

Recommendations by the Quality Task Group (51): Decontamination of Anaesthesia and Respiratory Accessories

Anaesthesia and intensive care accessories are → **ASSIGNED** to the semi-critical B group since they only come into contact with mucous membranes or pathologically altered skin. They should preferably be decontaminated in a washer-disinfector (WD). For certain indications or risk patients, steam sterilisation can also be used to reprocess accessories that come into close contact with the patient (critical B). The respective manufacturer's instructions must be observed in such cases.

If the number of decontamination cycles is limited, a record must be kept of each cycle.

Cleaning and disinfection with validated processes pursuant to DIN EN ISO 15883-1 and -2 is intended as a means of ensuring that the internal surfaces, too, are properly cleaned and disinfected. However, to that effect tubes, masks, respiratory bags, etc. must be → **CONNECTED** to the respective special insert such that adequate flow of the cleaning/disinfection solution is assured. Situations whereby the water pressure causes detachment of tubes are often observed. But neither should the tube, or end of a tube, be fitted so tightly to the connector that the water can no longer reach all internal surfaces of the medical device. This would impede cleaning and disinfection at such contact positions. To prevent detachment from the connector, suitable heat-resistant adapters should be used to secure the devices instead of cable binders or rubber bands.

Taps and valves must be opened, cuffs should be unblocked but must remain closed and respiratory calcium containers must be emptied.

Patency, i.e. adequate cleaning and disinfection, has to be investigated, since inadequate patency or lack of contact with the cleaning/disinfection solution would give rise to residues and it would not be possible to assure a reduction of the test organisms by 5 log₁₀ levels. In the Guideline formulated by the DGKH, DGSV and AKI for → **VALIDATION** of automated decontamination of, inter alia, anaesthesia and similar accessories no suitable test instrument has been specified so far to that effect. Suitable PCDs with a test soil that lends itself to easy visual inspection should be developed, or it may be advisable to use suitable cleaning indicators.

→ **ELASTOMERS**, e.g. rubber, silicone, silicone latex as well as PC (polycarbonate), PSU (polysulphone), PTFE (Teflon) tolerate alkaline detergents with a pH range of between 10 and 12 as well as neutral detergents.

Neutral detergents are generally recommended for MDs made of chromium-plated brass, for some made of anodised aluminium, or with parts made of such material.

No material problems, e.g. adhesions, will be encountered during the final steam sterilisation step if adequate rinsing of all process chemicals is assured for every load. The manufacturers' recommendations regarding processing should be thoroughly investigated before procurement. At this juncture we would like to draw attention to the instructions given in the leaflet compiled by the AKI "Proper Instrument Preparation" and to the manufacturer's instructions.

DIN EN ISO 15883-1 and -2 stipulates exclusively thermal disinfection for automated decontamination. The recommendation by the Robert Koch Institute (RKI) advocates an → **A₀ VALUE OF 3000** for semi-critical medical devices (see DGKH, DGSV and AKI Guideline) to assure adequate protection of personnel and patients against bacteria and viruses. Virtually all anaesthesia accessories as well as tubes can be reprocessed in a washer-disinfector using thermal disinfection at > 90 °C. Chemicothermal disinfection is not required for heat-resistant medical devices made of plastic; nor does this confer any advantages.

Provision should be made for release of the reprocessed devices after automated cleaning and disinfection, in particular if this is not followed by sterilisation. But this is not mandatory.

→ **ANAESTHESIA MATERIALS ARE ASSIGNED** to the semi-critical B group.

→ **CONNECTION IN THE WD** to the respective special insert is assured using suitable heat-resistant adapters.

→ **FOR THE VALIDATION** of automated decontamination of anaesthesia accessories no suitable test instrument has been specified so far. Suitable PCDs or suitable cleaning indicators should be used.

→ **ELASTOMERS** tolerate both alkaline and neutral detergents.

→ **SURFACTANT RESIDUES** can lead to material damage in some plastics if these are subjected to steam sterilisation following cleaning/disinfection.

→ **AN A₀ VALUE OF 3000** is advocated by the RKI for semi-critical medical devices.

Of paramount importance is also observance of the → **DRYING TEMPERATURE**, which as a rule should not exceed 70 °C or 80 °C for some elastic utensils. In most cases, higher temperatures cause increased wear due to premature material fatigue. Other potential effects seen include adhesive effects, turbidity and crack formation. If too high drying temperatures are measured – which is almost always the case – this may be due to the fact that the drying temperature in most WDs is measured in the air channel behind the drying unit instead of in the reprocessed supplies, as specified for example in the standard Norm EN ISO 15883, using thermologgers.

All accessories must be dry before they are → **STORED** to prevent growth of any microorganisms remaining on the supplies or in the rinse water. If necessary, they can be redried, e.g. with air or in a drying cabinet.

Store supplies in a dry place, ensuring that they are protected against recontamination, light, and dust, e.g. in suitable containers or cabinets.

Note:

Accessories which come into close contact with the patient, and are very difficult to clean, should be replaced by → **SINGLE-USE DEVICES**.

The manufacturer's instructions as per DIN EN ISO 17664 should be observed when selecting decontamination processes. ◆

→ **THE DRYING TEMPERATURE** should not exceed 80 °C.

→ **BEFORE STORAGE** all accessories must be dry. All supplies have to be stored protected against light, dust, humidity and recontamination.

→ **SINGLE-USE DEVICES** should replace devices that are very difficult to clean.