



Among the most remarkable innovations are the surgical simulators, reportedly the first of their kind in the country. PHOTO/TONY MUSHOBOROZI

Rural Jinja facility brings new hope for liver cancer patients

A small surgical centre in Kyabirwa is offering microwave ablation for liver tumours and other minimally invasive procedures, bringing specialised cancer care closer to Ugandan patients at significantly lower cost.

BY TONY MUSHOBOROZI

Kyabirwa Surgical Centre might catch you by surprise. Nestled in the remote village of Kyabirwa in Bujagali, Jinja, it houses medical equipment that even some fully-fledged hospitals in Uganda and the wider region would envy. Among the most remarkable innovations are the surgical simulators, reportedly the first of their kind in the country. These high-fidelity machines are used to train doctors in advanced surgical techniques, attracting trainees from countries such as Egypt and South Africa.

"Kyabirwa has state-of-the-art simulation machines for surgical training. The advantage of having them here is that we no longer have to pay thousands of

dollars to travel overseas for similar programs," says Dr Joan Babalanda of Mbarara Regional Referral Hospital. She recently completed a laparoscopy training at Kyabirwa and plans to return for an endoscopy course later this year. According to Babalanda, the increasing demand for minimally invasive surgeries makes such local training programs essential.

Doctors from across the region are drawn to Kyabirwa because the facility is internationally certified, offering courses recognised by professional associations abroad.

"The equipment at Kyabirwa is unique in East and Central Africa," notes Dr Dennis Okwir of Lubaga Hospital in Kampala. He adds that the centre's advanced technology has led even larger hospitals to refer patients there. Most surgeries at Kyabirwa are minimally invasive, allowing patients to return home the same day and continue follow-up care at home.

Affordable specialised care

One of Kyabirwa's flagship procedures is microwave ablation (MWA), a technique that uses microwave energy to destroy cancerous liver tumours with heat. Before the procedure was available local-

ly, patients often had to travel overseas for treatment, incurring costs ranging from approximately Shs10m to Shs40m or about \$ 3,000 to 11,500, depending on the condition and country. At Kyabirwa, the procedure costs as little as Shs2m.

Other services at the centre are equally affordable. A general consultation costs around Shs10,000, while follow-up visits are Shs5,000. Basic laboratory tests, including malaria, typhoid, and HIV screenings, can be done for Shs25,000. Ultrasound scans for the abdomen or pelvis start from Shs20,000, endoscopies are around Shs150,000, colonoscopies cost Shs300,000, and hernia procedures are about Shs350,000. These rates are possible thanks to support from Global Surgical Initiatives (GSI) and partnerships with international institutions such as the Mount Sinai Health System (USA).

"Many rural communities avoid surgical treatment due to lack of resources, limited awareness, or high costs. We aim to demonstrate that quality surgical care can be both safe and affordable," says Dr Joseph Damoi Okello, the chief surgeon at Kyabirwa.

Microwave ablation explained

Microwave ablation targets liver tumours with precise heat. A probe is inserted into the cancerous tissue, which is then heated to destroy tumour cells without harming surrounding liver tissue.

"The technology is precise. For cancers up to five centimetres in size, we can select the ablation zone to match the tumour dimensions, leaving healthy tissue unaffected," explains Dr Okello.

The treatment is recommended for patients with a single liver tumour no larger than five centimetres or up to three nodules each no bigger than three centimetres. Catching tumours early is crucial because liver cancer often progresses silently. Symptoms, such as abdominal pain, jaundice, weight loss, and chronic fatigue, typically appear only when the disease has advanced.

Though MWA is a relatively new tech-

WHY EARLY DETECTION MATTERS

- Liver tumours often cause no symptoms in early stages.
- Ultrasound scans and blood tests can help detect tumours early, when treatments such as microwave ablation are most effective.
- Early-stage liver cancer has significantly better survival outcomes compared to late-stage disease.

Prevention and risk reduction

- Vaccination against hepatitis B significantly reduces liver cancer risk.
- Regular screening is recommended for people with hepatitis or chronic liver disease.
- Avoiding excessive alcohol consumption and exposure to aflatoxins (toxins from poorly stored grains) also reduces risk.

nology in Uganda, it has been applied to other cancers, including those in the lung and kidney, in other settings. At Kyabirwa, the focus is currently limited to liver tumours. Since launching the program in mid-July last year, the facility has treated more than eight patients and has several more awaiting the procedure. Patients with advanced disease or larger tumours are referred to specialised cancer centres for alternative treatments such as chemotherapy.

Remote collaboration

Kyabirwa leverages high-speed internet to collaborate with surgeons worldwide. Specialists can provide real-time guidance during procedures, ensuring knowledge transfer and mentorship even from a distance. This approach allows for continuous skill development and real-time surgical support for complex cases.

Simulation lab: Training for the future

A standout feature of the centre is its AI-driven surgical simulation lab, where doctors can train in various procedures in a risk-free environment. The lab offers six courses, including laparoscopy, a technique rarely taught in Africa. Trainees receive step-by-step guidance with immediate feedback, allowing them to make and correct errors virtually before performing surgeries on real patients.

"The simulation lab prepares doctors thoroughly. At the end of each session, they receive an assessment highlighting strengths and areas for improvement. This helps ensure they are ready for real-life surgery," says the simulation lab coordinator. To date, more than 30 doctors from around the world have trained at the centre.

Community outreach

In addition to specialised cancer care, Kyabirwa has a strong community focus. The centre plans to offer free hernia surgeries from March 2-13, providing critical care to underserved patients who might otherwise go untreated.

Kyabirwa Surgical Centre exemplifies the potential for rural health facilities to deliver advanced, affordable care. By combining international collaboration, state-of-the-art technology, and community-centred pricing, it challenges the assumption that high-quality surgery is only feasible in urban centres. For patients with liver tumours and other surgically treatable conditions, Kyabirwa offers not only hope but also practical, accessible solutions.



Possible. Many rural communities avoid surgical treatment due to lack of resources, limited awareness, or high costs. Our aim is to demonstrate that quality surgical care can be both safe and affordable," **Dr Joseph Damoi Okello, the chief surgeon at Kyabirwa.**