



MAKERERE UNIVERSITY



**MAKERERE UNIVERSITY COLLEGE OF HEALTH SCIENCES
SCHOOL OF MEDICINE
INTERNATIONAL EXCHANGE PROGRAM REPORT**

EXCHANGE SITE: Medical University of Graz + LKH University Hospital of Graz, Austria

DEPARTMENTS: General, Visceral and Transplant Surgery and Department of Paeditric and Adolescent Surgery.

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Language of Practice: English / German



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ACKNOWLEDGEMENT.

I am thankful to the Almighty that this elective exchange program at the Medical University of Graz was a success with improvement in my intellectual reasoning and skills.

I appreciate the European Union for offering me this rare opportunity through its Erasmus+ student's mobility program. I appreciate the Medical University of Graz for accepting us and offering us the best learning opportunities through the staff of the International Office, Departments of General Visceral and Transplant Surgery and department of paediatric and adolescent surgery.

I am extremely grateful to the Makerere College of Health Sciences administration and the International office for the parental support that they offered to us. We thankful for the opportunities offered through the exchange program.

I am also profoundly grateful to my Guardians and family for the diverse support offered to me throughout this exchange program. I dedicate this report to them.

I am grateful to all my friends at the College of Health Sciences who prayed for my success in this great endeavor.



Figure 1: Medical University of Graz

INTRODUCTION.

The Erasmus+ students' mobility program is the European Union's (EU) program to support education, training, youth and sport in Europe and overseas. It was established by the EU in 1987 with the aim of promoting closer cooperation between universities and higher education institutions across Europe. It was named after Erasmus of Rotterdam and its acronym for "The European Community Action Scheme for the Mobility of University Students" and over 15 million people have taken part in the program.

The Medical University of Graz offers an opportunity to medicine, dentistry and nursing students from abroad an opportunity to complete clinical rotations through the Erasmus+, mobility program. The contents of the clinical rotation include; hands-on training and integration at the assigned department of University Hospital Graz or a Med Uni Graz teaching hospital, observation and participation in examinations and rounds, analysis of case studies and becoming acquainted with the Austrian health care system.

The collaboration between Makerere College of Health Sciences and the Medical university of Graz started in mid-2022 with funding from Erasmus+ European Union program to provide opportunities for students exchange encouraging acquisition of knowledge and technologically advanced skills in a culturally diverse environment.(2)

The Medical University of Graz was established on January 1, 2004 having become an independent entity from Karl-Franzens University of Graz started in 1863. The medical university is located in Graz, the biggest city in the Federal state of Styria and second biggest city in Austria, a landlocked country in central Europe. The Medical University of Graz in partnership with the Steiermärkische Krankenanstaltengesellschaft mbH (KAGes) jointly runs the LKH Medical University of Graz. This state hospital, established in 1912, has been purely a University hospital since November 2002. It is a maximum care hospital in Graz City of Austria, and one of the 8 State hospitals under the Styrian Hospital Association. It is one of the three public university Hospitals in the country and the only one in Styria. (3)

With a mission "We base our actions on the well-being of our patients. We create an environment and atmosphere for you that respects your dignity and in which you can feel safe", the hospital offers care to over 300,000+ inpatients with over 71,000 employees from a wide range of professionals and also offers teaching and research programs to the students at the medical university of Graz.(4)

The University Hospital is managed by the Hospital Management, consisting of the Rector, the Vice Rector for Clinical Affairs and the three Directorates.

The LKH corporate structure is made up of;

- Operation directorate in charge of planning, organization and monitoring of economic, administrative and technical matters, including the coordination of these matters between all organizational units of the clinic.
- Nursing directorate in charge of the planning, organization and monitoring of tasks related to health and nursing care.

- Medical directorate in charge of the planning, organization and monitoring of tasks related to the practice of medicine in the clinic.

The staff positions include the following medical services, controlling, medical engineering and information technology, project portfolio management, public relations, quality management and risk assessment, law and complaints, technical and organizational security.(4)

Departmental management.

The task of the departmental management is to manage the clinics together with the medical and nursing managers and to advise the managers in order to improve the effectiveness and efficiency of service provision, particularly from an economic point of view. With 4 divisions (1-4).

The 2 departments of my clinical rotation included the department of general visceral transplant in division 1 and the department of paediatric surgery in division 4.

1. General, Visceral and Transplant surgery

Head of Division: Prof Robert Sucher

The Division has an interdisciplinary team that consists of Physicians, nurses, clinical psychologists, assistant doctors and administrative staff who provide personalized patient care and practice-oriented educations in surgical therapy related to gastroenterology, endocrinology, senology and Abdominal trauma with a special focus on hepatobiliary and pancreatic surgery.

The Division also welcomes a number of exchange students from countries like Germany, Belgium, the United States and other countries. It highly prioritizes student education and first class training of young surgeons.

2. Pediatric and Adolescent Surgery

Centre of Excellence of Expertise for Intestinal Congenital Anomalies and Vascular Anomalies in Children

Mission statement: Every Child is Special

Head of Department: Holger Till

Department of Paediatric and Adolescent Surgery is the largest university unit in this discipline in Austria and it offers a wide range of treatments including emergency care for all acute symptoms, neonatal surgery, pediatric traumatology, pediatric urology and abdominal and thoracic surgical procedures for patients up to 18 years of age (4)

Selection process.

The selection process started with the advertisement by the international office imploring interested students to submit their application forms along with their curriculum vitae and recommendations from the senior doctors at the college. The selection was based on merit with a cut off CGPA of 3.6, followed by the physical interview of shortlisted students organized by the international office and conducted by the specialist doctors from the college of health sciences.

Preparation process.

Upon receiving the email of invitation from the Medical University of Graz, we embarked on the process of obtaining the required travel documents such as passports. We also started on the process of applying into the specific departments of interest and signing off the required insurance documents. We also booked the accommodation with the OEAD students housing.

After acquiring the required documents, we started on the process of visa application from the Austrian embassy in Ethiopia using the VFS Global Company. Upon acquisition of the visa, the travel ticket was purchased from the Extreme safaris for Qatar Airlines. With all this we were all set and ready to take our maiden flight out of the Pearl of Africa.

OBJECTIVE.

- To actively participate in the health care system of the resource rich country
- To improve clinical knowledge and surgical skills important in patients management.
- To get exposure to the technological advancement in surgical care of the patients.
- To develop respect and knowledge for the various cultures and languages on a global level.
- To analyze the various social, economic and political factors that affect health service delivery in Austria. .

CLINICAL ROTATIONS.

I had the privilege of rotating in the Department of General Visceral and Transplant surgery and the Department of Paediatric and adolescent surgery. This was an intense program carried out under strict supervision by the medical staff equipping us with more skills and confidence in our surgical experience.

DEPARTMENT OF GENERAL, VISCERAL AND TRANSPLANT SURGERY.

This was a 3 week rotation from 10th June to 28th June 2024 and it was a period of great inspiration and learning with the professors and other specialists encouraging us to take an active role in the training process. We had the opportunity of participating in the following activities;



Figure 2: Department of General visceral and Transplant surgery staff

Regular medical conferences and training: Every day for 3 weeks at 7:30am, we were required to attend a departmental meeting during which patients' diagnoses, treatment options and outcomes were discussed by a multidisciplinary team. The team would discuss how patients presented to the hospital, investigation findings from both radiology and blood tests, the final diagnosis and management plan. Each individual would be assigned a station for every specific day where they would work and the theater list reviewed. Continuous medical education on diseases of interest to update knowledge were also carried out.

Patient consultation: The outpatient clinic is run by Surgeons, Assistant Doctors and Nurses opening at around 8am. During consultations, I would collaborate with the assistant doctor who would directly talk to the patient. We would then discuss the presenting complaints, examination and radiological investigation findings for each patient seen, contributing to the final diagnosis and management of different patients.

Inpatient ward: I participated in the ward rounds with the aim of learning about the pre and post-surgical management of different patients i.e. wound dressing, antibiotic prophylaxis and patient outcomes after either minimally invasive or open surgery. Each ward round was both a learning and teaching opportunity as we got to interact with a number of patients. Despite the language challenge, the doctors were always more than willing to discuss the patient care with us in English.

Operation Theatre.

Open Surgeries: I participated in the surgical operations through assistance in procedures on table with opportunities to ask questions on the procedure and skin incision closure. Procedures included biliary tree surgeries, hernia repairs, large bowel surgeries, pancreatic surgeries and others. This was an opportunity to improve confidence in basic surgical skills such as scrubbing, gowning, gloving, draping and suturing. I got the opportunity to analyze the various surgical instruments and equipment taking great interest in the simplicity and efficiency of the operation room along with the operation team.

Minimally Invasive surgery: The unit runs both Laparoscopic and Robotic Surgeries. This helped me gain great insight in how these improve patient's outcome with very minimum complications.

- Laparoscopic surgeries are carried out depending on the diagnosis of patients. These included mainly cholecystectomy, hernia repairs and others. I got an opportunity to assist in some of these minimally invasive procedures.
- Robotic surgery: This was done using the DaVinci robot. This laparoscopic procedure provided for a magnified field of view, more precision as compared to non-robotic laparoscopy. It also provided rooms for observers to view the surgeon's working through a magnified microscopic field meant for a second operator..

Transplant surgery: I also observed and assisted in some of the surgical operations by the unit of transplant surgery mainly kidney transplants. I was briefed on the laws and regulations regarding organ harvesting and transplantation for Austria and the role of the European collaboration on the transplant surgery through the Euro-transplant organization connecting various countries such as Austria, Germany and others under one umbrella. This organization is headed by a board that oversees the selection criteria for any probable recipient.

Surgical simulation learning: Using the Virtual Training Guide as well as assistance from an Assistant Doctor, I was able to use a laparoscopic Simulator. The Simulator provides training videos on how each lesson should be carried out. With laparoscopic instruments, we trained in suturing, grasping, instrument and camera navigation, coordination, lifting and grasping, Fine dissection, catheter insertion, handling intestines, sealing and cutting, applying clips and speed with precision. The simulator is modeled to train the feeling of operating in the abdomen of a real-live patient.



Figure 3: Various sessions in General visceral and transplant surgery.



Figure: Ready for surgery

PAEDIATRIC SURGERY.



Figure 4: At the start of pediatric surgery

I rotated in the department of pediatric surgery for a period of 6 weeks from 1st July to 9th August 2024. This was an intense period of learning and practicing.

Inpatient care. I participated in patient's care and management through routine follow up documentation and clinical examination, preoperative and post-operative care, discussion of investigation findings such as laboratory tests and radiological investigations. The major reasons for admission are traumatic conditions such as fractures.

Intensive care unit: I participated in the ICU for one week where proper communication and collaboration amongst staff was of paramount importance. During this period I participated in care and monitoring for the critical patients with severe surgical conditions such as Arnold Chiari 2 malformations. I was also briefed on optimal preoperative and post-operative fluid and electrolyte management. I also took part in follow up on these patients through discussion of the vital parameters, laboratory investigation and ultrasound to guide on the intervention to be started, maintained or stopped.

Operation Theatre: I participated in the paediatric surgery theater through assisting the senior doctors in the routine surgeries mainly trauma care, cyst resections and hernia repairs. Through these my basic surgical skills and confidence were enhanced. I also observed some of the complicated surgeries done at the hospital such as the Kasai procedure for the biliary atresia appreciating the state of the art in the management of this condition.

Lectures: I had the opportunity of taking part in summer school lectures with students from other parts of the world. These lectures were mainly on special topics such as childhood vascular anomalies, congenital pulmonary malformations, hand surgery, pediatric radiology, HLA

enigma, inflammatory bowel disease and many other related topics. These helped us acquire knowledge on diagnosis and advances in management of such conditions.

Radiology: I participated in the assessment and diagnosis of various surgical conditions and patients follow up using the ultrasound scan, X-ray, CT-scan, Magnetic resonance imaging studies gaining deeper understanding of the interpretation of the radiological presentation of some conditions. I also got an opportunity to take part in one the radiological Artificial intelligence model training where the model was being trained to assist in diagnosis of various conditions using this raw data. The professor continued to assure us that artificial intelligence will not be replacing doctors but rather aid in patient's management

Multidisciplinary conferences. I also took part in the department meetings where various patients were discussed to develop efficient multidisciplinary care plans. Guidelines for the management were discussed and the new updates were reviewed by doctors returning from the various conferences with emphasis on Evidenced based rather than eminence based medicine.. Doctors also had presentations on abstract conditions such as the biliary atresia, multiple trauma patients with severe pelvic injury and others. These meetings enhanced our knowledge and punctuality regarding organization and time management.

Electronic Health records (ELGA). This is one of the fields where digital advancements have been used in medical health information systems with application in electronic insurance cards, health records, medication overview and telemedicine. This enables secure transmission of medical data for preventive medicine, diagnosis, treatment and ongoing support of patients and enhances research. I appreciated the use of these electronic platforms in enhancing efficient patient's referral with information regarding the patient arriving at the hospital prior to patient's arrival. I also appreciated the concept of patients' inclusion in care by giving access to simple medical data both electronic and hard copies; improving their understanding of the medical conditions that they are faced with. These sheets are prepared by the Thieme compliance company and have videos, notes and images illustrating the surgical condition.



Figure: Last day at LKH with pediatric division in the background

SOCIAL DETERMINANTS OF HEALTH:

I also observed the impact of the socio-determinants of health on the health of the population in this smart city. With dedicated political will offering adequate funding to the health sector coupled with efficient research through the Joanneum research center advancing technology and digitalization in the health sector. The hospital is served by a functioning ambulance system under Red Cross with both ambulance vans and helicopters that carry patients with emergency conditions to the hospital from around the region enhancing patient's survival and care. The hospital is also well linked to the city and the region through an efficient road network with trams and buses. The whole hospital area is supplied with a stable internet which make digitalization possible enhancing patient's care and research.

ACCESS TO MEDICAL CARE IN AUSTRIA

Almost the entire resident population of Austria (99.9%) is covered by the statutory health Insurance that offers the insured and their co-insured family members' comprehensive protection in the case of illness. Most services are provided without additional costs to the insured. The Austrian social insurance is organized according to the membership occupational groups, hence individuals belong to a certain social insurance institution because of the work they do. The Statutory Health Insurance offers checkups for young people and adult screening for early diagnosis, medical treatment, dental treatment, sickness benefit and maternity allowance. With health care being provided at almost no extra cost, the health seeking behavior of the people of Austria culminates into a low level of unmet medical needs among the 99.9% of the population.(4)

LESSONS LEARNT & APPRECIATED.

I gained knowledge on the pre-operative, intra-operative and post-operative care of a surgical patient in a resourceful high income hospital.

I obtained knowledge on the different surgical advancements used in laparoscopic, robotic and open surgeries in a high income country.

I appreciated the efficiency of health insurance in improving the patients' optimal care.

I observed the importance of digitalization in patient centered care as a way of improving patient`s outcomes

I appreciated the importance of electronic platforms in educating patient about their conditions improving satisfaction and adherence to treatment.

I appreciated the importance of research and evidence-based medicine in patient care.

I observed the impact and the future of artificial intelligence in the health sector.

I appreciated the diversity in the patients care from different cultures on a global scale.

INTERCULTURAL COLLABORATION.

“Was ist der Plan?”

Well away from the academics; the stay in Graz was more of a summer vacation; with a dedicated proactive group of international students; we were able to enjoy the Styrian countryside and the Graz city through the various trips, tours and games organized by the international office at the Medical university of Graz as well as group basis. Every Wednesday evening was a day to taste the foods and various drinks that Graz had to offer. Weekends were days for long distance trips around Styria where we had activities such as hiking the Austrian Alps, wine tasting in the Southern Styria region, and enjoying the swimming on hot days in the various lakes and swimming pools around the city of Graz.

During hospital periods, I worked with these students from different countries across the globe offering comparative knowledge from different backgrounds on medical studies, healthcare systems and patient’s managements.

These interactions helped me realize the importance of languages in patient care in a global perspective with small gain in the learning of a new language (German). We also had various social events to enhance our cultural cohesion and these were mainly organized by the international office.



Figure 5: Eggenberg Palace with our student mentor, Tamara



Figure 6: Cultural exchange with international students



Figure 7: Schonbrunn Palace Vienna



Figure 8: Old city center Graz



ONE OF THOSE GOOD DAYS



Figure 9: Last day with student mentor, Tamara



Figure 10: Exchange student coming to Uganda next year.



Figure 11: Aboard Qatar airlines enroute to Uganda

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