OPERATION HERNIA 2023, Dixcove and Axim, January 7-16 2023

With great pleasure we can inform you that the 12th Dutch Operation Hernia mission has taken place in January 2023. A group of five surgeons (Victor Alberts, Eddy Hendriks, Nanette van Geloven, Anne Ottenhof, Maarten Simons) and 4 surgical residents (Siem Dingemans, Hanneke van Eden, Janneke van Grinsven, Dominique Olthof) spent 10 days in Ghana for Operation Hernia. They operated 94 patients with 104 inguinal hernias in two local hospitals (Dixcove and Axim).

Inguinal hernia is a common surgical condition, with an estimated 220 million cases worldwide. Population-based studies from sub-Saharan Africa described a prevalence in men ranging between 7% and 13%. Although the high need for hernia surgery in Africa, the numbers of surgeries performed remain low. This low rate leads to morbidity, mortality, and negative economic consequences. It has been estimated that an additional 1 million inguinal hernias in need of surgical repair will develop by 2022 in Ghana. Operation Hernia contributes with a yearly mission to reduce the morbidity of inguinal hernias and get people back to work.

Our first weekend was a travelling weekend. From Accra we (and our luggage, special thanks to Dr Brobbey!) travelled by car to our respective hospitals. During a 7 hour car ride our first impression (a raw and warm country) of Ghana was made. We visited Fort Elmina under supervision of a tour guide. It was impressive to hear about the slavery past, in where the Dutch played a significant role.





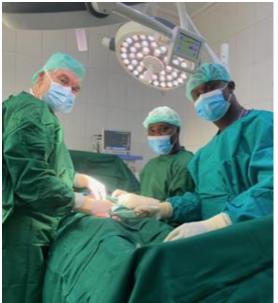
AXIM MISSION

Facilities in Axim were great. The hospital is a moderate size government hospital. Operation Hernia was the first mission that was held in this hospital and the staff, (scrub) nurses and anaesthetists were really motivated, hardworking and involved. The staff, consisting of Dr Jerry (principle doctor), Dr Prince (doctor), Natascha, Florence (principal OR nurse) and Nurudeen (administrator), welcomed us on Monday morning. After the welcome ceremony we split up. Two of us directly went to the ward to screen patients, the other two went to theatre. A lot of patients were already pre-screened by Operation Hernia and patients were well diagnosed. We only needed to refuse one female patient with overweight and an umbilical hernia because of the risk of recurrence. In one child with a right-sided inguinal hernia, we diagnosed a non-scrotal testis on the left side.

The OR complex consisted of two operating theatres and luckily air-conditioning. Only a few times a power failure occurred but since the hospital possessed of a generator, no difficulties were experienced. During the week teamwork improved and routine was created. In different teams, a total of 58 operations were performed: 53 reducible and non-reducible inguinal/scrotal hernias and 5 hydrocele surgeries. Nine children (age <18 years) were operated on. It was impressive to see how Ghanaian young children came to theatre without their parents and bravely underwent the procedure. The local doctors were extremely involved and performed 3 surgeries under supervision of Maarten Simons. Except for the patients with a bilateral hernia and children, all patients were operated under local anaesthesia. We did our best to learn some Ghanaian words of which 'boah boah' (please cough) and 'akwaaba' (welcome) were the ones we used the most.

Theatre in Axim









Male ward and paediatric ward





On Thursday night we organised a celebration dinner to express our gratitude for the effort of the whole staff. We celebrated the huge number of patients that we already operated on and the good teamwork. On the way to the location we stopped at the port in the city centre and enjoyed the view with all the fishing boats, and met some of the local population, but also one of the oldest trees, approximately 200-300 y/o.







The farewell dinner was filled with speeches, magic tricks (by Dr Simons), and we were surprised with self-made (by one of the nurses) Ghanaian traditional clothing. The party became a blast when the African music and dance moves started!

Axim team



DIXCOVE MISSION

After arriving in Dixcove on Sunday evening, we immediately went to the hospital to meet with the local staff and set up our supplies. We met Dr Brobbey, who was so kind to already escort us from Accra to Dixcove with all our materials, and also head nurse Mary and administrator Felicity, representing the rest of the staff.

Dixcove Hospital and village









We heard from Dr Brobbey that Dixcove had already hosted 5 (!) other medical missions in 2022, so that the staff had worked really hard over the last year. Because of this there were some concerns regarding the maximum number of surgeries during our mission. Nevertheless the spirit of the staff was very good and everybody was ready to make it an impactful week.

The Dixcove Hospital has two theatres, both were available for us. A pleasant surprise for both the theatre as the ward staff was that we were going to perform most operations under local anaesthesia which meant a significant reduction in workload for the staff.

Theatre in Dixcove









On Monday we started with fresh energy and after overcoming some logistical problems we were already able to help 7 patients, two of whom had a recurrent hernia which imposed an immediate surgical challenge for the team. Satisfied but ready to help more patients in the upcoming week, we met with Dr Brobbey and his staff. To our delight they were also very enthusiastic and because of the local anaesthesia we both agreed to increase the number of patients per day. As a result of this and the excellent team work, we have been able to help a total of 44 patients with 46 hernias. During the week we noticed the teams growing together which was highlighted by a big sing along in theatre, and the Dutch trying to speak the local language which did not really work out and therefore was a source of laughter.

Dr Brobbey's speech at Dixcove farewell dinner



Dixcove team





The Dutch Operation Hernia team would like to express their gratitude to the staff of both hospitals and the many local people that helped with transportation, hotel and catering.

At the end of the week the Axim team was reunited with the Dixcove group. In our final weekend we shared our experiences with each other while enjoying a cold Star beer and a swim in the ocean. On Saturday visited Nzulezo village (the name Nzulezo means 'water surface'), also called the Venice of Ghana. This floating village, which is built over the dark water of Lake Tadane, was added to the Unesco World Heritage in 2000 and can only be reached by boat. A total of 510 people belong to this community, a part of them live on the mainland. It is an isolated village with only a primary school. When children go to junior high school, their fathers build them a canoe to go to school (1.5 hours of paddling). Totally unexpected we found a poster of Operation Hernia, advertising for inguinal hernia surgery.

Visiting Nzulezo village





It was a very special trip for all of us! It was wonderful to be able to help the local fisherman and farmers from Ghana and to teach the local doctors. Hopefully they will be able to continue the care for patients with inguinal hernias. We are looking forward to come back to Ghana with our Dutch team next year!

Again, we are very grateful to all our sponsors, who made the mission possible: Rotary Hilversum, OLVG, Tergooi MC, Flevoziekenhuis for their materials and medication; Bard and Medtronic for their meshes.

References

- Beard JH, Ohene-Yeboah M, Devries CR, Schecter WP. Hernia and hydrocele. In: Debas HT, Donkor P, Gawande A, Jamison DT, Kruk ME, Mock CN, eds. Essential Surgery: Disease Control Priorities, Third Edition (Volume 1).
 Washington, DC: International Bank for Reconstruction and Development, World Bank; 2015:chap 9
- Patel HD, Groen RS, Kamara TB, et al. An estimate of hernia prevalence in Sierra Leone from a nationwide community survey. *Hernia*. 2014;18(2):297-303. doi:10.1007/s10029-013-1179-3
- Ohene-Yeboah M, Beard JH, Frimpong-Twumasi B, Koranteng A, Mensah S. Prevalence of inguinal hernia in adult men in the Ashanti region of Ghana. *World J Surg.* 2016;40(4):806-812. doi:10.1007/s00268-015-3335-7
- Löfgren J, Makumbi F, Galiwango E, et al. Prevalence of treated and untreated groin hernia in eastern Uganda. *Br J Surg.* 2014;101(6):728-734. doi:10.1002/bjs.9457
- Primatesta P, Goldacre MJ. Inguinal hernia repair: incidence of elective and emergency surgery, readmission and mortality. Int J Epidemiol. 1996;25(4):835-839. doi:10.1093/ije/25.4.835
- Galukande M, von Schreeb J, Wladis A, et al. Essential surgery at the district hospital: a retrospective descriptive analysis in three African countries. *PLoS Med.* 2010;7(3):e1000243. doi:10.1371/journal.pmed.1000243
- Löfgren J, Kadobera D, Forsberg BC, Mulowooza J, Wladis A, Nordin P. District-level surgery in Uganda: indications, interventions and perioperative mortality. Surgery. 2015;158(1):7-16. doi:10.1016/j.surg.2015.03.022
- Grimes CE, Law RS, Borgstein ES, Mkandawire NC, Lavy CB. Systematic review of met and unmet need of surgical disease in rural sub-Saharan Africa. *World J Surg*. 2012;36(1):8-23. doi:10.1007/s00268-011-1330-1
- Tabiri S, Yenli EMT, Gyamfi FE, et al. The use of mesh for inguinal hernia repair in northern Ghana. *J Surg Res.* 2018;230:137-142. doi:10.1016/j.jss.2018.04.058
- Sanders DL, Porter CS, Mitchell KC, Kingsnorth AN. A prospective cohort study comparing the African and European hernia. *Hernia*. 2008;12(5):527-529. doi:10.1007/s10029-008-0369-x
- Beard JH, Oresanya LB, Ohene-Yeboah M, Dicker RA, Harris HW. Characterizing the global burden of surgical disease: a method to estimate inguinal hernia epidemiology in Ghana. World J Surg. 2013;37(3):498-503. doi:10.1007/s00268-012-1864-x