Preparation of instrument tables
Internal treatment of an ankle-joint fracture

Particularly in traumatology and orthopedics, an ever-increasing range of instruments and implants is at disposal, and they must be prepared for an operation in an efficient and structured manner. In this respect, increasing mechanization and modern, partly navigation-aided surgical procedures require a high degree of readiness to learn, discipline and professionalism in order to cope with the heavy demands in terms of quality. Unnecessary disruptive factors such as waiting time, provision of incorrect instruments or a lack of implants can only be avoided and steps for monitoring and development, with the aim of implementing a process of continuous improvement, can only be introduced if preparation of the instrument tables is part and parcel of Quality Management.

Introduction
Properly functioning OR logistics are a prerequisite for correct preparation of the instrument tables. Complex work procedures before an operation are necessary in order to cope with all the demands on the part of the patient, surgeon and all the OR personnel, and to face up to the challenge of optimization from the business administration point of view.

The process of preparation—from putting together the trays to arranging the instruments on the tables—is described below taking an ankle-joint fracture as an example.
Preparing the sterile containers and disposable items on the basis of index cards

These index cards are at the disposal of personnel both in electronic form on each EDP workstation in the OR and in printed form at the central station in the sterile corridors.

The instrument trays are found solely in sterile containers, stored in the sterile corridors on racks. Fitted with dust-proof lids, the standard containers will keep for one year. Disposable items are stored in modular basket cabinets also in the sterile corridors.

All the material is put together on “container trolleys”, which can then be brought to the appropriate ORs, regardless of spatial changes in the OR layout.

Contents of the instrument trays

In the user guidelines (tray lists in printed and electronic form) the exact kinds and numbers of the instruments, the type of packaging, the package upside and functional testing and sterilization details are documented. The trays are prepared by the central Sterilization Department on the basis of these compulsory guidelines. After an operation, following the guidelines, the instruments are placed by the scrub nurse in disposal containers prepared beforehand. The containers are matched up with the original trays by means of the tray numbers.

The base tray

The base tray is used for all operations and contains general and AO basic instruments. The base tray is also available in a modified form as a “small and large metal removal tray”. In past years, the number of instruments has drastically decreased, thus achieving a noticeable reduction in weight of the container and better visibility of the layout in the tray.
The arrangement of the instrument tables in the operating room is defined and documented in the OR descriptions in the QM Handbook:

**The “Malleolus Tray”**
In the malleolus tray there are various different versions of special osteosynthesis instruments such as reduction forceps, as well as Kirschner wires and wire cerclages, which may be needed for internal treatment of an ankle-joint fracture. The malleolus tray was designed in such a way that it can be used as an additional tray for various fractures of the upper or lower extremities and their treatment. Thus, it is used equally for conventional or fixed-angle plate osteosynthesis of the forearm or for figure-of-eight osteosynthesis (hollow needle, size 2 flat-nose pliers, plunger, etc) in olecranon or patellar fractures. The advantage of this flexibility of use is that it reduces the number of instrument trays required to be present and improves manageability, especially for new personnel.

### The “3.5 plates, titanium” tray
This tray contains a range of titanium plates for 3.5 and 4.0 mm screws, standard titanium screws Ø 2.7/3.5/4.0 mm and the small-fragment instrument set. It contains the following plates:
- LC-DCP, 3.5
- T plates, 3.5, right-angled and oblique-angled
- One-third tubular plates 3.5
- Reconstruction plates, 3.5
- Calcaneal and H plates, 3.5

Clavicular hook plates and bending instruments for small-fragment plates are in separate small-set containers. Apart from fractures of the ankle joint, this tray is also used, for example, for fractures of the olecranon, forearm, collar-bone, knee-cap and pelvis.

### Towels
The “Towel” container is only opened when necessary, if the towels in the “small OR basket” are insufficient.

### Small OR basket
Contents: Bandaging materials and towels. The large OR basket differs from the small one not only in terms of the size of the container but also due to the additional abdominal packs, strips and larger elastic bandages.

### The “Colibri” tray
The “Colibri” container holds the Synthes “Colibri” power tool with various different attachments and the battery housings. Efficient battery-driven power tools have replaced compressed air machines for small-fragment osteosynthesis.

### Arranging the instrument tables in the operating room
The arrangement of the instrument tables in the operating room is defined and documented in the OR descriptions in the QM Handbook:

- **Side-table (tray and drill table).**
- **Instrument table.**
- **Side-table (tray and bandage table).**

**Distribution of the sterile instrument-table drapes on the tables**

- a  single drape + additional drape
- b  table cover, contained in the limb drape set
- c  limb drape set

The draping procedure is described in documented work instructions, with the aim of ensuring that it is carried out correctly.
Preparing the instrument tables

The basic rules for proper instrument-handling activity are described in a work instruction document. Pictures of instrument tables, available in appropriate files and in electronic format in every operating room, should help to ensure that the tables are always prepared systematically and efficiently in the same way by all personnel. With the wide range of operations in our department, this aid is used not only for training and instructing new personnel and trainees, it is also relied on even by experienced personnel for complex preparations. Illustrations of the instrument tables do not replace the theory of preparations for an operation or knowledge of the instruments and of the surgical procedure. Rather, they are to be taken as supporting means for arranging this process in a structured manner.

Arrangement of the instruments

Side-table a for treating Weber A, B or C fracture

Instrument table b

Side-table c

1 Redon tip 10
2 Needle holder, coarse (2)
3 Needle holder, fine (2)
4 Tissue forceps, fine, with web
5 Dressing forceps (with tissue)
6 Kocher forceps (2)

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