The 8th Medical Instruments Colloquium held within the framework of the International Detergency Conference presented an interesting scientific programme. After the meeting was opened by Dr Markus Wehrli from wfk Institute, Wim Renders spoke about the challenges of change, while referring to the numerous changes faced everywhere on a daily basis. The internet, smart phones, but also social changes such as globalization, migration, and accordingly, globalization of certain diseases, presented modern-day challenges.

The hospital of the future would be increasingly more automated; that was evidenced by robotic surgery, to name just one such example. However, globalization had also resulted in more widespread cooperation ranging from the founding of the European Forum for Hospital Sterile Supply (EFHSS) through the World Federation for Hospital Sterilization Sciences (WFHSS) to standardization bodies such as CEN and ISO. The aim must now be to set a worldwide standard. Renders stressed that it was no longer acceptable that, because of differences in the quality between reprocessing departments, patients in one hospital faced a higher risk than in another hospital. But practices also varied from one country to another—for example as regards the use of ethylene oxide or glutaraldehyde.

Renders finished off by calling on delegates to place their trust in the existing expertise and knowledge and thus implement reprocessing in accordance with the state of the art.

Detection of residual soils—new developments

Wayne Spencer spoke about the new guidelines in the United Kingdom and explained that it was prion diseases that had served to focus close attention on issues around cleaning. Spencer presented various process challenge devices (PCDs). However, the guidelines did not set out any specifications on their use, placement or on the number of PCDs to be employed. The differences in the costs of the various PCDs would ultimately shape decision-making.

The goal aspired to was 5 μg residual protein per instrument side. According to the guidelines, one should not rely on swabbing or elution—but that immediately ruled out the majority of methods stipulated in the European and international standards. As such, the guidelines gave preference to a method known as ProReveal able to determine the amount of residual protein per instrument side.

But this called for an investment of as much as some 15,000 € for the reader, in addition to the costs of consumables. Based on certain instrument designs, Spencer demonstrated that 2D viewing was not always suitable for depicting the really important areas of an instrument. Some of the newer swabbing methods were essentially more sensitive than ninhydrin but at present reprocessing departments did not know what to do. And at the end it was unclear what implications all this had for real instruments in the routine CSSD setting. Spencer concluded by saying that the most important thing was to validate the methods used, in particular the recovery rates on using elution or swabbing methods.

Dr Ludger Schnieder spoke about a new quantitative method for detection of residual soils on implants and instruments. He described the established methods such as swabbing, test solutions, fluorescence...
Investigations into manual cleaning had revealed that the limit of 100 µg per instrument had not always been reached, even after the introduction of a standard operating procedure (SOP) by the responsible working group, containing cleaning instructions for the study participants. Roth finished off with a few tips on visual identification of blood residues compared with e.g. the Combur test. That could be used for staff training purposes. He advocated that staff members should exchange ideas to promote mutual learning.

### Infection risks associated with tattooing

After lunch Alan Beswick spoke about the infection risks associated with tattooing, piercing and similar practices. In the Calderdale region of West Yorkshire such studios were inspected and certain problems identified with respect to the users. Based on these findings the Calderdale region had now displayed on its website easy-to-observe hygiene instructions for tattooists and body piercers.

Beswick demonstrated how piercings could cause long-term damage, e.g. to the ear cartilage or navel. Infections by mycobacteria were commonly reported in association with tattooing, as well as infections with *S. aureus* or *Pseudomonas aeruginosa*. The ink used was also investigated. Not a single product was found to be free of bacterial contamination. Another problematic area was permanent make-up. The very expensive appliances used to that effect could not be autoclaved and certain older models, known to be difficult to clean, still continued to be used despite the availability of new, more reliable models.

One new cosmetic treatment involved the use of rollers with microneedles supposed to be able to promote collagen regeneration and improve the appearance of, e.g. acne-related, scar tissue. For greater efficacy some of these treatments involved the injection of serum with vitamin C and oxygen. Beswick emphasized that since these constituted an invasive treatment where blood vessels were damaged, devices should not be reused for several clients. The roller heads should be disposable and the handles thoroughly washed.

Eyebrow microblading was another new method of eyebrow replacement and here, too, the lancet-like instruments used should be single-use products. He went on to mention other exotic procedures such as blood cupping and tattooing with ash from cremated animals or humans; these constituted unacceptable practices in terms of infectiology.

Beswick finished off by stating that pressure in all these areas had to be exerted by the users. Only then would manufacturers respond to more stringent requirements.

### Dental handpieces – the weakest link in the chain

Andrew Smith from the Glasgow Dental School spoke about sterilization of dental handpieces, and citing studies on data loggers, demonstrated how the pressure and temperature course was displaced in the handpieces.

Many dental practices still used type N sterilizers. Smith stated that the handpieces represented the weakest link in the infection prevention chain for dental practices.

Smith presented a study where temperature sensors had been placed at three different positions in handpieces and then sterilized in type N and type B sterilizers. There was clear evidence that the temperature lagged behind by up to almost 20 sec in the type N sterilizer, whereas that delay was only 1–3 sec in the type B sterilizer.

For further studies only the position that was most difficult to access was used. After placement of biological and chemical indicators in the handpieces and sterilization in a type N sterilizer, the laboratory experiments revealed that it was not possible to achieve adequate exposure of the indicators, even when using prolonged process times. By contrast, sterility was assured in the type B sterilizers.

To sum up Smith stressed that N type handpieces could not be reliably sterilized and that the results obtained for surgical handpieces were even worse. It remained to be hoped that these data would also serve to convince those responsible for reprocessing in dental practices.

### Procurement – quality as the most important criterion

Naomi Chapman spoke about procurement processes. The number of products on the procurement list in a hospital could be several 100,000s. How could one make a choice? The price should not be the main criterion; rather, obviously the quality should be the chief determinant.

The procurement process could be improved if e.g. in a hospital only one product was used for a particular purpose. That also made things easier for staff members who may have to work on different wards and hence also improved patient safety. A survey of which products were available was followed by a phase of gathering evidence, manufacturer’s instructions, etc. to help reach a decision. This called for the input of not just in-house experts but also from across different areas. The clinical criteria to be taken into account were the packaging, opening the product packaging, use and disposal. All these criteria were evaluated on the basis of a 3-star system. The information gathered should be made available at national level so that other clinical teams could benefit from it (see also www.nhsbsa).

Bringing the meeting to a close, Paul Jenkins presented his project “Confessions of a CSSD Manager...” for which he had interviewed various people during the congress.

Photos were submitted showing the general chaos, even confectionery at the packing station, radios and instruments that did not belong in such a department, as well as implementations from the DIY store, which apparently had been used as medical devices.

The lectures gave delegates interesting insights and practical information on their everyday working activities. The congress will be held next year on 16 and 17 April in Cardiff, Wales.