

Ideal Burn Unit in developing countries

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Elements

- Architectural design.
- Functional design.
- Infection control:
 - Unit;
 - Patients' rooms.
- Special considerations:
 - Visitors/companions;
 - Power supply;
 - Cost reduction.

Architectural design

- Preferably separate building:
 - Easier to control;
 - Possibility of extension;
 - **Delayed admission???**
- Last floor:
 - Limit access;
 - Possible extension.
 - **Lifts?????**

Architectural design

- Separate accesses:
 - Patients;
 - Staff;
 - Visitors.
- Separate rooms:
 - Single patient per room:
 - Even if small.
 - Possible doubles:
 - For moderate/minor cases only.

Architectural design

- Outside corridor:
 - Preferably two:
 - Opposite the ward and ICU.
 - One:
 - Opposite the ward.
- Inside corridor :
 - Starting at the patient entry;
 - Connecting all the interior suites.

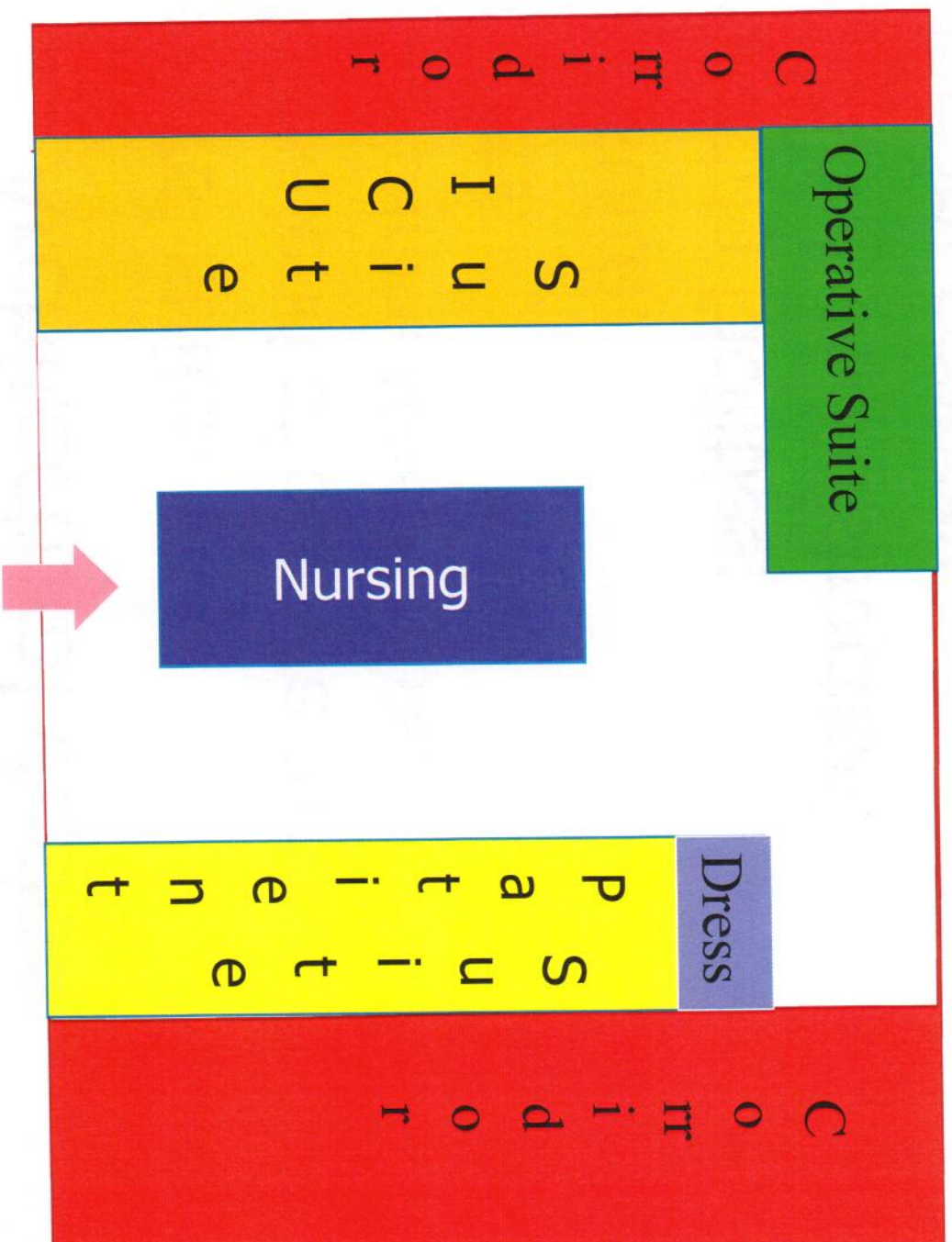
Architectural design

- ICU suite:
 - Capacious rooms:
 - Dressing in the room.
- Inpatient (ward):
 - Include dressing room.
- Operative suite:
 - Nearer to the ICU.
- Nursing station:
 - Central:
 - Access to all the unit.

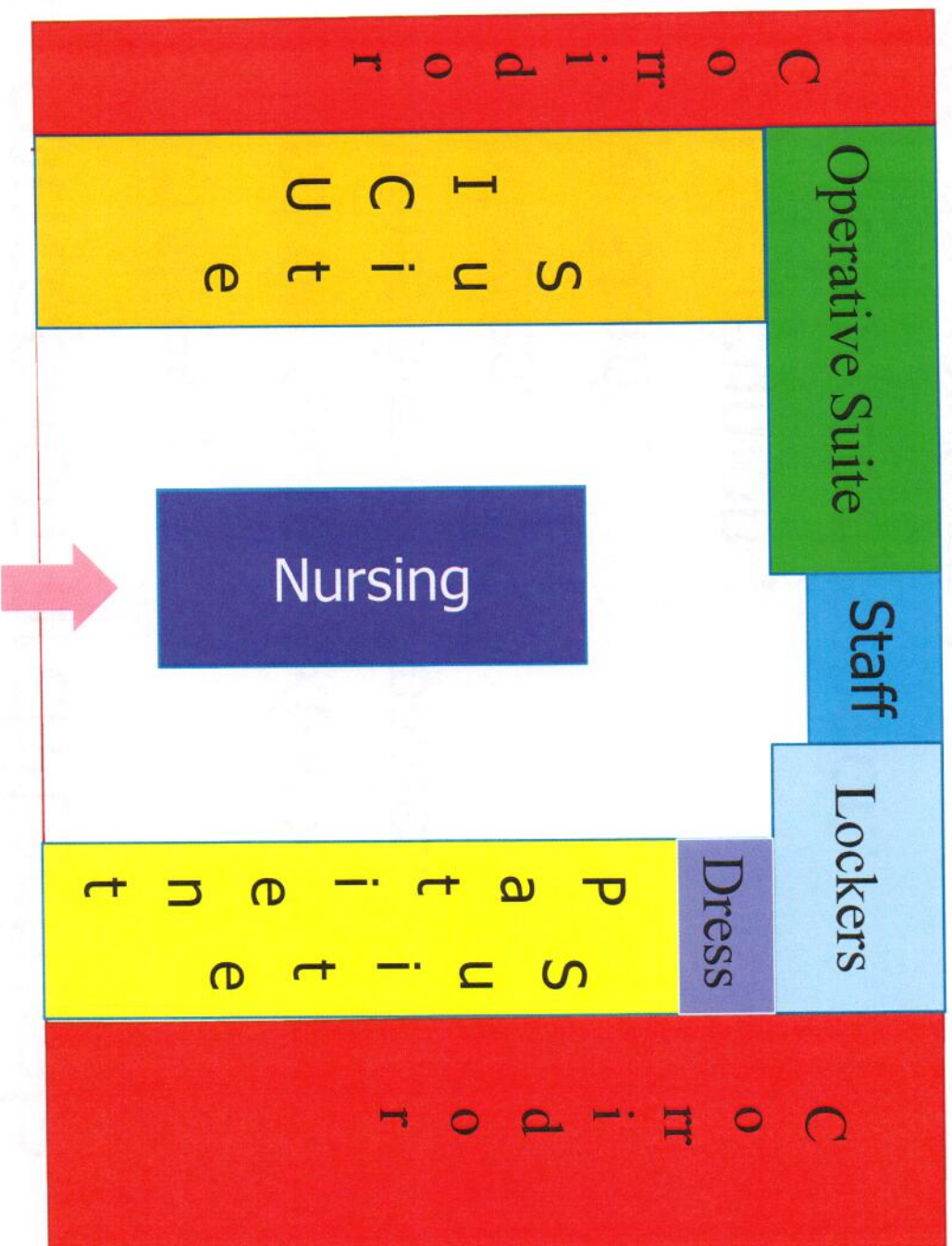
Architectural design

- **Recreation suite:**
 - Preferably; not must
 - Central location;
 - Contain appropriate facilities:
 - Particularly children:
 - Toys and playing aid.
- **Daylight exposure:**
 - Preferably in all rooms;
 - Recreation suite
 - Staff room.

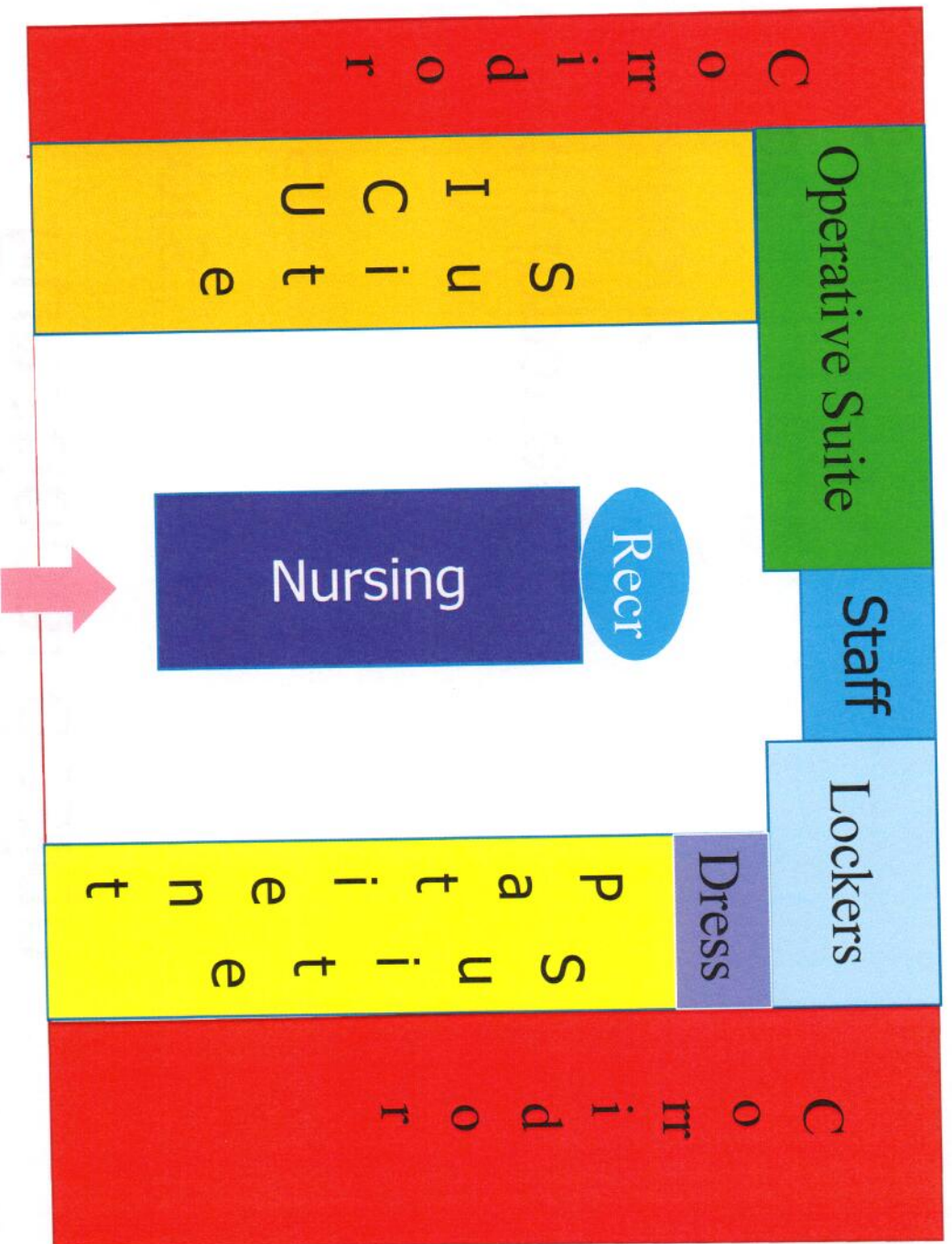
Architectural Design



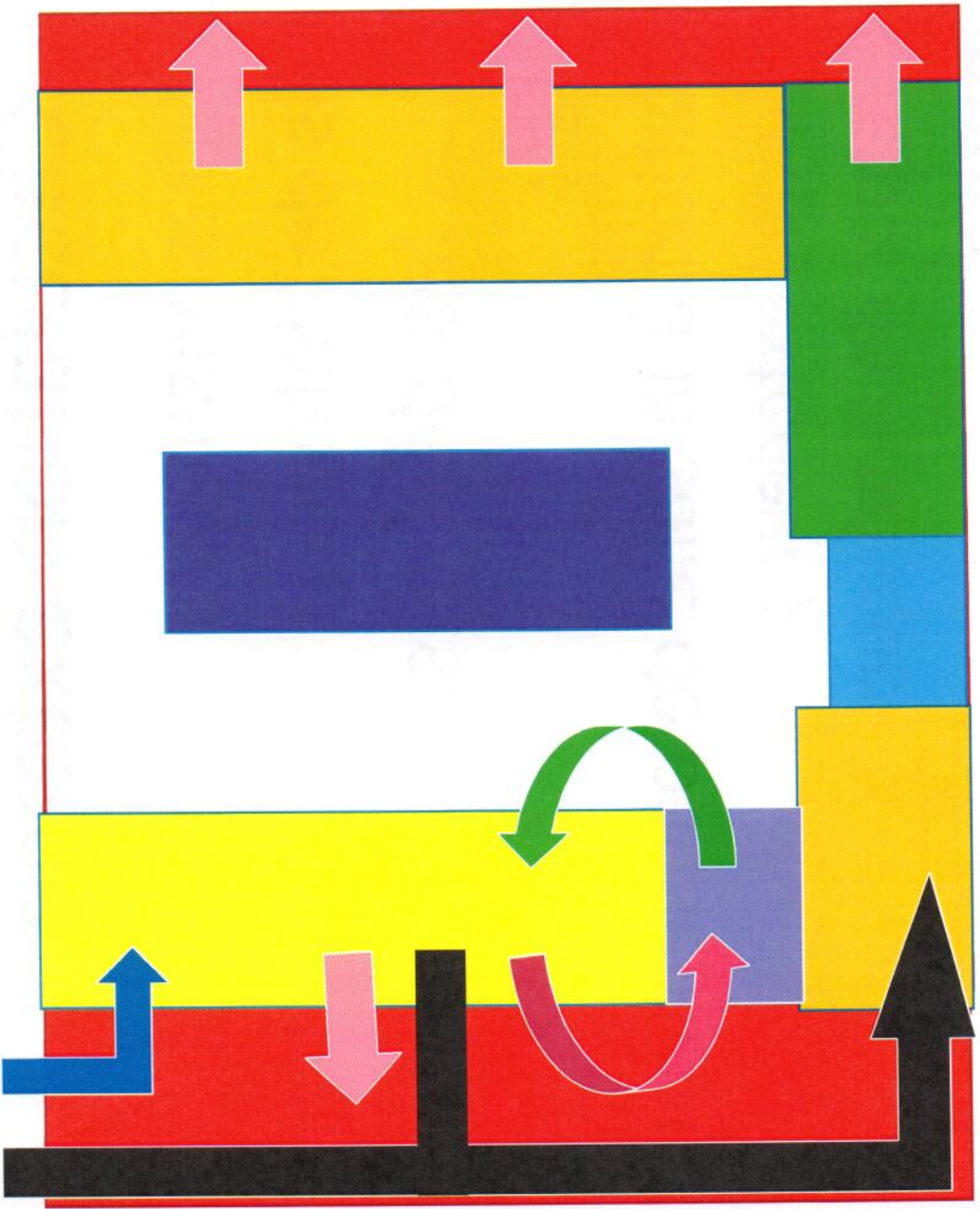
Architectural Design



Architectural Design



Functional Design



Outside Corridors

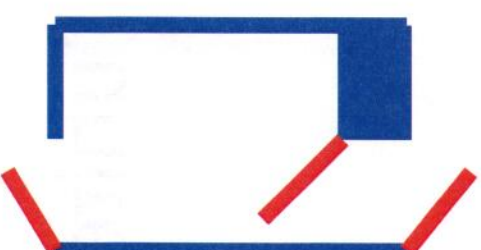
- Dirty:
 - No aseptic/antiseptic measures.
- Entrance:
 - Personnel;
 - Visitors/companions;
 - Supplies.
- Exit:
 - Personnel;
 - Visitors/companions;
 - Wastes.

Inside Corridors

- Clean:
 - Sterile.
- Circulation inside the unit:
 - Personnel;
 - Patients.
- Preferably:
 - Single direction:
 - Patients/supplies.
 - Video surveillances.

ICU Rooms

- Two opposing accesses:
 - Clean corridor:
 - Double doors:
 - Sealed;
 - Electric command.
 - Dirty corridor:
 - Single door:
 - One handle from the inside.
- Toilet included.



Ward Rooms

- Similar to ICU rooms:
 - Might be double:
 - More capacious rooms.
- Patients are more dependent:
 - Different room facilities.
- One common dressing room:
 - At the end of the ward:
 - Two Accesses:
 - As the rooms.

Inside Circulation

- **Patient:**
 - **Entry:**
 - Main entrance.
 - **Operation suite circulation:**
 - One-way direction.
- **Personnel:**
 - **No cross-patient access.**
 - Limit the movement to minimum.

Outside Circulation

- **Visitors' access:**
 - Never from inside.
- **For all wastes.**
- **Patients:**
 - **Circulation to dressing room:**
 - Access from outside;
 - Return from inside.
- **Personnel:**
 - Access to lockers at end of shift.

Unit Infection control

- **Closed Unit:**
 - Restricted access to patients.
- **Visitors are not allowed in the Unit:**
 - Outside corridor.
- **No contact between patients:**
 - ICU:
 - Bathing and dressing in the rooms.
 - Inpatient/ward:
 - Different accesses to dressing room.

Unit Infection control

- Hot water:
 - No reservoir heaters:
 - Solar heaters.
- No waste circulation within the unit.
- Double doors for all rooms:
 - Limit air from patient to inside corridor:
 - Minimizing cross-infection.
- External access to dressing room.

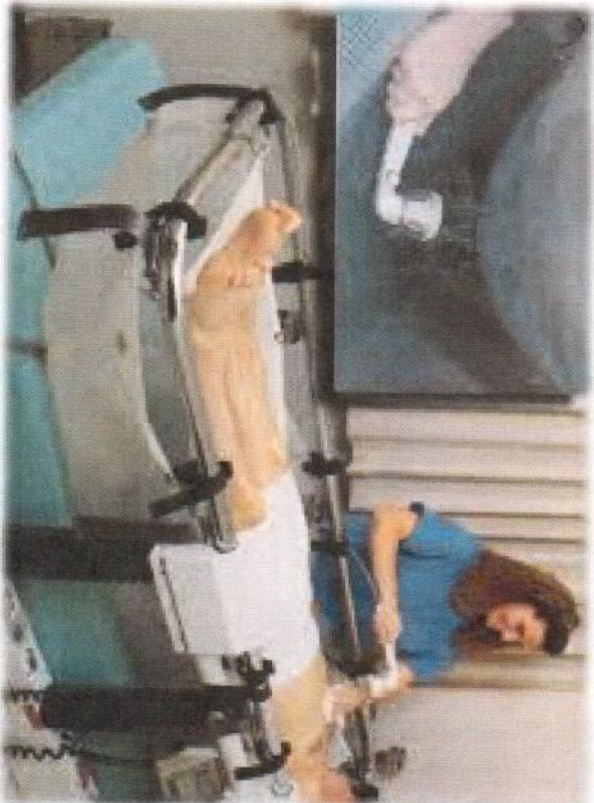
Room Infection control

- Single patient per room in ICU:
 - Minimizes cross-infection.
- Separate air outflow for each room:
 - No cross-infection;
 - No circulating/persistent organisms.
- Laminar air flow in all rooms:
 - Continuous patient protection.
- Double doors:
 - Not to be opened at the same time.

Special considerations

- **Limited resources:**
 - Avoidance of sophistications.
- **Power supply instability:**
 - Solar energy:
 - Main/emergency current.
- **Water supply:**
 - Clean running water assured:
 - Local water station??
 - Solar energy.

Avoidance of sophistications



Visitors

- Huge problems in most settings:
 - Uncontrollable;
 - Infection source.
- Might be a psychological burden:
 - Patients;
 - Personnel.
- Should be controlled:
 - Limited time/number of visits/visitors;
 - Limit access to unit facilities.

Companions

- Might be problematic:
 - Uncooperative;
 - Exhaust staff and resources.
- Could be beneficial:
 - Help in care;
 - Psychological support to the patient.
- Should be educated:
 - Patients surveillance;
 - Infection control procedures.

Conclusion

- Developing countries should develop a code for their Burn Units:
 - Adapted to their resources;
 - Addressing their particular needs.
- Outside corridors:
 - Effective in infection control.
- Single rooms should be the rules:
 - ICU;
 - Ward:
 - Even with smaller areas.

Conclusion

- Simple things could be effective:
 - If the objective is understood.
- Outflow of air is crucial in rooms:
 - Avoid bacterial resistance;
 - Prevent permanent organisms.
- Companions might be valuable:
 - Overcome nursing lack;
 - Potential workers in the Burn field.

Thank you!
Merci!

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