

**MISSION REPORT**  
**ISIRO 2024**

GOITRE SURGERY  
ANAESTHESIA - RADIOLOGY

ISIRO  
HAUT-UELE  
DEMOCRATIC REPUBLIC OF THE CONGO  
FROM 23/11 TO 2/12/2024



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# MISSION REPORT

## ISIRO 2024

**15 PATIENTS OPERATED ON**

**40 HOURS OF SURGERY**

**120 ULTRASOUNDS PERFORMED**

**55 HOURS OF SUPERVISED ANAESTHESIA**

**72 HOURS TRAVEL TIME**

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## 1 BACKGROUND

### The journey to Isiro

Our trip to Isiro was anything but straightforward, filled with unexpected challenges and last-minute changes. First and foremost our trip coincided with the President of the DRC's visit to the city for a commemoration, we therefore met travel restrictions which were imposed in the region for security reasons.

Complicating matters further, an administrative error at the Mission du Congo in Geneva resulted in a visa date discrepancy. This, combined with the unyielding stance of SN Brussels staff, also forced us to revise our travel plans at the last moment. Instead of our original route, we had to reroute through Goma and charter a small private plane to reach Isiro.



After nearly 36 exhausting hours on the road, we finally reunited with the team led by Doctors Jean-Claude and Christine Bakonga. Despite the hurdles, we made it determined and ready for the mission ahead.

### The Return Journey

The journey back was just as complicated and unpredictable as the trip to Isiro. It involved four flights and a grueling 36-hour travel time, including a transit through Uganda. The unexpected route changes significantly increased transportation costs, far exceeding the initial budget.

## Challenges of Accessibility

For nearly six months of the year, Isiro's runways are impassable due to heavy rainfall, making air travel unreliable. Existing airlines struggle to provide schedules that align with short-term missions, further complicating travel logistics. Isiro's isolation remains a major obstacle for future missions. However, with three new airlines currently in development, access to the region is expected to improve in the near future.

## Our stay in Isiro

During our stay, we were warmly welcomed into a clean and comfortable private home. Our visit coincided with a historic event: the entire Congolese government and religious authorities had gathered in Isiro, a town of 200,000 people, to honor Sister Marie-Clémentine Anuarite Nengapeta. She was a nun murdered 60 years ago and she is now in the process of canonization.

The town was alive with anticipation, its streets filled with a sense of reverence and celebration. Everywhere we went, we could feel the deep respect and devotion surrounding this momentous occasion.

## A Warm Welcome

The presence of high-ranking officials did not overshadow the hospitality we received. Despite the momentous occasion, the Governor of Haut Uele province and the Dean of the Faculty of Medicine in Isiro took the time to welcome us with an official reception upon our arrival.



## Grace Hospital: A Vital but Overwhelmed Facility

On our first day, we visited Grace Hospital, where we were met by an enthusiastic team of about twenty staff members. The hospital, though new, was already struggling to meet overwhelming demand due to the severe lack of healthcare facilities in the region.

Currently, only two buildings are operational. A small wooden structure serves as the reception area, cash desk, and houses two consultation rooms. The main building, a solidly built facility, contains the operating theatre, a minor surgery room, a delivery room, and two hospital wards with a total of 10 beds. However, the lack of space severely limits medical care, administrative work, and storage. Expanding the facility will be essential before any plans to scale up activities can be considered.

## The start of Medical Activities

Upon our arrival, approximately 25 patients were awaiting consultations. Each patient underwent a medical examination, a cervical ultrasound, an anaesthetic assessment, and basic blood tests. A surgical schedule was then established, with 15 patients distributed over five operating days. The remaining patients were placed on a waiting list for a future medical mission.



## A Week of Surgery: Precision and Learning

Over the course of five days, we performed 15 thyroidectomies, maintaining a steady pace of three surgeries per day. Some of the goiters were exceptionally large and posed significant surgical challenges. Despite the complexity of these cases, we encountered no complications—no damage to the recurrent nerve and no cases of post-operative hemorrhage.



Four Congolese surgeons participated in this intensive surgical week: two beginners, Dr. Gilbert Gugu and Dr. Guelor Omba, and two more experienced surgeons, Dr. Boniface Amani and Dr. Jean-Claude Bakonga. Each procedure was structured to be both practical and educational, tailored to the skill level of each participant.

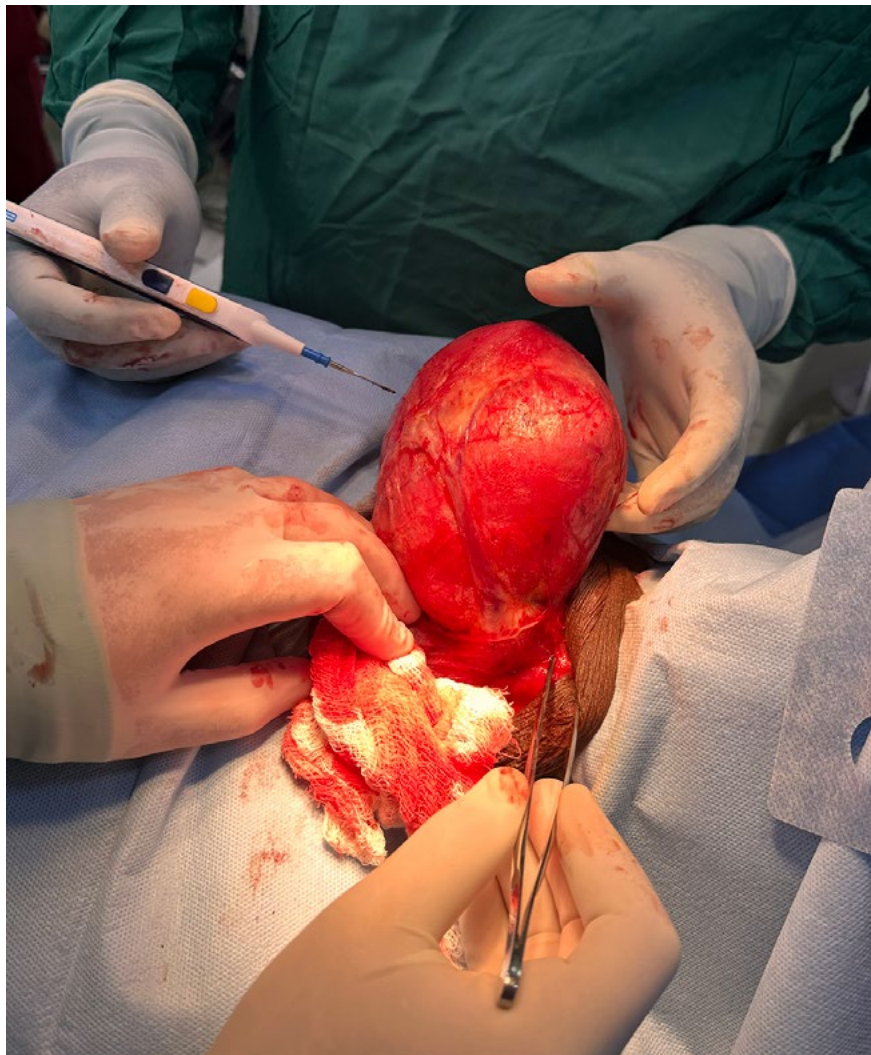
From fundamental techniques like patient positioning and instrument management to the intricate dissection of the recurrent nerve—the delicate nerve responsible for voice function—every step was an opportunity for hands-on learning and skill development.





## Surgical Equipment and Sterilization Practices

The surgical equipment available at Grace Hospital is basic yet adequate, with the notable exception of electric lighting, which necessitated the use of headlamps or spotlights. In regions with limited electricity, sterilization is typically performed using a simple steam autoclave heated over a wood fire, requiring continuous effort from dedicated staff. To ensure the effectiveness of the sterilization cycles, it would be important to use sterilization indicators.



## Staff Dedication and a Notable Incident

Despite the demanding nature of the long working days, the staff's motivation and respectful care for patients were remarkable. During one operation, an unfortunate incident occurred where a team member sustained a needlestick injury from a patient whose HIV-positive status was unknown at the time.

Fortunately, prophylactic triple therapy was available and administered promptly. This incident underscored the importance of including thorough serological status checks in the pre-operative checklist to prevent such future occurrences.



## Assessment and Future Directions

What was initially intended as an assessment of Grace Hospital's resources and needs within the Isiro health system evolved into a full-time surgical week. The outcomes were excellent, far exceeding the objectives we had initially set. Looking ahead, there is clearly a potential to develop infrastructure and improve equipment, as well as a need for continuing basic surgical training for local surgeons.



## Objectives

Assessment and reinforcement of anaesthetic resources.

## Participants

Anaesthetic care is provided at Grace Hospital by a nurse, Mr Dieudonné Mukombozi.

Also present was the nurse in charge of anaesthesia at Nebobongo hospital, 40 km from Isiro, Mr Gabriel Nebane, whom we knew from other missions to Congo.

## Equipment

There is no oxygen but an extractor/concentrator connected to the new Diamedica DPA-03 ventilator (type: 'Draw Over').

Monitoring is complete with a new capnograph that does not give O<sub>2</sub> concentration or anaesthetic gases. A very simple curarisation monitor was also present, which was very practical because it did not require an electrode.

The existing equipment was well-maintained, and a technician was available at all times to ensure proper functioning.



## Organisation

the anaesthetic room is well organised and clean, with emergency medicines and intubation equipment available.

## Training / supervision

- Quiet moments during anaesthesia were used for further teaching on topics such as extubation criteria, ECG, Guedel stages, etc.
- The entire anaesthetic team conducted pre-anaesthetic assessments for all patients, with no cases requiring exclusion. The equipment was fully operational, and the staff were present and well-prepared, ensuring smooth and efficient anesthetic management throughout the procedures.
- However, the practice of general anaesthesia remains difficult, with gaps in understanding and execution. In particular, regarding intubation procedure there is clearly a need for significant improvement, as shown by a case of gastric intubation leading to desaturation which occurred. Strengthening training in airway management and anesthetic techniques is essential to enhance patient safety and favorable outcomes.



To address this issue, we decided to sedate a few patients using a long-acting muscle relaxant, allowing us more time to perform intubation safely. This approach provided an opportunity to introduce and explain a new step-by-step intubation procedure, ensuring a more controlled and effective technique for future cases.

## Training for Anesthetists

The anesthetists in Isiro are not accustomed to performing general anaesthesia with halogen agents and intubation. Instead, they primarily rely on ketamine for caesarean sections. Given their limited knowledge in these techniques, our training focused on mastering the basics.

Learning takes time, but progress was evident. By the final day, they successfully managed a previously failed intubation—initially placed in the stomach—by recognizing the mistake and correcting it without the patient desaturating. This was a significant achievement.

To support their learning, we developed cognitive and practical anaesthesia aids, including checklists, induction protocols, and perioperative monitoring guidelines. These tools were immediately put into practice and proved highly effective. (See the full report on the PSC website.)

## Conclusion

The PSC team is extremely pleased with the progress made during the week. By the end of the mission, the two anaesthesia nurses were confident enough to manage anaesthesia independently, which they greatly appreciated. They also expressed a strong desire for continued training and support in the future.

They also highlighted the urgent need for a reliable supply of anesthetic drugs, as these currently have to be brought in from Goma or Uganda. Ensuring a steady and accessible supply of essential medications will be crucial for improving anaesthesia care in Isiro.



## Objectives

- Providing practical training in cervical and abdominal ultrasound, and introducing the use of Doppler mode (ultrasound machine donated by the Clinique Générale Beaulieu, Geneva).
- Optimising the use of local ultrasound equipment.

## Participants

The ultrasound workshops were attended by a diverse group of medical professionals, totaling ten participants throughout the week. This group included four general practitioners who participated consistently and one medical imaging technician. The participants' experience levels varied, with some possessing several years of medical practice and others being beginners. Generally, proficiency in ultrasound was relatively low, with prior experience primarily limited to obstetric applications.

## Equipment used

- Mindray ultrasound machine (available at Grace Hospital)
- GE ultrasound machine (donated by the Clinique Générale Beaulieu, Geneva)
- Two Lumify devices (generously loaned by Philips)
- Ultrasound gel (supplied by Grace Hospital)

## Week's Progression

On the first day, ultrasound examinations were conducted on patients scheduled for surgery to confirm the appropriate surgical procedures. An introductory course on cervical ultrasound was delivered on Monday, 25 November. Subsequently, each day involved supervised examinations of 'normal' patients—those without cervical or abdominal pathology—by the participating doctors.

Throughout the week, patients received medical consultations accompanied by complimentary ultrasound scans for training purposes. In addition to cervical and abdominal ultrasound training, a basic course on thoracic radiography was provided.

On Friday, 30 November, at the request of the Haut Uélé Medical School, Drs. Tresallet, Masterson, and Jean-Daniel Junod delivered lectures at the institution. The reception was exceptionally warm, and the numerous questions from students reflected their enthusiasm for training from external medical professionals.

## Outcomes

Over the course of the week, approximately 120 ultrasound scans were performed, encompassing both normal and pathological cases. This training initiative successfully enhanced ultrasound skills and stimulated interest among those previously unfamiliar with the technique. By week's end, there was a noticeable improvement in local practices concerning basic ultrasound diagnostics.

Overall, the week was deemed a success. The warm hospitality and efficient logistical organization on-site facilitated effective and structured daily work, minimizing time wastage.

The motivation and enthusiasm of the local healthcare staff for learning were a pleasant surprise and contributed to significant progress for many.

All participants were able to recognize the importance of ultrasound in pre-operative management, with its integration into clinical examination helping to optimize patient care.



## Future Prospects for Grace Hospital

Looking ahead, the goal is to further strengthen ultrasound skills and establish a weekly ultrasound consultation, which could be managed by Dr. Christine Bakonga and Ms. Marie, a qualified radiology technician who completed a three-year training program funded by Dr. Masterson. Additionally, online access to images could support long-term training efforts.

A particularly valuable objective would be to install a standard X-ray room to enhance diagnostic management, as there is currently only one dilapidated machine in the entire town, producing uninterpretable images.



## PSC - Grace Hospital Partnership

Once the results of this mission are assessed, the possibility of establishing a partnership between PSC and Grace Hospital will be discussed with the committee. Key considerations will include access to Isiro and the political instability in Eastern Congo.

The objectives of this first exploratory mission were largely exceeded. However, access to Isiro remains a significant barrier to the development of long-term initiatives. While the region is isolated, the growing insecurity in Eastern Congo may further complicate access.

Nevertheless, the infrastructure and staff at Grace Hospital, along with the confidence in its management, are strong points in the potential creation of a partnership. The installation of an X-ray machine would be a major step forward for the hospital.

A follow-up mission in autumn 2025 could be organized if the committee chooses to continue the partnership and if the local in Eastern Congo situation permits .







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