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Manual reprocessing of surgical instruments

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the plus of pure performance

„ My autoclaves are working properly!
Hence, I do not have any doubts on the premium quality
of my sterilized instruments „

„ Where is the problem ? „

Quality in Medicine

German figures

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Approx. 40.000 deaths/year by hospital acquired infections

Approx. 800.000 hospital acquired infections/year

19 % of sterilised instruments substandard

40 % of CSSD in a specific region substandard

47 % of reprocessed endoscopes substandard

„ The problem is between our two ears „

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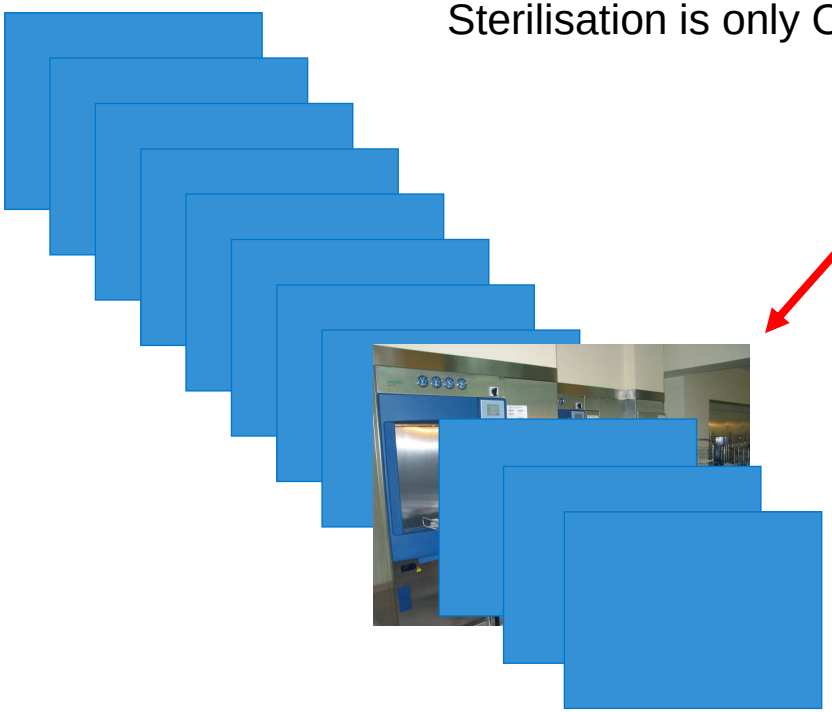
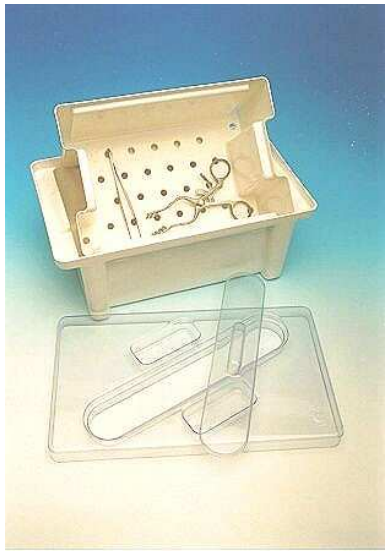
Sterilisation is only ONE process of many !



Manual or automated processing ?

Priority 2



In case of:

- Non availability
- Maintenance
- Overload in work

Everybody should be trained in both cartegories !

Priority 1

Your five major items for your daily work are:

1....

2....

3....

4....

5....

The big five

Goggles

Suitable gloves

Water resistant gown

Appropriate shoes

What is your focus in daily work ?

Segmentation of Hygiene - Risks

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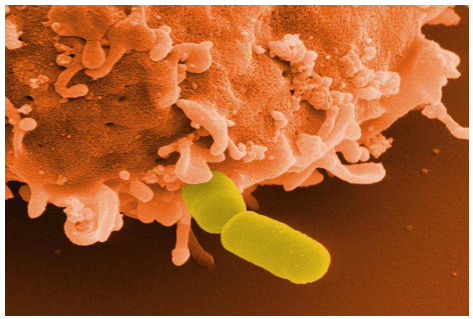
Infections

Hepatitis B/C
HIV
SSI
VAP
BSI



Segmentation of Hygiene - Risks

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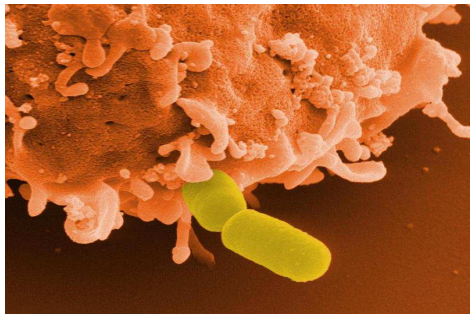

Toxic Reactions

Cell residues
Chemical residues

Segmentation of Hygiene - Risks

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Infections

Hepatitis B/C
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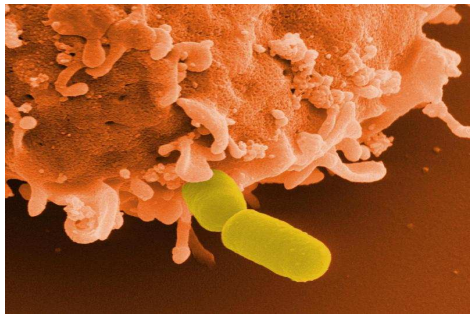

Toxic Reactions

Cell residues
Chemical residues

Mechanical/ functional damages

Material damages
Fatigue of material

Segmentation of Hygiene - Risks

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Infections

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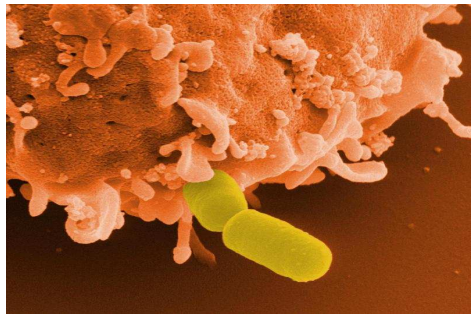

Toxic Reactions

Cell residues
Chemical residues

Mechanical/ functional damages

Material damages
Fatigue of material

Segmentation of Hygiene - Risks

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- Infections
- Toxic Reactions
- Mechanical/ functional damages

Cell residues

C L E A N I N G

„ Dirt „ to be removed from instruments :

- Blood
- Secretions
- Drugs
- Human tissues
- Water ingredients
- Chemistries
- ...

Some household cleaners

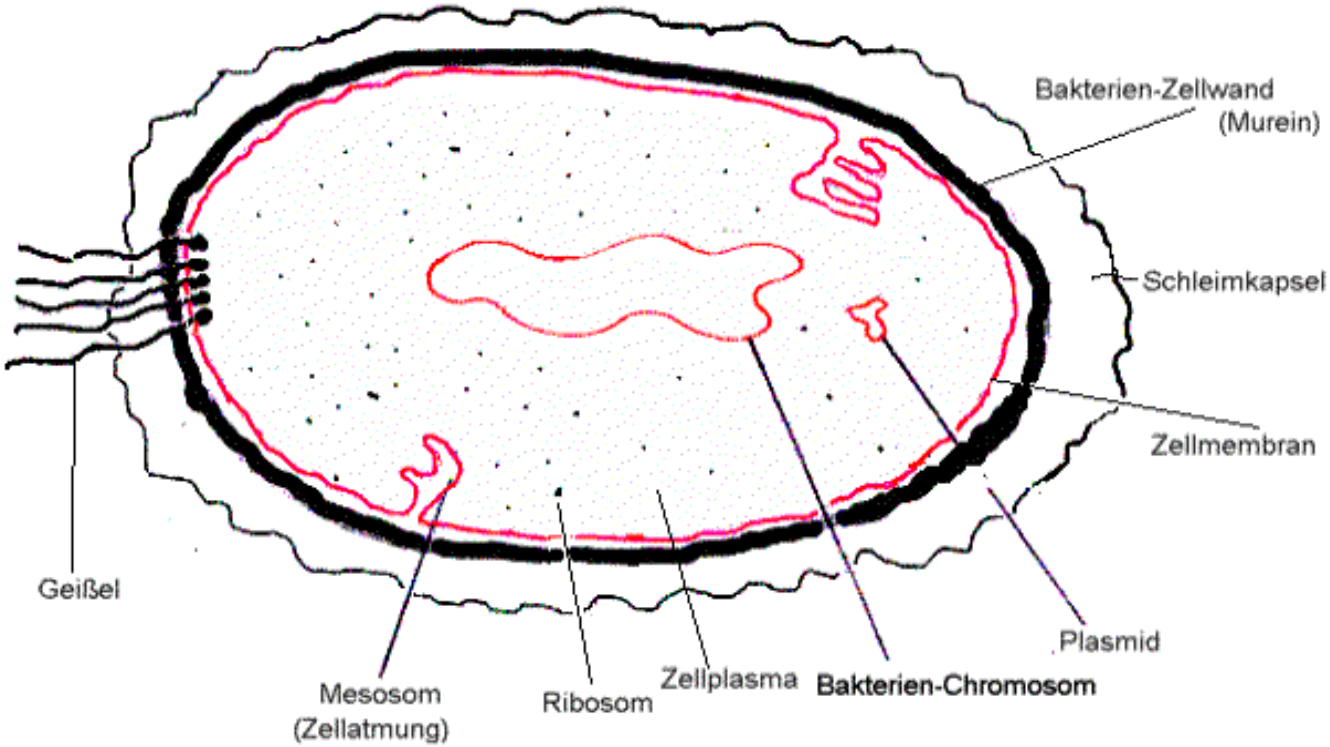
Anionics (-)

Disinfectant/cleaner

Cationics (+)

Inhibition of
cleaning and disinfection!!!

What are disinfectants in charge of ?



The right choice for suitable chemistries

Requirements

- Cleaning

  +
- Maintaining

  +
- Disinfection

Disinfectants

	Microbiology	Materialcomp.	Smell
Cationics	xx	xx	xxxxx
Aldehydes	xxx	xxxxx	xx
Peracetic Acid	xxxxx	xx	xx

Disinfectants

	Microbiology	Materialcomp.	Smell
Cationics	xx	xx	xxxxx
Aldehydes	xxx	xxxxx	xx
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Disinfectants

	Microbiology	Materialcomp.	Smell
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Disinfectants

	Microbiology	Materialcomp.	Smell
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The options

Cleaners

- Surfactants
- Complexing Agents
- Alkali
- Acids
- Enzymes

The options

1 → 2

1 + 2

Cleaners

- Surfactants
- Complexing Agents
- Alkali
- Acids
- Enzymes

Disinfectants

- Kationic compounds
- Aldehydes
- Peracetic Acid

- corrosion inhibitors
- stabilzers
- …..

The options

1 → 2

1 + 2

1 incl.2

Cleaners

- Surfactants
- Complexing Agents
- Alkali
- Acids
- Enzymes

Disinfectants

- Kationic compounds
- Aldehydes
- Peracetic Acid

- corrosion inhibitors
- stabilzers
- …..

Disinfecting Cleaners

- Combination of various active compounds

Which standard ?

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CEN TC 216 WG 1 Standard Testmethods

- Instruments -

Use of product	Phase/Step	Activity Claim						
		Bactericidal	Fungicidal	Levurocidal	Mycobactericidal	Tuberculocidal	Virudical	Sporicidal
Basic Test	Phase 1	EN 1040	EN 1275	EN 1275				EN 14347
Instruments	Phase 2 Step 1	EN 13727	EN 13624	EN 13624	EN 14348	EN 14348	EN 14476	Draft N 352
	Phase 2 Step 2	EN 14561	EN 14562	EN 14562	prEN 14563	prEN 14563	Draft N 395	withdraw

avium
terrae

Note : No standard for cleaning available !

Procedures

1. Work place

- bath near point of care
- safe and suitable transport media

- safe protective equipment (cap, gown, gloves, goggles, shoes)
- proper cleaning utensiles (brush, sponge, wipe)
- appropriate water quality
- suitable space for effective work

2. Immersion of instruments – directly !

   - protection of staff
   - no fixing and/or drying of organic or chemical load
   - no blood aggressivity against steel
   - time/cost management

3. Immersion of instruments - completely

   - scissors and foreceps open
   - hollow areas completely flooded without air residues
   - all surfaces covered with solution

4. Seperation of corroded/damaged instruments – immediately

   - „infection“ to other instruments

4. Quality assurance

- staff educated and trained ?
- staff protected including vaccination ?

- devices dedicated for reprocessing ?
- correct chemistry in use ?
- correct working procedure according to protocol?
- contact time watched?
- all residues rinsed ?
- devices in correct condition after reprocessing ?
- sterilisation or just disinfection → spectrum ?
- packaging and storage clearly defined ?

Mistakes in reprocessing

...and how to prepare a

correct solution ?

Exercise:

How to prepare a 3% solution in

a 2-ltr bath ?

Answer: 1.940 ml water + 60 ml disinfectant

water FIRST – chemistry SECOND

stir up the solution

Summary

- Neither faith nor expectations in techniques should be overestimated.

- Neither faith nor expectations in techniques should not be overestimated.

- Manual workload still exists at a high extend and needs special attention, special education and special skillful trainings.

- Chemistries (as technical equipment) do have limited capabilities.

- The right choice and the right use according to EU Standards is advisable.

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Thank you for your attention