Reprocessing of endoscopes – quo vadis?
Interview with Ulrike Beilenhoff

From 19 to 23 October 2019, embedded in the United European Gastroenterology Week (UEG), the 23rd European congress of the European Society of Gastroenterology and Endoscopy Nurses and Associates (ESGENA) took place – as always, a successful exchange of expertise on an international level.

The co-organiser and scientific secretary of ESGENA is Ulrike Beilenhoff, with whom the endoNEWS team conducted an interview after the congress.

endoNEWS: Mrs Beilenhoff, which topics and highlights were particularly outstanding for you at this year's ESGENA conference?

UB: There was a very wide range of topics and it all fit together really well, so I couldn't highlight any one of them. Many talks centered around the „extended role" of the endoscopy assistance and focused on training and the broadening of competence.

endoNEWS: In which countries do the assistants conduct the endoscopy by themselves?

UB: Nurse Endoscopists are currently only established in Great Britain, Ireland, the Netherlands and Sweden. However, with "extended roles", we do not only mean assistants independently conducting endoscopic procedures.

The topic is rather that the endoscopy personnel takes care of patient groups. For example, IBD-patients, adipose or infectious patients or patients with liver damage. Meant by this are also various tasks preceding the endoscopy procedure, looking after the family, or counselling patients especially regarding preventive exams and follow-up. These things are already established in Scandinavian and English-speaking countries.

The topic "Health & Safety" that is organizing reprocessing plays a big role as well. The central reprocessing in the CSSD is not yet widespread internationally. Nevertheless, for example the Netherlands are outsourcing the reprocessing far more than Germany. However, this only works with well organised and automated logistics.

endoNEWS: What trends do you see coming up in endoscopic reprocessing?

UB: Many workshops dealt with topics such as hygiene, possibilities to improve cleaning performance including brushes, rinsing and suction systems and the centralisation of reprocessing. Also, microbiological assays have been addressed. In one-on-one discussions, I heard a lot of questions about this: How should we incubate? How do we have to conduct sample taking? And how often do we have to run microbiological assays?

endoNEWS: There are big differences between countries when it comes to microbiological inspections. Do you expect that there will be a European standard?

UB: We have an ESGE-ESGENA guideline about microbiological inspections from 2007. This guideline will be updated in 2020. This is urgently needed for a harmonisation of sample taking, duration and use of media.

endoNEWS: When can we expect completion?

UB: All in all, we will certainly need a year to publish the update.

endoNEWS: Will there also be a harmonization regarding storage duration? Currently, there are substantial national differences.

UB: The problem with storage is that there is no evidence base to the different national requirements. In some countries (e. g. Great Britain, the Netherlands, France) drying cabinets are mandatory, because otherwise the endoscope must be reprocessed again 3–4 hours later. In many countries, in Germany as well, storage with and without drying cabinet is possible. There are single studies discussing storage duration, both with and without drying cabinets. Many studies did not look longer than 5 or 12 days. Therefore, we do not know what happens with the endoscopes on the following days. Secondary contamination by the endoscopy personnel could occur as well, e. g. due to inefficient storage and hand hygiene.

Thus, we added an extended commentary to the KRINKO and the ESGE-ESGENA-guidelines, stating that storage depends on various factors such as the last rinse water quality, the quality of drying, the type of storage and the contamination risk. Every department has to critically question their respective drying and storage conditions and assure the reprocessing quality with microbiological assays.

In the course of reprocessing there was also a lot of discussion about training the personnel. In Germany, we have quite good requirements. Expert training courses are a criterion for certification, and endoscopy departments will face problems, if they do not conduct these courses. Other countries do not have these requirements.

endoNEWS: Do other countries plan to adopt this system?

UB: We have implemented the German system into a European curriculum and built an international consensus.

endoNEWS: Where do you see further potential for improvement, and what would you hope for from manufacturers of endoscopes, WD-E and processing chemicals?

UB: There is room for improvement on the side of endoscope-manufacturers especially regarding the cleansing of distal ends e. g. of duodenoscopes. Also, there could be more disposable cleansing material such as brushes, tube systems (washer adapters) and washer fittings.

endoNEWS: Will one-way valves catch on?

UB: Yes. I believe that they will catch on just like previously biopsy forceps, also regarding price development.

The problem is that we need different valves for different endoscopes. If I use EUS-devices that are not available in big numbers, it can be problematic to produce them with marketable, competitive pricing. However, this is a weak point of endoscopy.

With the daily multitude of endoscopy procedures, time pressure increases, and we all know, that with time pressure, errors happen – that's only human.

endoNEWS: Will the fittings for adapters also improve regarding automatic reprocessing?

UB: I expect from the conceptualisation of the WD-E, that despite plugging the adapter into the connectors there will remain only few "blind" spots. Obviously, this is difficult with a force-fit connection.

It is still in question, how cleansing adapters should be cleaned and disinfected, when they are used in the pre-cleaning step, but cannot be automatically reprocessed. This is currently a problem because the CSSD do not want to or cannot reprocess the adapters. In many cases, the adapters are not used at all.

Rinsing of the air or water canal or of additional flushing canals is often skipped because of a lack of time during the cleaning process. The personnel often does not use the cleaning adapter, and if a syringe is only loosely attached to a valve port, 95 % of the cleaning solution flow over, not into the canal.

endoNEWS: You have conducted a workshop in collaboration with Dr. Weigert, focusing in the first part on processing chemicals and repeatedly occurring misuse or damage. In the second part, you have talked about outbreaks and hygiene problems, that came with flawed endoscope reprocessing. The participants had to figure out the cause of the problems based on the cases described. From your point of view, which was the most important message of this workshop?

UB: When infections or outbreaks occur in the endoscopic practice, there are several possible causes: We have the endoscope, the WD-E, the chemicals, the manual cleaning steps and variably well-trained personnel. These are many factors, that could potentially lead to a problem and that can play a role in the search for the cause.

As an example, we used an actual outbreak of multi-resistant bacteria. This outbreak was due to several factors: First, there were microlesions at the distal end, second, small mistakes during cleaning were made, and third, the chemicals were not used appropriately. When all problems were solved, the outbreak could be stopped. For this to happen, however, all personnel involved had to come together: the manufacturers of endoscopes, WD-E and chemicals, the hospital's hygiene team, the endoscopy and the reprocessing team had to solve the problem in a multidisciplinary manner, without blaming and recriminations – scrutinizing own actions and searching for joint solutions.

To recognize damage at the distal end, it is also useful to look closely with a magnifying glass with integrated lighting, commonly used on the clean side of the CSSD department. That way it is possible to see residual contamination or smallest damage that are not visible to the naked eye. But to do this, staff has to be trained and sensitised.

endoNEWS: Would you like to present one of the cases of your workshop for our readers?

UB: There is a French publication describing an infection with Klebsiella after ERCP. After initial hygiene assays, there was at first no evidence for a contamination. Later, however, after further sampling with brushes, the presence of bacteria could be demonstrated. This indicates to me, that the sampling method is crucial. But later it was shown during audits, that the personnel had not properly cleaned the endoscopes step by step and that the drying process had not been conducted the right way. In addition, there were microlesions on the endoscopes. Thus, there are again several factors at play: the sampling method, the cleaning and drying of endoscopes, and lesions on the endoscope.

endoNEWS: In the workshop, the following question came up: which steps should we take when there are signs of a contamination in the microbiological assays and when there is also the possibility, that these have resulted in an outbreak? Would you be so kind as to sum up your response to this question for us?

UB: The first and most important step is to assess which endoscope was used with a specific patient or patient group – and to stop using the endoscope in question. Afterwards, hygiene tests must be done with the endoscope and simultaneously there has to be an inspection of WD-E and the water to figure out the "bad boy". Moreover, the reprocessing cycle has to be examined regarding manual and automated steps. If bacteria can be proven on the endoscope, it should be sent to the manufacturer to check for possible defects. If an endoscope has been identified that was "involved" in an outbreak, I would always send this endoscope to the manufacturer – even if there is no positive result in the microbiological assay. That way, the

manufacturer can inspect the endoscope with their special equipment. The collaboration with the manufacturer is really important in this case. At this point the goal is to rule out potential tiniest lesions on and in the endoscope.

endoNEWS: How do you see the future development of the ESGENA-conference? Can you give us an outlook into the next year?

UB: We will be present at the UEG week in autumn and in spring 2020 for ESGE-days in Dublin. To combine this is a very appealing solution, because the congress in spring will be all about endoscopy, focusing entirely on technical aspects. In autumn during the UEG week, this will be combined with general gastroenterology.

endoNEWS: Will there be a conference at the ESGE days as well?

UB: Yes, we have combined sessions for care and medical doctors together, and we have separate sessions for endoscopy care only, which we call ESGENA Spring School. There will be hands-on training, live-broadcasts and we plan on organising more workshops with industry partners.

The questions were asked by:
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