Historical perspective of surgery in Low Resource Settings

Hugo Heij, pediatric surgeon

Personal perspective

- Medical school Rotterdam (1968-1974)
- Surgery, Obs&Gyn Kerkrade + Tropical medicine course KIT Amsterdam (1974-1976)
- Zambia
  - General medical officer (1976-1979)
  - Superintendent SFH (1995-1999)
- Paediatric surgeon (1985-1995)
  - Chair AMC and VUmc Amsterdam (1999-2014)
- Chairman Working Party Tropical Surgery 1990-1995
- Founding Fellow of COSECSA

Two questions

- Why do we study history?
  - To give a retired professor an opportunity to look back on his career?
  - To detect patterns from past experiences that may help to answer actual questions?
- What determines the course of history
  - Persons?
  - Structures?
- Unanswered questioned are less dangerous than unquestioned answers

History of surgery in LRS

Four phases

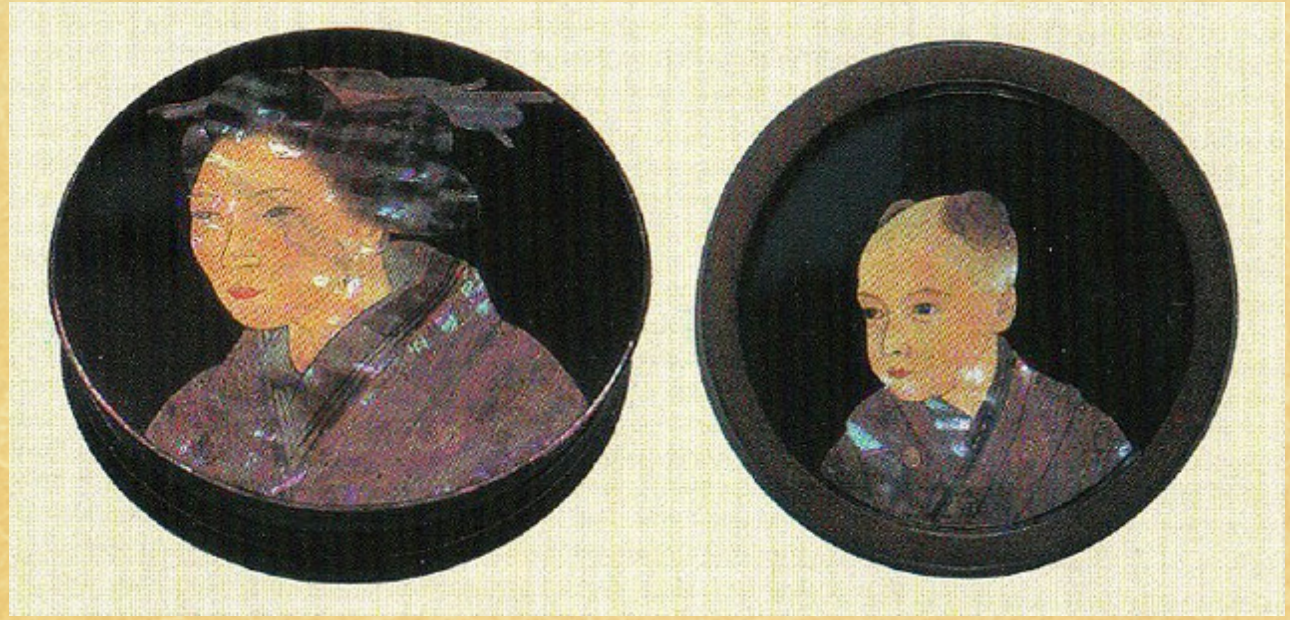
- Explorations 1600 - 1850
- Colonial and missonary era 1850-1950
- After independence 1950 – 2000
- The 21st century

Explorations

- Surgeons as ship doctors (‘chirurgijns’)
  - Dutch East India Company (VOC)
  - No academic degree but practical training as barber/ surgeon
  - Characteristic: low status and correspondingly low pay
  - For example Jan van Riebeeck, founder of Cape Colony

Deshima and surgery

- VOC trading post in the bay of Nagasaki
- Philip von Siebold, (Würzburg) married a Japanese, their daughter O-Ine became the first Japanese female surgeon

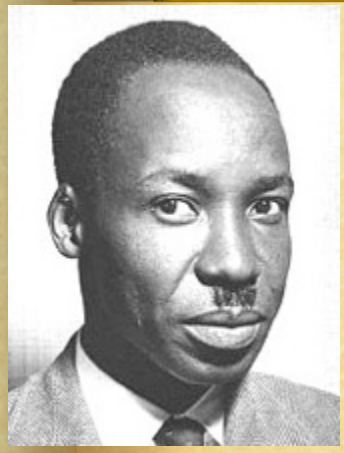


Colonial and missionary era

- Initially missionaries received some medical training
- David Livingstone trained as pastor and doctor
- Albert Schweitzer, studied theology first and attended medical school later
- Since late 19th century professional surgeons came out both in church and government service

Colonial and missionary era

- Characteristics:
  - Life-long dedication
  - Training of auxilliaries
  - Establishment of professional associations e.g. ASEA (1948) => COSECSA (1999)
  - Authors of books
    - Charles Bowesman: Surgery and clinical pathology in the tropics (1960)
    - W.W. Davey: Companion to Surgery in Africa (1968)
      - Foreword by Burkitt: "emphasis laid on conditions in relation to their frequency"

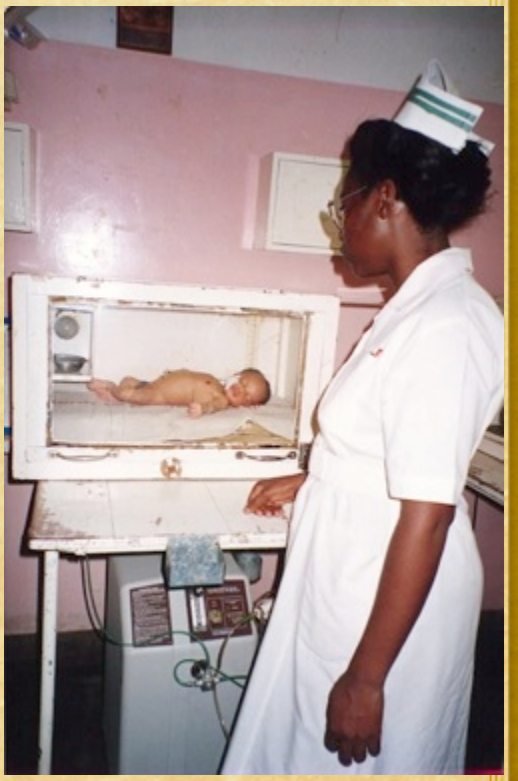


After Independence

- Medical schools established in most countries
- Shortage of doctors in rural areas necessitated recuitment of large numbers of expatriates
- 1970's around 10% of medical graduates from Netherlands went to work in LRC through volunteer organisations (MEMISA, DOG) or government (DTH)
- Many specialised in surgery or O&G after repatriation and remained committed to LRC

After Independence

- Characteristics:
  - Good basic training in surgery and O&G and tropical medicine, but no recognition or registration
  - Tropical doctors trained for multi-tasking in district hospital, often single handed
  - Short term contracts (3-6 years)
  - Continuity in rural hospitals guaranteed by (clerical) nursing staff (“matron”)



The 21st century

- Increasing numbers of medical graduates in LRC reduce need for expatriate generalists
  - Still some need in rural areas
- Training of 'tropical doctors' is now recognized (AIGT) and part of it is done in LRC
- Baby boomers are retiring and return as specialists, either residential or on project base

The 21st century

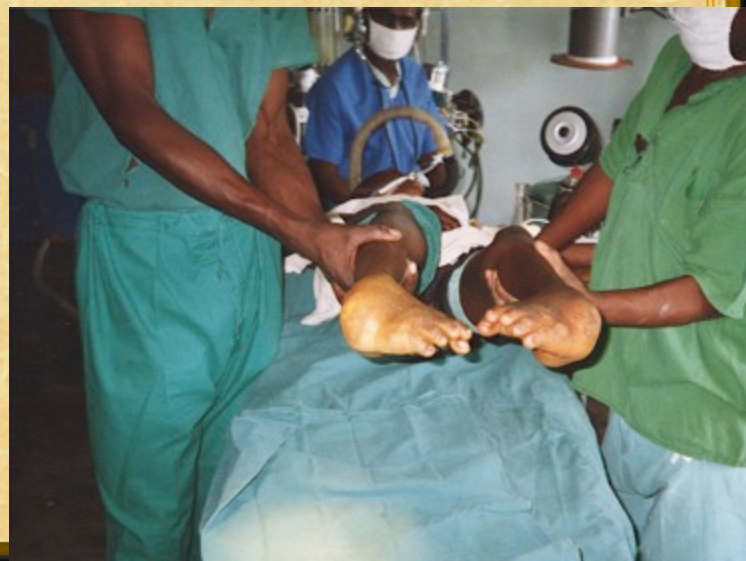
- Characteristics:
  - Emphasis of surgical work is on
    - Emergency relief (MSF)
    - Specific diagnoses and disciplines
      - Plastic and reconstructive surgery (Interplast, Smile Train)
      - Orthopedics (World Orthopedic Concern)
      - Neurosurgery (spina, hydrocephalus)
    - Training and coaching
      - Clinical officers training project in Malawi
      - Establishment of colleges, examinations (COSECSA)

Summary of historical phases

- Surgical activities by Western doctors in LRC since 1600
- Increasing professionalism and, thereby, appreciation
- Involvement in teaching and training at all levels
- From multi-tasking sheep with five legs to focus on specific activities (relief) and mono-disciplines.

Which structures are relevant?

- Type of pathology
  - Almost all surgical conditions in LRC also occur in HRC but with different incidence
  - Example appendicitis
    - Probably low incidence in HRC until late 19th century
    - Low incidence in LRC until recently
    - Genetic or nutritional factors in etiology
  - Example congenital malformations
    - Club feet
    - Spina bifida



Which structures are relevant?

- Circumstances in which surgeons work
  - Tools and facilities
  - Training
  - Organisation of surgical care

Which structures are relevant?

- Circumstances
  - Tools and facilities
    - Expensive surgical instruments, e.g. for minimal access surgery, joint replacement
    - How to deal with discrepancies in availability?
    - What to do with second hand equipment?
    - Differences in indications
      - Symphysiotomy for obstructed labour
      - Ureterosigmoidostomy for bladder exstrophy

Which structures are relevant?

- Training
  - Fully trained (>10 yrs) surgeons are expensive and scarce
  - Alternatives:
    - District Medical Specialists
    - Clinical officers
  - Critical attitude
    - "Scepticaemia: an uncommon generalised disorder of low infectivity. Medical school education is likely to confer life-long immunity" (Skrabanek & McCormick)
    - Evidence Based Surgery is necessary for the introduction of new concepts, like 'essential surgery'

Which structures are relevant?

- Organisation of surgical care
  - Focus in tropical health has been too long on epidemiology, i.e. numbers
    - communicable diseases with emphasis on prevention
  - Surgery, obstetrics and anesthesia considered as care of the individual
  - Only recently the impact of death and disability due to surgical disorders recognized
  - Risk of surgical activities becoming isolated from comprehensive care programs

Epilogue and conclusions

Two questions asked at the start

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Answers for the present from the past?

- How did Albert Schweitzer cope with staff shortages?
- Which solutions did Kees Waaldijk develop for shortages of supplies?
- Did intermediate technology provide answers?
- Is primary surgery (Maurice King) a useful concept?
- Is training of clinical officers a sustainable way of relieving surgical shortages?

The role of people vs structures

- What impact did individual surgeons make on the course of history?
  - Livingstone became famous as explorer
  - Schweitzer received Nobel Prize but not in medicine
  - Important contributions by non-surgeons like Maurice King
- How can structural changes be brought by surgeons?
  - Integration of surgery in health care programs
  - Research towards essential surgery
    - Development of concept
    - Data collection

History as ‘lieu de memoire’

- Another function of history is to construct a collective memory which serves to build and support our group identity

History as ‘lieu de memoire’

- Realising that we stand on the shoulders of giants gives strength to tackle the challenges that are facing us now:
  - Advocacy of surgery as important discipline
  - The concept of essential surgery and its requirements
  - Developing evidence based practices in surgery

Thank you

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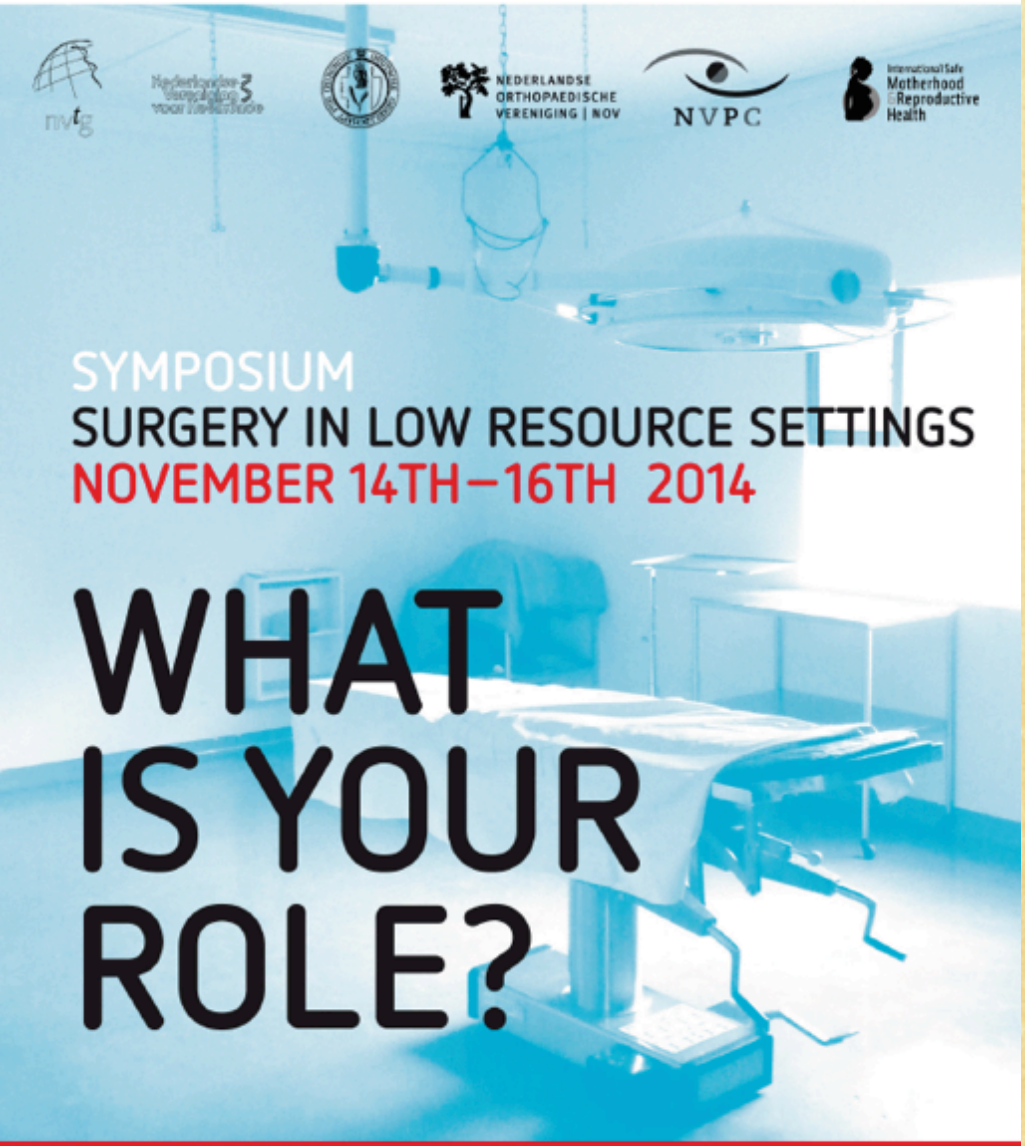

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