedure — most complex hernia repairs take one to three hours in theatre plus anaesthetic and positioning time.

Recovery

The recovery profile mirrors laparoscopic surgery. Most patients walk within hours of waking, eat a light meal the same evening, and are discharged the following morning after a one-night stay — same-day discharge for smaller procedures. Return to desk work is typically within a week; light exercise from two to three weeks; gym and heavy lifting from three to four weeks. The small port-site incisions heal to short lines that fade over months.

Risks and honest caveats

The risks of robotic surgery are the same category as those of laparoscopic surgery: bleeding, infection, injury to nearby structures, hernia at a port site, and the general risks of any anaesthetic. Serious complications are uncommon. Dr Marais discusses risks specific to your operation in detail at consultation, and every consent form spells them out before you sign.

Two honest caveats worth stating up front:

- Robotic surgery is not automatically safer than laparoscopic. For simple cases it does not change the outcome. It earns its place in complex anatomy, revisional surgery, and delicate reconstruction.
- The system is expensive to run. Most South African medical aids cover the surgical procedure at the standard rate, but there is sometimes a facility-fee difference for robotic use. The practice provides a written quote before booking so you know exactly what's covered and what you'll pay in.

Frequently asked

Does the robot operate on its own?

No. The da Vinci system has no autonomous function. Every movement of every instrument is controlled directly by the surgeon at the console — the robot is a set of very precise arms, not a decision-maker. Think of it as advanced instrumentation, not artificial intelligence.

Is robotic surgery safer than laparoscopic?

Not automatically. For straightforward laparoscopic operations, conventional laparoscopy is quicker and equally good. Where the robot helps is in complex hernia repair, recurrent surgery, obese patients, and delicate reconstruction — cases where wristed instruments and 3D vision genuinely change what's possible.

Which of my procedures can be done robotically?

Inguinal, ventral, incisional and hiatal hernia repair are the strongest current indications. Selected upper-GI and adrenal cases are also candidates. Dr Marais will tell you honestly at consultation whether a robotic approach adds value for your specific case.

Is it covered by medical aid?

Most South African medical aids cover the procedure at the standard rate. Some plans handle the robotic facility fee differently — the practice submits the pre-authorisation and provides a written quote so you know your exact out-of-pocket amount before booking.

Where is the da Vinci system used?

Dr Marais operates on the da Vinci platform at Johannesburg Surgical Hospital and partner facilities in Johannesburg equipped with the system. Robotic cases are scheduled around theatre availability of the platform.

Booking a consultation

Consultations are held at Johannesburg Surgical Hospital in Randburg during weekday office hours. Referrals from GPs and specialists are welcome; self-referrals are also accepted.

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This brochure is general information about robotic surgery in Dr Marais's practice. It is not a substitute for a consultation and does not constitute personal medical advice. Every case is different — bring this document to your appointment as a starting point for the conversation.