



ER Architecture

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Greetings from Africa



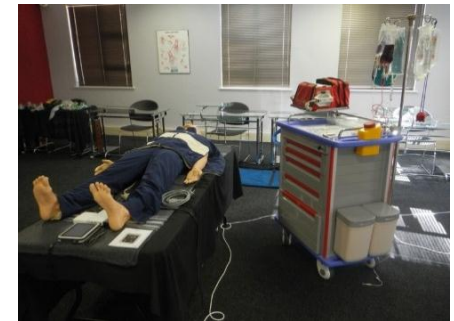
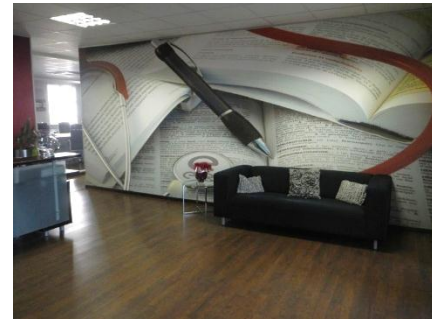
Africa



South Africa

- Population 50 Million people
- Private and Public Healthcare system
- Private health care treats 8 million people
- Public health care treats 42 million
- 60/40 State/Private spend
- Grossly under resourced public sector
- 1200 doctors graduate per year, 50% leave within 5 years
- 15% of doctors stay in the public health system
- Emergency medicine is only 12 years old as a discipline in SA
- Resultant developing infrastructure that is variable.

The ER Group
provides specialised
solutions within the
medical industry with a
vision of excellence,
integrity and attention
to detail



Emergency Departments around the world



ER Architecture – Complicated Science?



Emergency Department Architecture



Safety First!

- Location
- Access
- Security



Emergency Department Architecture



Physical Principles to consider in ED design

- Geographic Location (Urban or Rural)
 - Helipad/fixed wing access
 - Tourist destination (Disease profile, accommodation)
- Hospital facilities available (Beds, ICUs, Disciplines, Labs, Radiology services)
 - Volume of cases, availability of bed types, investigative capability
- Future growth requirements
 - Commercial considerations, space availability, Clinical decision units



Emergency Department Architecture



Medical principles to consider in ED design

- Pre-hospital services infrastructure
 - Case type, quality of case management, tele-health
- Specialist vs non-specialist operated
 - Referral Arrangements/holding areas
 - Skill sets of nurses and doctors
- Specialist support services
 - Referral Patterns, protocols (e.g. stroke/MI)
- Local Industry/community
 - Chemicals
 - Animals
 - Disease profile



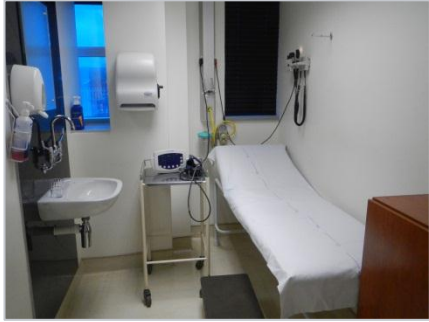
Emergency Department Architecture



Human Principles to consider in ED design

- Investor or hospital expectations
- Patient type - Paediatrics
- Medical staff expectations
 - Lifestyle
 - Scheduling
 - Facilities – overnight, rest areas
- Religious beliefs of the community
 - Doctor gender vs patient gender
 - Separate entrances and facilities for male and female
 - Racial and religious bias

Emergency Department Architecture



Process and Procedural Architecture

- Emergency Departments function best with defined process and procedure
 - Human Resource
 - Administration Policy – hospital management
 - Clinical Policies – reviews, near misses
 - Research
- Clinical governance process (start to end)
 - Doctors
 - Nurses
- Academic and training programs
- Creative scheduling/rosters
- Lifestyle consideration

Emergency Department Architecture

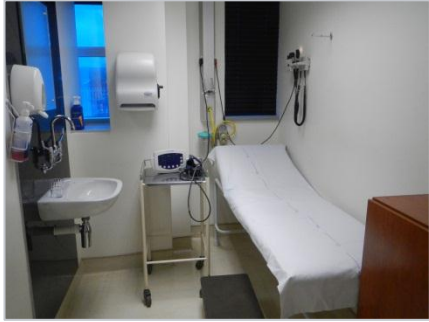


Key structural features of modern emergency departments

- Integrated emergency department (incorporating pre-hospital services and clinical decision units)
- Security and safety orientation
- Triage area
- Separate entrances for walking/ambulance arrivals
- Spacious design with multifunctional areas
- Visual considerations
 - Public
 - Resuscitation area
 - Fatalities
- Administration Area
- Alternative treatment areas (Urgent Care?)



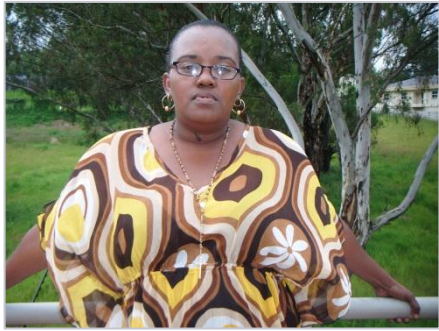
Emergency Department Architecture



Key structural features of modern emergency departments

- Specialised areas where appropriate – e.g. Paediatrics
- Easy egress and access to hospital wards, ICUs, radiology, exits
- Adequate waiting area with suitable amenities
- Hazmat capability
- Procedure rooms/theatres
- Pedestal (ceiling or floor) mounted resus points
- Electronic medical records
- Wifi
- Counselling/Bereavement facilities
- Private examination areas
- Level appropriate equipment

Emergency Department Architecture



Emergency Departments in South Africa

- Olifantsfontein Private Clinic, South Africa
- 12 beds, general community outpatient centre, private sector



Emergency Department Architecture



Emergency Departments in South Africa

- Baragwanath Hospital, Soweto, South Africa
- 3000 beds, tertiary academic hospital, state sector
- Largest hospital in the southern hemisphere



Emergency Department Architecture



Emergency Departments in South Africa

- Anncron Private Clinic, South Africa
- 160 beds, general community hospital, private sector



Emergency Department Architecture



Emergency Departments in South Africa

- Nelspruit Private Clinic, South Africa
- 350 beds, general community hospital, private sector



Emergency Department Architecture



Emergency Departments in South Africa

- Urgent Care Private Clinic, South Africa
- 12 beds, general community outpatient centre, private sector



The Future - Mobile Emergency Departments?





Thank you

Dr Steven Holt