

**WORK IN THE
DISINFECTION ROOM
WITH WASHER-DISINFECTORS**

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Always with you

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Introduction



One of the most important tasks of nursing staff is to prevent the spreading of disease. In care situations, bacteria that are harmless for healthy people can cause infections in patients with reduced immunity.

Microorganisms

There are bacteria and other microorganisms everywhere in the environment. Some of them are virulently pathogenic. Most, however, are harmless, some are helpful, some are even a valuable defense. But even normally harmless bacteria can pose a risk to particularly vulnerable patients, e.g. in the context of surgical intervention.



Transmission of microorganisms

Bacteria and other microorganisms can be transmitted from one patient to another through direct contact, but usually this transmission takes place indirectly via the hands or clothes of the staff. Infection can also be spread by objects that are not adequately clean.

Introduction

Good hand hygiene

Good hand hygiene and careful cleaning of surfaces, instruments, bowls and other objects are important routines in daily care.



Quality of care

A prerequisite for good hygiene is that the nursing staff has good knowledge of how contagious diseases are spread.



Dirty objects

Objects that have been soiled by a patient's secretions, blood, urine and faeces must be cleaned and disinfected, perhaps even sterilized, depending on their further use.



Levels of cleanliness



“Clean” means clean to the naked eye. This includes items that in normal use come into contact with intact skin, e.g. blood pressure cuffs.

“Disinfected” means free from pathogenic microorganisms. Here we include items that only come into contact with intact skin and mucous membranes without penetrating them.



“Sterile” means that the equipment is free from all living microorganisms. This is imperative for medical devices that penetrate the skin or mucous membranes during operations, or carry infusion fluids. Items must first be carefully cleaned and disinfected to allow sterilization.

Cleaning and disinfection processes



Thermal disinfection

Cleaning and disinfection can take place in two different ways. Firstly, one can use washer-disinfectors that clean and disinfect with hot water or steam.

Chemical disinfection

Secondly, one can use chemical disinfectants for instruments for which the high temperatures in washer-disinfectors are not suitable. Note that chemical disinfectants often lack the broad disinfecting effects of thermal disinfection and that they may be toxic, allergenic and/or affect the environment.



Textiles

Textiles should not be put into a washer-disinfector, but should be washed in a washing machine.



Cleaning and disinfection processes

Instruments

Washer-disinfectors clean and disinfect medical devices. They are environment- and people-friendly.

The cycles they run are also:

- efficient
- controlled
- cost-effective



Thermal disinfection

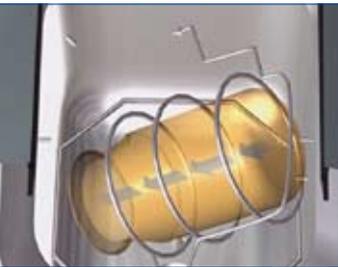
After goods are properly cleaned, they are ready for thermal disinfection. This process is based on the physical parameters of temperature and exposure time, which combined remove and kill all vegetative bacteria (including mycobacteria) as well as virus and fungi.



Washer-disinfector for human-waste containers

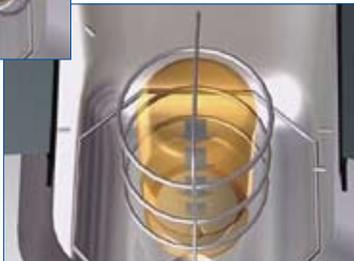
“Flusher-disinfector”

This type of washer-disinfector empties, cleans and disinfects bed-pans, urine bottles and suction bottles. The wide, open drain handles the same types of container contents as a toilet. A cycle takes between 4 and 6 minutes, depending on the program.



Loading

It is important to load the machine according to the instructions.



Bottle-holders

Bottle-holders hold the urinals and suction bottles at the correct angle to ensure that both water and steam enter.

Detergent

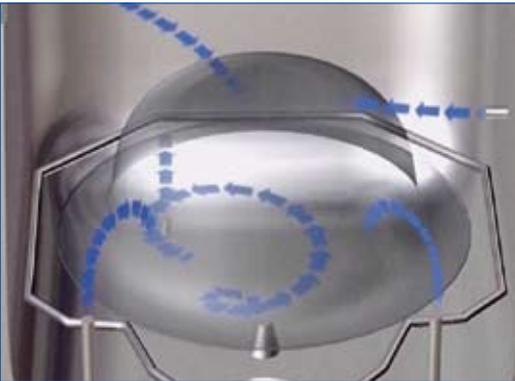
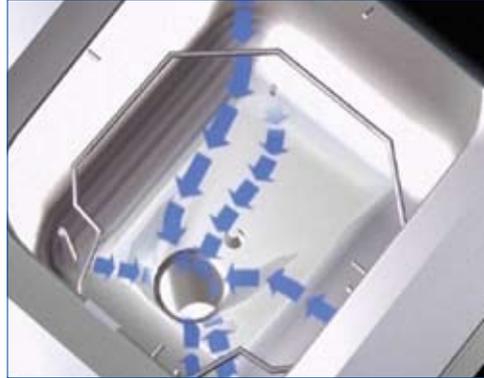
In case of heavily soiled goods (including blood, calcium soap or ointment residues), detergent should be used in the flusher-disinfector.



Washer-disinfector for human-waste containers

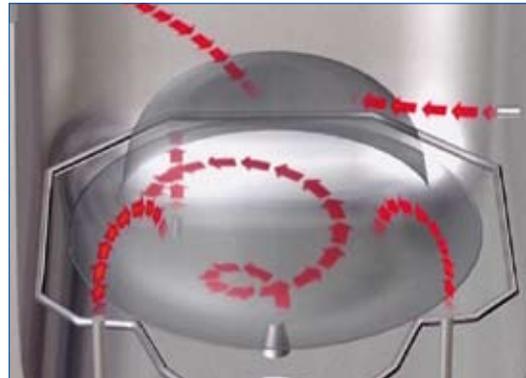
Cycle

In the beginning of the program, high-pressure water flushes away coarse impurities.

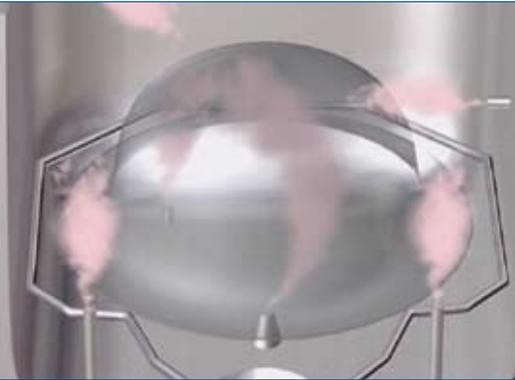


The cleaning starts with cold water to prevent coagulation of body fluids.

Then the machine uses hot water with the addition of detergent as needed.

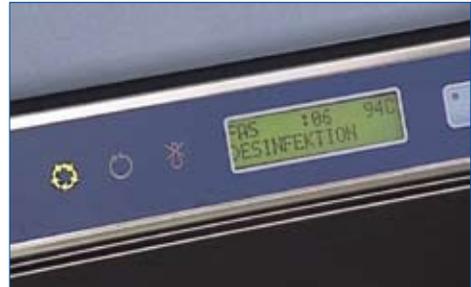


Washer-disinfector for human-waste containers



The temperature is gradually increased to the disinfecting temperature of 90°C. The exposure time is 4-5 min.

The digital display and a green signal at the end of the process indicate that the correct temperature has been reached.

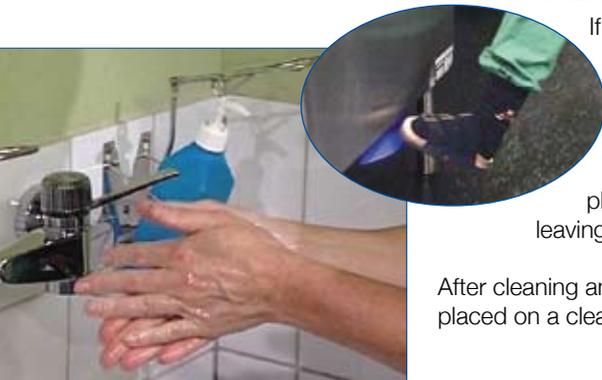


Unloading

Before removing the load you must disinfect your hands. To prevent recontamination of your hands, use the foot-pedal to open the flusher-disinfector.

Clean hands on clean goods

If the machine has no foot pedal, wash and disinfect your hands after opening the door but before removing the clean load, and take care not to touch any non-disinfected surfaces until the unloading is complete. Always disinfect your hands before leaving the washing or disinfection room.



After cleaning and disinfection, the goods must be placed on a clean, dry and dust-free storage shelf.

Instrument washer-disinfector

This washer-disinfector cleans, disinfects and often even dries instruments, anesthetic and respiratory tubing and other circulating reusables.



The washer-disinfector can be fitted with sophisticated and highly practical accessories, making it possible to clean all kinds of catheters and tubular instruments, both inside and out.

Loading

Bottles and other similar items must be emptied before being placed in the washer-disinfector. Place bowls upside-down and separately. If a bowl overturns during the process, it will not be cleaned.



Instrument washer-disinfector

Open clamps and scissors.



Take instruments apart so that the water can reach all parts, both inside and out.

Instrument washer-disinfector

Special racks are used for tubular instruments. Cannulas are placed in pipe injectors and injector hoses are twisted into the sideports.



Trocars and other tubular sections are placed over the top injectors. Even side openings are connected and cleaned.



Always follow the manufacturer's advice when dismantling small parts.



All small parts are placed in a fine-mesh wire tray (with a lid), to prevent them from being thrown around in the wash chamber.



Instrument washer-disinfector



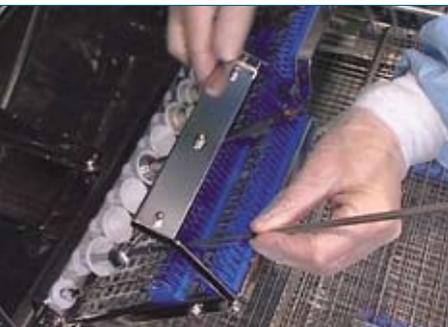
Dismantle laparoscope forceps and open the jaws on the rod.



Use instrument holders for forceps rods and telescopes.

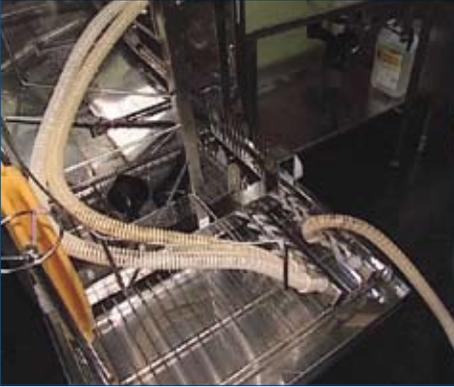


Turn down the locking bar.



Use the cleaning ramp with holder for hollow instruments. Funnels on silicone jets flush hollow instruments with diameters up to 30 mm.

Instrument washer-disinfector



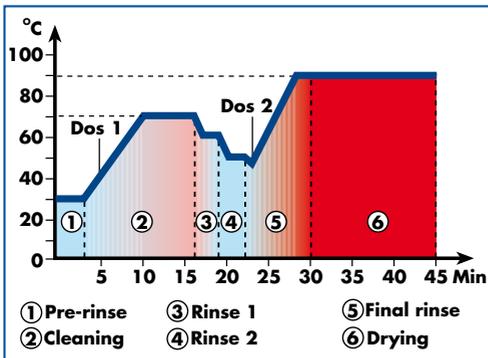
There are different wash carts for anesthetic and respiratory tubing. The spiral wash cart cleans and disinfects hoses with a high-velocity vertical water spray.

Even instrument containers and their lids can be cleaned and disinfected in washer-disinfectors.



Circulating water in cleaning, rinsing and disinfecting phases

Washer-disinfectors operate with circulating water in a sequence of phases. After each phase, the water is drained and replaced with fresh water. Detergent, wetting agent and lubricant can be automatically added.



Different programs

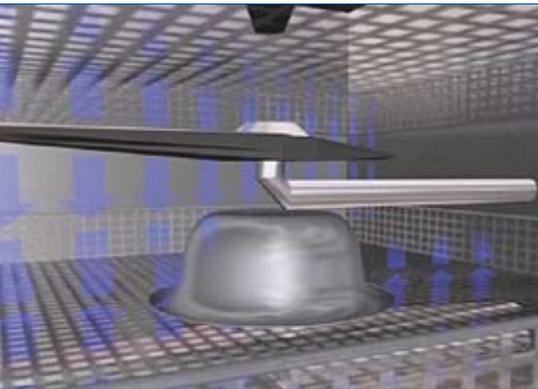
There is direct access to six pre-tested standard programs. Further programs can be selected from the program memory. This makes it possible to reprocess all types of loads.

Instrument washer-disinfector

Washing process

Best cleaning results are achieved if each wash level is flooded from above and below. There must be a spray arm under each wash level. This has to be checked when changing wash carts.

When loading the machine, it is important to ensure that no object or part of an object prevents the water jets from reaching all parts of the load.

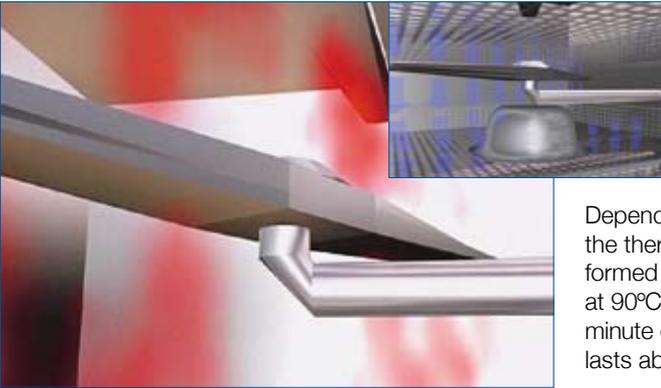


The washer-disinfector starts with a cold pre-rinse to rinse away blood and secretions.

After draining, the cleaning phase starts with the addition of detergent and an increased temperature. Then the water is drained again and two rinse phases follow.



Instrument washer-disinfector



Wetting agent is added to the final rinse. This is to improve drying and to prevent the formation of lime-scale deposits (from hard water) on the goods.

Depending on the standard used, the thermal hot water disinfection is performed in the first or last program phase, at 90°C and with an exposure time of 1 minute or more. The complete process lasts about 25 minutes.

Using the drying cycle adds about 15 - 30 minutes. Hollow instruments and tubes are dried inside and out. A green signal goes on when the program is complete and goes off when the door is opened.



A correctly loaded machine that is well-maintained and that complies with required healthcare norms will always deliver good cleaning results!

Instrument washer-disinfector



Emptying the washer-disinfector

When the process has finished, open the door and disinfect your hands before removing the load.

Check that the load is clean when you take it from the machine. A prerequisite for sterilizing an object is that it is first cleaned, then disinfected and handled correctly.



Care of instruments

Instruments should be sent at regular intervals for control to the CSSD to ensure that they remain in good condition.



Storage of clean material

In the ward or in reception area, material should be kept dry and dust-free and in a way that prevents exposure to the risk of contamination.

Maintenance & inspection

Daily maintenance & inspection

Remove anything that has fallen to the bottom.



Clean the coarse filter



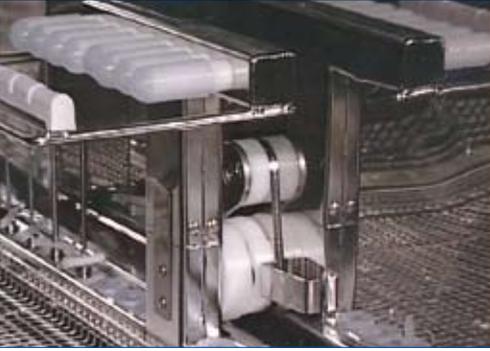
Check that the spray arms can rotate freely and that the nozzles are not obstructed.



Remember that objects which are not manufactured from stainless steel may rust - and transfer rust to stainless steel instruments. It is therefore important to **remove rusty objects**.



Maintenance & inspection



Check that the wash cart is correctly docked and that the nozzles are not blocked.

Inspect the door seal and check that it is free from dirt and lime-scale deposits and that it remains flexible.



Cleaning of the spray arms

Clean the spray arms when necessary by twisting off the plastic wheel, lifting the spray arm and rising the interior.

Maintenance & inspection



Check that the arm rotates freely when it is re-attached.

Daily maintenance

If necessary, descale the washing chamber. Clean and disinfect the casing and control panel. Remove stains from the surfaces with a cleaning agent suitable for stainless steel.



Logbook

Maintain a logbook for each machine. The logbook should contain instructions for cleaning, function control and maintenance as well as product information.



Service & summary

At least once a year, a **service engineer** should perform routine maintenance of the washer-disinfector, together with any necessary repairs.



Summary

Load the machine correctly!



Clean hands on clean goods!



Never mix clean and soiled objects!



Acknowledgements

Quality of care

If you have any questions about working with washer-disinfectors, contact the hygiene/infection control department of your local hospital. The aim is that everyone involved in work with cleaning and disinfecting should be aware of how, what and why things are done.

The quality of working practices is important!



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