

Room Design



Planning for the optimal sluice room

Inadequate decontamination and disposal of human waste can result in the transfer of infections to patients and health workers; every location in which decontamination procedures are undertaken should be properly designed, maintained and controlled.

The design of a sluice room is essential to ensuring that it is accessible, fit for purpose in terms of workflow and safe. An hygienic sluice room must meet the individual needs of the associated healthcare establishment, and, crucially, a design specification that helps to reduce Healthcare Associated Infections (HCAI).

A healthcare establishment must be able to guarantee that it can effectively deliver the clean and efficient disposal/disinfection required to maintain a safe and hygienic environment for patients, residents and staff alike. This can be achieved by adopting a rigorous and integrative approach to sluice room layout and design, the equipment selected for use within it, along with a supporting maintenance and testing programme. A sluice/dirty utility room is used for:

- Emptying of bedpans, urinals etc;
- Disinfection & cleaning of equipment, bedpans etc.
- Clinical hand washing;
- Storing disposable items
- The temporary storage of dirty linen, infected and non-infected waste prior to removal to disposal hold

Layout of a sluice room

Whatever the disposal technology selected it should be noted that the actual design layout of a sluice/dirty utility room is just as important as the technology itself. The key consideration being that anyone entering a sluice/dirty utility room should ultimately exit clean, as should all reusable items.

In addition to a washer disinfectant and/or macerator, other important features of a sluice room include:-

- A soiled area as a temporary collection point for unclean items, which may also include a slop hopper for cleaning of mops and buckets.
- Hand washing facilities are also essential and should be appropriately located and positioned to ensure that hands are readily washed before disinfected items are touched and also before exiting the room.
- A temporary storage area for clean and disinfected items
- Access for equipment to be grouped into dirty and then clean areas to deliver a hygienic, efficient and effective workflow.
- Carefully selected surfaces and flooring materials with additional fixtures and fittings to minimise on cracks and crevices.
- The optimal room position ensuring minimal travelling distances for staff from patient areas. This would result in a reduction in the risk of spillages and subsequent cross contamination, while also enhancing working efficiencies.

Selecting Disposal Methods

Key considerations include the selection of the disinfection and disposal equipment to be used, in addition to the way in which the room is laid out to ensure that work flow is safe, clean and efficient.

In recent years there has been an on-going evolution in the types of disinfection and disposal procedures used within a sluice room. This has been largely governed by mounting evidence in scientific literature and the subsequent introduction of new directives and regulations.

The selection of the disinfection procedure to be used does depend on the equipment to be disinfected and the level of decontamination required.

Available disinfection options

Washer Disinfectors

Thermal or heat disinfection - Using low temperature steam has become a key methodology for decontaminating reusable items within sluice rooms. Washer disinfectors that use thermal disinfection are now an essential element for emptying, washing and disinfecting reusable human waste containers, such as bedpans, commode pots and urine bottles. The container is placed in a racking system within the washer disinfector, and after the initial wash a steam generator heats the chamber to a minimum of 80°C for at least one minute to ensure all proteins are denatured. The heat acts to completely disinfect the container as well as the machine chamber; it should be noted, however, that such steam disinfection is not sufficient to destroy C.diff spores.



Maceration

Due to the increasing number of outbreaks of high risk microorganisms, such as C.diff, and the inability of washer disinfectors to completely eliminate risk of cross infection, many healthcare establishments are now moving away from use of reusable human waste containers. These are being replaced by single use 'pulp' containers, with subsequent maceration and disposal, as an alternative and extremely reliable means of total infection control. Such macerators will completely destroy disposable pulp bedpan/urine bottle container and contents, including macerator friendly wipes, by cutting items into small particles using carefully designed blade technology.



In addition to selecting the best technology for use within a sluice room, be it a DDC Dolphin washer disinfector or pulp macerator, there are certain key features of both.

- Hands free operation
- Antibacterial materials creating a 'microbesafe' surface
- Reduced water consumption for conservation of water.

Designing for the optimal sluice room

Infection control is core

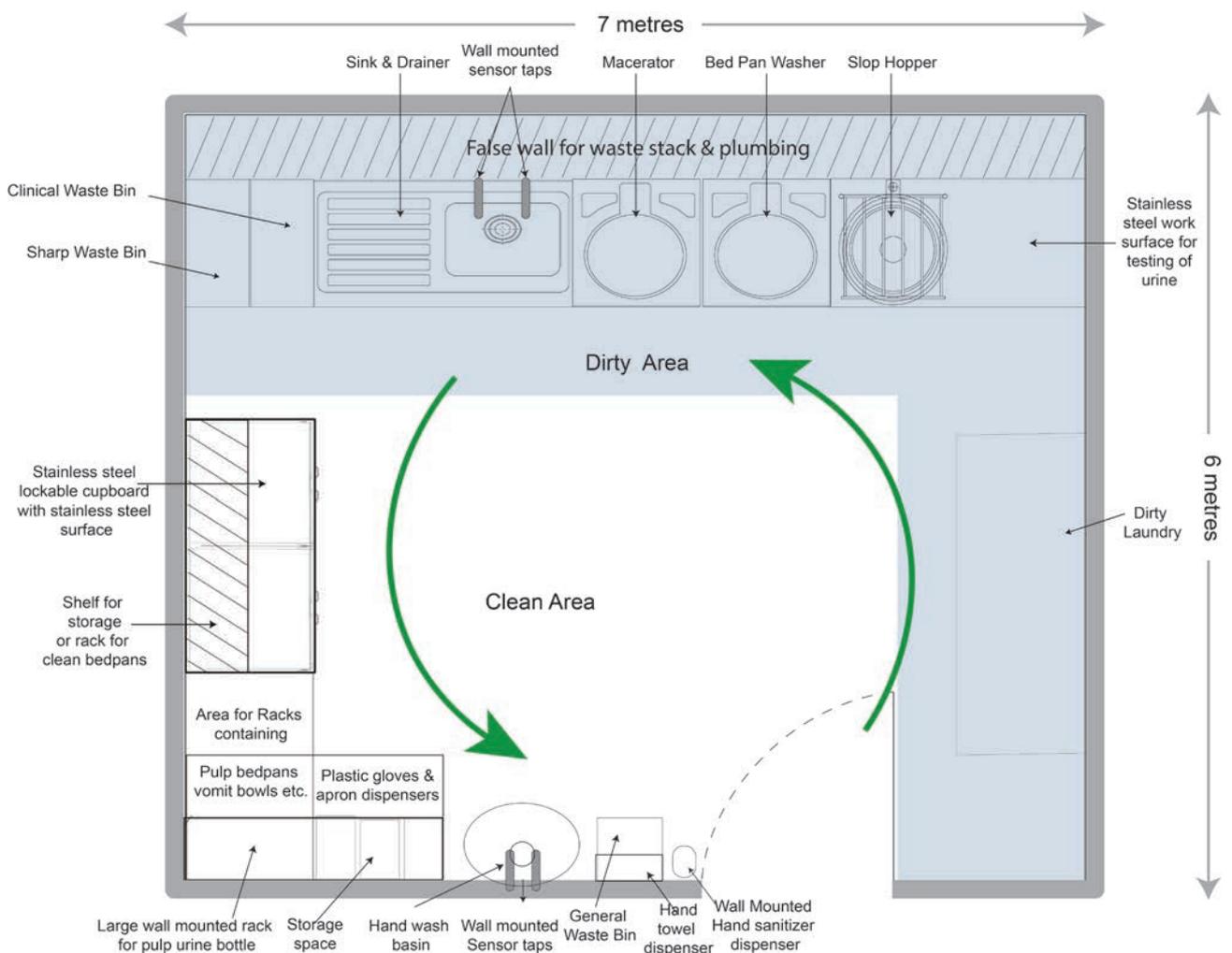
Infection control should be at the centre of any sluice room design strategy to ensure the reduction in risk of Healthcare Acquired Infections (HCAI). Minimising risk of HCAs directly reduces financial costs due to decreases in nursing time and use of antibiotics.

The risks and costs of not undertaking infection control are evident; it is therefore critical that any measures employed are undertaken properly. Within a sluice room, effective decontamination is key to delivering good hygiene and subsequent infection control.

Incorporating sluice or dirty utility rooms into the architectural design of new/refurbished care homes, hospitals and other care facilities needs consideration of all factors relating to, infection control, access, flow of work and layout.

Sluice room design needs an approach that meets the specific needs of the hospital, as well as associated regulations. Most critically it requires a design specification that helps to reduce Healthcare Associated Infections (HCAI) resulting from cross infection from body fluids and human waste.

Preferably one sluice/dirty utility room should be allocated per department and may range in size, the example shown below is 7 x 6 metres and contains all the equipment required in a fully operational sluice room.



Room Example

Preferred fittings and facilities

Fittings - essential

- Washer disinfecter for reusable bedpans or commode pots and/or macerator for disposable bedpans
- Wall-mounted rack, for temporary storage of disinfected utensils before returning them to rooms
- Foot-operated clinical waste bin
- Stainless steel handwash basin, with lever or sensor operated taps
- Extractor fan, to eliminate unpleasant odours
- Lighting, with ceiling mounted string pull switch
- Paper towel dispenser
- Pedal bin

Fittings - highly useful

- Disposal hopper, for back-up in the event of power or mechanical failure.
- Deep stainless steel sink, for general washing and rinsing purposes
- Facility for filling and emptying cleaners' buckets
- Work surface
- Storage cupboards

Ideal sluice room layout



DDC Dolphin Product Selection

Pulp Macerators

Pulpmatic Ultima

The Pulpmatic Ultima is a large capacity pulp macerator able to cope with 4-6 pulp items per 120 second cycle. Suitable for busy sluice rooms the Pulpmatic Ultima was developed to cope in high use areas and its unique nine bladed macerating technology was specially developed for the Pulpmatic, allowing for rapid cycle time and low noise level.

Features:-

- Large capacity - 4 - 6 medical pulp items
- Environmentally friendly - 26 litres of water
- Patented hands free open, close and start operation
- Dual antimicrobial action
- Automatic disinfection
- Efficient and economical
- Only 59.5dba



Pulpmatic Uno

The Pulpmatic Uno is a compact pulp macerator with capacity for 1-2 pulp items per cycle of 65 seconds. Developed for low demand areas or single bed wards and en-suite facilities, the Pulpmatic Uno is ideal for these situations with its compact size, low noise and extremely low water and electricity consumption.

Features:-

- Compact size - 1 to 2 medical pulp items
- Patented hands free open, close and start operation
- Dual antimicrobial action
- Automatic disinfection
- Efficient and economical
- Environmentally friendly
- Reduced water consumption of 9.5 litres
- Only 58.9dba



All machines are easy to use, install and service.

Washer Disinfectors

Panamatic Optima 2

Designed for optimal performance with both hot and cold water cycle options before disinfection, the Panamatic Optima 2 has a large capacity and can process two bedpans and two urine bottles at a time and can easily accommodate large bowls. With an increased number of more efficient cleaning nozzles and an increase in water jet pressure the wash performance is exceptional and with efficient washing and temperature control, the overall cycle time has been reduced for a quicker turnaround.

Features:-

- Large capacity - 2 bedpans & 2 urine bottles
- Hot prewash cycle
- Patented hands free open, close and start operation
- Dual antimicrobial action
- Automatic disinfection
- Top loading



Panamatic Optima 3

The Panamatic Optima 3 combines exceptional capacity and versatility within a surprisingly compact frame. Its large wash chamber accommodates, with ease, three bedpans with lids or 2 large bowls per cycle. It executes a hot prewash at the beginning of each cycle ensuring all equipment is thoroughly cleaned before the efficient steam disinfection jets ensure superior wash performance.

Features:-

- Exceptional capacity - 3 bedpans & 3 urine bottles
- Hot prewash cycle
- Hands free lid opening
- Easy loading
- Increased wash performance
- Automatic disinfection



All machines are easy to use, install and service.

Stainless Steel Furniture

Stainless steel, with its impervious and non-toxic surface, has the characteristic of being quick and easy to clean. This attribute makes it the ideal choice for fixtures and fittings for hospital and healthcare projects. As manufacturers of a comprehensive range of hospital and healthcare products, we can offer technical advice to architects, consulting engineers and all those concerned with the specification and selection of hospital sanitary ware and fittings.

Our range of healthcare products comprise of standard items designed for healthcare use and those specifically designed to comply with Health Technical Memoranda (HTM) 63, 64 and Health Building Note (HBN) 00-10. These healthcare products are available in two grades of austenitic stainless steel, 304 and 316. 304 is the standard grade and is appropriate for most healthcare applications. 316 is a higher quality material and is available on request. It is usually specified for particular applications such as where stronger cleaning agents are necessary.

Sit-on sink tops

Sit on sink tops comply with HTM64 (sanitary assemblies) and are used extensively in hospitals, clinics, surgeries, nursing homes and accident units.



Inset sink tops

Inset sink tops are widely used in hospitals, public and private clinics, surgeries, nursing homes and accident units.



Slop Hopper with drainer

Wall mounted solid and liquid waste disposal unit with continuous flushing rim. Supplied with sound deadening pads and earth tag. Waste traps and 75mm outlet availability on request. Back entry or top entry cistern and left or right hand drainer options available.



Hand rinse basin

Wall mounted satin finished mini hand rinse basin. Versatile single bowl sink without overflow that can be wall mounted. Bowls measure 508mm x 356mm.



Wall Rack

Wall rack holds round and square bed pans, wash bowls and bottles. Capacity 5 commodes & 7 urine bottles.



Healthcare wall cabinets

This range of wall units, manufactured from 1.2mm 304 (1.4301) specification stainless steel for the storage of consumables and equipment with clean lines, hinged doors and supplied with welded framework.



Healthcare floor cabinets

This range of cabinets are manufactured from 1.2mm 304 (1.4301) specification stainless steel designed for use with HTM64 sinks and worktops for the storage of consumables and equipment.



Summary

- Designing for healthcare facilities requires an innovative, informed, and cost-effective approach.
- Sluice room design must meet or exceed Healthcare Associated Infections (HCAI) policies.
- We pride ourselves on being able to supply all of the needs of design teams at this critical stage of the design process through the application of our unique, full service methodology to sluice room design.
- Our design team has specialist and comprehensive knowledge of all aspects of sluice and dirty utility room equipment. Our full service approach gives us the unique and valuable perspective that allows us to offer impartial advice and tailored solutions to your requirements.
- Our website provides detailed specification of each product we manufacture along with architectural plans for each unit (BIM rfa files) that are downloadable, allowing direct incorporation into overall design documentation.





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