Radiology project in Zanzibar

Teaching Radiology and Radiography in Zanzibar Archipelago

Radiology project is based on close cooperation between Mnazi Mnoja Hospital in Stone Town in Zanzibar and Musgrove Park Hospital, Taunton and Somerset NHS Foundation Trust, UK.

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Aims of project:
- radiography training
- teaching course on reporting the x-ray examinations by Radiographers
- introduction of alert system to communicate abnormal radiology results
- improving the technique of contrast examinations and fluoroscopy studies
- establish protocols and training in CT examinations
- support for Radiologist in CT image interpretation

Future goals:
- training in ultrasound examinations, including obstetrics scanning
- performing image-guided biopsies and interventions
- education of doctors and other health professionals on adequate use of the x-ray department and requesting radiology investigations
The ‘Link Zanzibar’ is a partnership between Taunton and Somerset Foundation Trust and the Ministry of Health in Zanzibar, Tanzania.

Established in 2007 in response to the Department of Health ‘Global Health Partnerships’ initiative, it has included different specialities - obstetrics, neonatal care, paediatrics, emergency medicine and radiology over the last 7 years.

Zanzibar’s Ministry of Health asked for radiology support in 2010, when a CT scanner was donated to hospital in Stone Town. The CT scanner was installed in the brand new building without adequate training for staff on scanning techniques and interpretation of the images. The main x-ray department was in an even worse state, with untrained staff, old-fashioned machines that barely worked and no-one to interpret x-rays when they were obtained.

Since our first trip in January 2011, a close cooperation has been establish between the radiology departments, with an innovative training programme and long-term support being provided to various hospitals in Zanzibar.
Zanzibar is the main island of a small archipelago, lying off the coast of Tanzania, East Africa.

The island operates as an autonomous region, with a population of over 1.2 m people, covered by one main hospital in capital, Stone Town and two small cottage hospitals in the north and south of the island.

12 qualified doctors are resident on the island, including 1 Radiologist based at the main Mnazi Mnoja Hospital in Stone town. The X-ray department consists of two x-ray rooms, a darkroom and very long queue of patients that occupy the corridors, car park and any available space around, when the department is operating. A tiny room across the corridor with two battered ultrasound machines completes the picture. Over 150 x-rays and 50 US examinations performed everyday, but a significant number of patients are still turned away due to lack of capacity.

The CT scanner is only utilised for a very low percentage of time - the cost of CT examinations are disproportionally high to people’s wedges. It is just too expensive and patients can’t afford the diagnosis, even when clinically indicated.

There are only a few qualified radiographers on the island and usually the department is covered by one radiographer, who supervises the work. Most of the x-rays are obtained by radiography students and helpers, without any formal training, who have ‘learnt on the job’.

These people do their best, but when we started, the lack of training was clearly visible through the quality of obtained x-rays, with non-existant or very poor documentation. Few x-ray films had the patient’s name on or indications as to which side of the body had been examined.

Only very small percentage of x-rays was seen and reported by local Radiologist, due to lack of time and resources. Even obvious and significant pathologies were missed on the radiographs, as these were not seen by Doctor but by Medical Officers or Nurses who didn’t have the knowledge to evaluate pathological findings.

When we first arrived to Zanzibar, there was also no communication between the x-ray department and other parts of the hospital. Patient were simply given the x-ray film and sent away; back to the village or to the end of 3-4 day queue for the out-patient clinic, de-
spite a variety of findings on the x-rays. We saw children with obvious supracondylar frac-
tures, returning to the orthopaedic clinic 3-4 weeks after an injury and the initial x-ray.

Our work:

1. Practical and theoretical training of Radiographers and Radiography helpers in ob-
taining good quality x-ray examinations: patient position and rotation, optimum radi-
ographic exposure, side markers.

2. Introduction of the position of ‘Reporting Radiographer’, who would be able to issue
the official report for x-rays and reduce the number of unreported examinations at
hospital. Delivery of theoretical and practical training programme in plain film report-
ing, similar to modular teaching in UK settings.


4. Building links and cooperation between the Radiology Department and Medical
Staff working in different clinics and wards within the hospital.

5. Teaching for all doctors and clinical officers about the optimal use of radiology de-
partment and the benefit of various radiographic and radiological techniques in dif-
ferent clinical scenarios.

6. Training sessions for doctors, clinical officers, physiotherapist and medical students
about basic interpretation of the radiographic examination.
To date we have completed 4 radiology trips to Zanzibar with encouraging results. The x-ray team made excellent progress in improving the quality of x-ray examinations, implementing the ‘Red dot’ system and ‘Reporting Radiographers’ scheme, with better communication between the different clinical teams.

An educational team has been established - each Senior Radiographer is now responsible for teaching and supervising the work of 2-3 junior colleagues. New radiographers have been enrolled in the training programme, which makes the system sustainable, with the possibility of extension to other centres in the region.

The Zanzibar Health Ministry have made formal requests for further training and cooperation. The most urgent and important issues include training in ultrasonography, radiology teaching for junior doctors and extending the alert system and reporting scheme to other hospitals within the Zanzibar archipelago.