How to solve the problem of cleaning of narrow lumina

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Reprocessing of Medical devices

- **Acquisition**
  1. Purchase
  2. Loan

- **Transport**

- **Cleaning**

- **Disinfection**

- **Use**
  - At all stages
  - Location
  - Facilities
  - Equipment
  - Management
  - Policies/Procedures

- **Inspection**

- **Storage**

- **Packaging**

- **Transport**

- **Sterilization**

- **Disposal**
  1. Scrap
  2. Return to lender
In general, dried soils hamper cleaning. Examples of stubborn soils include:

- bone meal,
- incrustations on HF instruments,
- mucus,
- ointments and fats,
- drug residues,
- proteins that have been denatured by disinfectants as well as fibres.  
  *(Quality task group DGSV)*
Cleaning
Cleaning

As is the case with precleaning, proceedings must be carried out in such a way as to make sure that residues (e.g. blood, secretions, tissue residues) are not fixated to the medical device as this would adversely affect cleaning, disinfection and sterilization performance.
University Hospital Tübingen (UKT)
Transportation and cleaning

The **central OR** department includes:

Transportation and cleaning

Why a dry Transportation?

- Not enough space in the Central OR Department
- Economic reason (less chemistry, water etc.)
- To protect the medical devices from corrosion
- to prevent cross- contamination during delivery
- Standard in Germany !!!
Examples of **reusable** Medical Devices

Olive probe

*Visual control not possible*

Cannulas
Examples of reusable Medical Devices

Aspirator with hole (angled)

*Visual control not possible*
Shift Shaft Instruments dismandling not possible

Visual control not possible
Narrow lumina, not to dismantle

Veres Needle with Luerlock connection
Small Lumina
Not to dismantle

Totary Handle cutting
Shift Shaft Instruments dismantling not possible (Orthopädie)
MIC Instrumentes dismantling possible

Washing baskets
Quality Management – SOP`s

According to the German Medical Law`s and Recommendation all CSSD`s has a QM System

- Reprocessing rooms are adequat
- Trained Employees
- Validated processes
- follow the recommendation of the manufacturer of medical devices in their departments
Everything fine ???
Please note:

The following pictures are comming out of different hospitals in Germany, from the field of reprocessing in the General Practitioners field as well as from laboratories which got the instruments for testing.

In this places different washer-disinfectors have been in use as well as different sizes of the reprocessing units.
Residual contamination!!!

2 mm Lumina of a cannulated drill after sterilization
Residual contamination!!!

Shift Shaft – not dismantling

Quelle Foto: Prüflabor SMP, Tübingen
MIC Forceps – to dismantle

Quelle Foto: Prüflabor SMP, Tübingen
Sample out of Gynäcologia

Quelle Foto: Prüflabor SMP, Tübingen
Reason for this??

- Employess do not work according SOP`s
- Incorrect or missing Manufacturers Recommendation
- Pressed of time in the CSSD
- Less Instruments
- Less employess
- Not known instruments (loan instruments-time pressure)
- Design of instruments
### Visual Control after Dekontamination Example Shift Shaft Instruments

<table>
<thead>
<tr>
<th>Probability rate</th>
<th>Severity level</th>
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<tbody>
<tr>
<td></td>
<td>negligible</td>
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<tr>
<td>often</td>
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<td>abstruse</td>
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<tr>
<td>improbable</td>
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</tbody>
</table>
How can we solve this problem?

**Using single use devices where possible**

Such as:

- Canulas
- Drills
- Surgical aspirator
- Pins
- Veres needles
How can we solve this problem?

Operation theatre

The cleaning step starts in OR during and directly after an operation. Pre-treatment in the operation theatre is vital here

• Detect the critical instruments (CSSD/OR)
• In the context of quality assurance, these pretreatment tasks must be defined for the specific instrument in working instruments.
• inform and train all parties involved
Regularly wipe of the used instruments during the operation e.g. with aqua dest

Swip mandrin`s through e.g. sucker

Use e.g. a 60ml Syringe and briefly blow air through the lumina

Placing the instruments in a 3% hydrogen peroxide solution during surgery and wiping them off from time to time
Use a "ready to use pre-treatment" for spraying onto surgical instruments in operating theatres directly after use to prevent drying of surgical soils.

Such as

• Water based foam
• Gel based

Note: Please read carefully the manufacturer instructions !!!!
Pre – cleaning in CSSD

NOTE:

occupational health and safety regulations must be met

Pre-cleaning is performed, using suitable detergents and/or equipment, such as e. g. an ultrasonic cleaner. This is used to remove soils (for example, heat-fixed coagulation residues, bone residues) which are not eliminated by the ensuing routine automated or manual cleaning steps.
Most of the Manufakturer recommendation are general information.

We need:
detailed information from the manufacturer for thus critical products
“I’m going to close my presentation, by using a flying word from John F. Kennedy:

“And so, my fellow manufactures and practioners: ask not who is responsible for the problems with narrow lumina instruments – ask, how we could work much closer together to solve the problem.”
Vielen Dank
für Ihre Aufmerksamkeit!

Universitätsklinikum Tübingen
Kompetenz
mit Herz
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