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IFIC Construction, Design and Renovation Interest Group

Design of a surgery block

Introduction

The aim of this document is to provide practical, evidence based (where appropriate) written materials about construction, design and renovation in health care facilities, that can be used in the co-operation between Infection control personnel, building planners and engineers

SIG recommendations are given in three levels:

- Basic - Even with severely limited resources, this is what you should do as a minimum
- Standard – this is what you should aim for in less wealthy countries
- Ideal – if you have the resources, this is what you could do

The primary aim of these recommendations is to give a simple and easy to use help for planning and designing a ward. For special needs and departments additional planning is necessary.

Some common principles:

- The operating department should be its own department closed to the rest of hospital.
- Clean water supply and electricity is needed at least during the working day.
- All surfaces should be smooth and non-absorbing. All surfaces must withstand cleaners/disinfectants. Surfaces that claim to be “anti-bacterial” offer no extra protection.
- Connections between walls and floor should be curved (no right angles)
- Septic (i.e. infected or contaminated) and aseptic (i.e. clean and clean-contaminated) operations can be done in the same room if cleaning / disinfection between operations and organisation of operations is adequate.
- Dispensers with alcoholic handrub should be available in all rooms: e.g Patient delivery, washing area, operating room, anaesthesia rooms, recovery room, changing rooms, break room, toilets, area for reprocessing of medical devices, waste room, laboratory, housekeeping room.
- A special uniform is needed in the whole surgery block which has to be put on in the changing room. This uniform should only be used once and then be washed.



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Recommendations

Room	Basic	Standard	Ideal
Patient admission	Entrance area for patient beds	At the entrance of surgery block patients should be laid on a transportable operating table. Some technical support for moving the patient recommended. Area for cleaning of operating tables and parking beds must be defined.	At the entrance of surgery block patients should be laid on a transportable operating table. Technical support for moving the patient needed. Area for cleaning of operating tables and parking beds must be defined.
Corridor for patients, staff and supplies	Closed doors to staircase/public corridor	Doors to ante-room leading to public corridor	Doors to ante-room leading to public corridor. Air extract flow 6-7 air changes / h.
Surgical hand washing area.	Dispensers with alcoholic hand rub, liquid soap and clean paper towels. Caps and masks. In close connection to operating room.	Dispensers with alcoholic hand rub, liquid soap and clean paper towels. Caps and masks. In close connection to operating room. Separate room connected to each operating room or a common washing area for the whole surgery block.	Dispensers with alcoholic hand rub, liquid soap and clean paper towels. Caps and masks. In close connection to operating room. Separate room connected to each operating room or a common washing area for the whole surgery block.
Operating room(s):	At least one operating room with doors. Windows with glass or insect netting. Cooling unit recommended. Only one operating table per room! Closed cupboards for storage of packed sterile material.	Floor area 40 m ² Free moving door with metal guard. Sealed windows. Air flow more than 2000 m ³ /h. (17-20 air changes/h) Closed cupboards for storage of packed sterile material. Two-way cupboard in door or wall for passing in/out extra equipment. No sinks, no floor gully.	Floor area 60 m ² . Sealed door. Sealed windows. Consider the use of ultraclean ventilation for surgery involving large implants. Closed cupboards for storage of packed sterile material. No sinks, no floor gully
Anaesthesiology equipment room		Area for serving ventilators, anesthesia machines and tubing.	Separate room with medicinal gases for serving ventilators, anaesthesia machines, tubing, fluid pumps and other equipment
Recovery room	Some room or area for recovery needed.	Between operating department and rest of hospital. Distance between patient beds at least 1,5 m.	Between operating department and rest of hospital. Separated from Intensive care unit. Distance between patient beds at least 1.5 m.



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Room	Basic	Standard	Ideal
			Separate rooms for infected cases
Sterile goods storage	Only in cupboards.	At least one room only for sterile goods stored in cupboards.	At least one room only for sterile goods stored in cupboards.
Storage of clean equipment and products	One separate room.	At least one great storage room.	At least one great storage room.
Changing room for staff	One room with sink and dispensers for alcoholic hand rub, liquid soap and towels.	One room with sink and dispensers each for both sexes. Divided in a dirty and a clean area. Showers and toilets for each sex.	One room with sink and dispensers each for both sexes. Divided in a dirty and a clean area. Showers and toilets for each sex.
Break room		One room with sink and refrigerator.	One room with sink and refrigerator.
Staff toilets (window ventilation or mechanical air supply)	Needed.	Sex-specific toilets.	Sex-specific toilets
Area for reprocessing of medical devices	At least one room with separation for dirty and clean work. Steam sterilizer.	Reprocessing in an own unit outside of operating department recommended. Emergency reprocessing unit within the department, equipped with washer disinfectant and steam sterilizer.	Reprocessing in an own unit outside of operating department mandatory.
Housekeeping room	Separate cleaning and disinfecting agents in some area.	One room with sink, disinfectants, cleaning agents and cleaning cart.	One room per operating theatre with sink, disinfectants, flusher disinfectant, cleaning agents and cleaning cart.
Waste room for waste in bags / containers	There should be a specific area for waste.	One room for waste only, with doors to department and outside corridor	One room for waste only, with doors to department and outside corridor.
Waiting room for day surgery patients	Some area outside of operating department needed.	Some area outside of operating department needed.	Some area outside of operating department needed.
Changing room for day surgery patients	At least two rooms (sex specific) needed.	At least two rooms (sex specific) needed. Lockers for patients' own clothes, shelves for operating clothes. Toilet and shower adjacent to each room.	Each patient needs an own room, also for storage of his/her clothes. En suite toilet and shower.
Blood gas analysis machine, refrigerator for i.v.fluids and blood transfusions.		E.g. in recovery room, with access also from outside	E.g. in recovery room, with access also from outside
Office rooms		May be needed for head of operating nurses and/or surgery block manager.	Needed for head of operating nurses and/or surgery block manager.



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Some literature:

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