



Mongolian Emergency Service

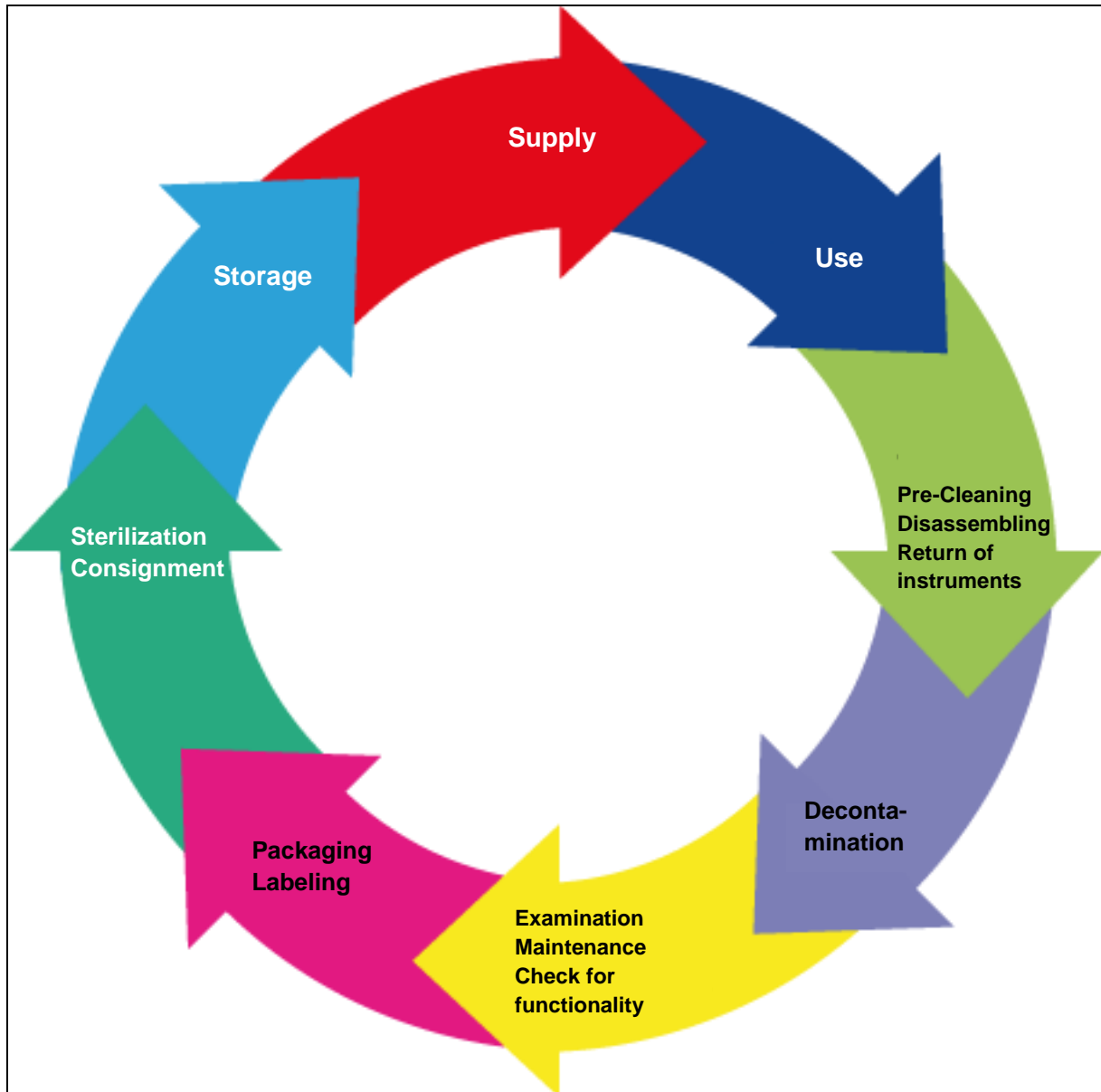
Hospital Hygiene Project

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**Courtesy for the planning of a Central Sterile Supply
Department (CSSD) in Mongolia**

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A CSSD serves the purpose of an appropriate processing of medical devices (especially surgical instruments) and is normally affiliated to one or more hospitals. The several tasks cover cleaning and disinfection (decontamination) of surgical instruments, visual examination, maintenance and check for functionality, packaging and labeling of instruments trays, sets or single instruments, as well as sterilization and consignment.



To meet the hygienic requirements during processing of medical devices a CSSD must be divided into three areas which are spatially separated (see also exemplary floor plan in appendix 1):

- Cleaning and disinfection area
- Production or clean area
- Sterile/consignment area

Cleaning and disinfection area

Surgical instruments which have been used during an operation are transported to the CSSD for processing. There must be an adequate number of disinfectant-resistant stainless steel working surfaces for the sorting of incoming instrument trays (see figure 1).



Figure 1

For the pre-cleaning of heavily contaminated surgical instruments an ultrasonic cleaner with an adequate size must be available. For automatic cleaning and disinfection of surgical instruments washer disinfectors (WDs) with loading and unloading sides are needed alongside with carriers for different kinds of surgical instruments:

- Carrier for surgical instruments without lumina (see figure 2)
- Carrier for surgical instruments with lumina (see figure 3)
- Carrier for materials used in anesthetics (see figure 4)
- Carrier for ophthalmological instruments (see figure 5)



Figure 2



Figure 3



Figure 4



Figure 5

The WDs must run on demineralized water at least during the final rinsing phase to prevent corrosion on surgical instruments.

Production or clean area

At the end of the automatic cleaning and disinfection process surgical instruments must be examined, maintained, checked for functionality, assorted according to a packing list, produced and packed (see figures 6 to 9).

Two kinds of packing are available:

- Soft packing: by using for instance two sterilizations wrappings which are different in terms of color defects can be identified easier. After opening the instrument trays or sets in the operating room the wrappings are disposed of.
- Hard packing: here, reusable containers come into operation. By using filters in the lid and/or the bottom of the containers, sterility of the instruments can be assured.



Figure 6

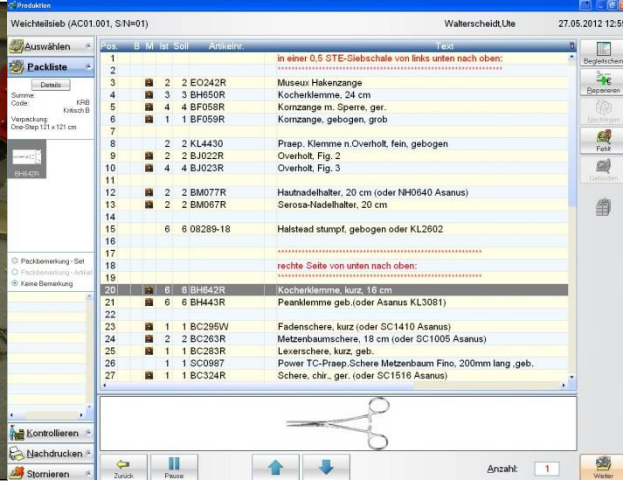


Figure 7



Figure 8



Figure 9

Single instruments are packed into sterilization pouches which are sealed by a heat sealing unit (see figure 10).



Figure 10

Packed and labeled instrument trays and sets are placed on a carrier suited for steam sterilization (see figure 11).



Figure 11

Sterile/consignment area

At the end of sterilization, sterile goods are examined and clearance is granted (see figure 12). Subsequently, sterile goods are placed in closed vessels and labeled for the appropriate destination point (see figure 13).



Figure 12



Figure 13

Relevant considerations

For the planning of a CSSD the following points must be clarified in advance:

- Intervals of maintenance: to be able to verifiably assure process stability, maintenance of the machines must be conducted by the manufacturer at least once a year.
- Purchase of new surgical instruments: due to the poor conditions the existing surgical instruments are in, an inventory of new and high-quality surgical instrument must be established. Only so corrosion of new WDs can be avoided. Instruments must be compatible with the processing methods which are used in the respective institution.
- Employee trainings: a safe process cycle must be achieved by trainings and the use of standard operating procedures.

Processing of flexible endoscopes

Flexible endoscopes pose a specialty within the processing of medical devices and are reasonably processed in an own department. Automatic cleaning and disinfection is to be preferred to a manual process in any case. Ideally, washer disinfectors for flexible endoscopes (WD-Es) come with a loading and unloading side (see figure 14). Processing using a WD-E with only a loading side (see figure 15) is acceptable if specific regulations for avoidance of cross-contamination exist and are complied with (e.g. by a specification of the direction of processing within an accommodation (usage of an u-shaped form for clean and unclean areas)).

Every WD-E must possess a documentation device, e.g. an internal or external printer, to be able to verify processing at the end of it. For this purpose, employee and endoscope data must also be recorded.



Figure 14



Figure 15