Unique issues in Africa

Kieran McHugh
Savvas Andronikou
• x-rays discovered over 100 years ago
• yet up to two thirds of the world’s population has no access to primary care diagnostic imaging services

• WHO: every institution that merits the title of ‘Hospital’ should have, at least, simple radiographic and ultrasound equipment available
Location

- radiographic equipment can be so expensive that its purchase might be to the detriment of other important components of a basic health service
WHO recommends

• 3-tiered imaging service pyramid:

  • basic radiological services (BRS)
  • general purpose radiological service (GPRS)
  • Specialised radiological service (SRS)

• Do not exist
Basic service

- 90% radiographs
- simple orthopaedics
- 10% ultrasound
- C-arm fluoro?
- (CT in regional centres)
WHIS-RAD

- World Health Imaging System for Radiography (WHIS-RAD)
- Radiographic equipment, easy to operate and maintain
- applicable to children and infants
- relatively inexpensive
- safe for patients and operators
- produces high quality images
- digital
- CR plate, added advantage of large dynamic range, repeat x-rays seldom necessary
- Radiation doses from WHIS-RAD typically low
- Appealing where standards of radiation protection suboptimal
- X-ray generator may be used with any power supply
- WHIS-RAD batteries can operate for up to 3 weeks without recharging
• training of local health care workers to use the equipment appropriately and safely

• *WHO Manual of Diagnostic Imaging: Radiographic Techniques and Projections*
Donate old equipment?

• No!
• No service manuals
• No maintenance contract
• breaks down, finished....
Image interpretation?

- no or few radiologists
- 1 in Malawi (15 million)
- 1:1.5 million

- local health care workers
- Teleradiology
Teleradiology options

- Swinfen (internet + digital camera)
- AED-SATELLIFE
- Téléradiologie sans Frontières
- Nighthawks + NGOs
- outreach....
- WFPI?
Central Africa, TB?
WHO manual

• of Pediatric Radiology via WFPI?

• history

• aim at what level?

• omit CT & MRI
Ultrasound

• sonography should be taught on a supervised practical basis in a local environment
• WHO recommends 6 month minimum training for diagnostic sonography.

• *Imaging the World*
http://imagingtheworld.org allow for alternative basic sonographic training to be shortened to a few days

• reliance instead placed on transmission of images over the internet to a secure server
Blantyre, Malawi

1 CT scanner for entire country (population 15 million)
naivety
Professor Sir Howard Middlemiss Travelling Professorship

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POLYCLINIC RVTH

CLEFT LIP & CLEFT PALATE
Surgical team from Mercy Ships coming to the Polyclinic, RVTH
MONDAY, MARCH 2nd 2009, 8am

BEFORE SURGERY AFTER SURGERY CLEFT PALATE CLEFT PALATE REPAIR
• Kinteh
• 90% Cuban doctors
• ‘brigade’
• Taiwan?!!
- asymptomatic, 26 years.
- DOB!
• teaching
• ultrasound
• Medical students & Medical School
• Spanish-English-Mandinka

• intussusception case
Boabab
• Bird watcher’s paradise
The road ahead?

- teaching (basic)
- collaboration
- mobile/cell phone technology
- teleradiology