

# Hygiene *for the* World

Cutting-edge expertise in hygiene and infection control

Issue 3 / October 2013

## EDITORIAL



It was no less a figure than Albert Einstein who said that creating innovation requires ideas that sound absurd, at least at first. So why did the founders of the Innovation Academy at the ICPIC conference in Geneva herald their innovation competition with a quote from Einstein? Essentially because

they like to think big – which is precisely what they should be doing. It's hard to imagine a group of infection control professionals anywhere in the world that could match the combined expertise of the people who regularly attend these kinds of conferences. One of the most prestigious attendees is Dr. Elizabeth Bryce. Pursuing the absurd was probably far from her mind when she and her team at Vancouver General Hospital in Canada decolonized patients using nasal photodisinfection immediately prior to surgery and succeeded in significantly reducing the number of *Staphylococcus aureus* infections (see article on page 2 of this issue). She and her team won the Innovation Award for their efforts – our heartfelt congratulations once again!

Flights into the realm of the absurd are a common trait of patients undergoing psychiatric treatment – at least that's how it appears to people "outside the walls of the

institution". The fact that there is such a thin line between paranoia and a healthy awareness of hygiene is something we often see in people who wash obsessively or who refuse to leave the house without a bottle of hand disinfection lotion. As Dr. Bodo Kirchner explains in the interview on this page, one of the most important tasks of people who work in the field of hospital hygiene is to always keep things in perspective. We can't see bacteria, viruses, fungi and spores, so we have to assess where they are and remain vigilant at all times – but under no circumstances should we lose our grip on reality.

This is a key point when it comes to providing people with information on hygiene issues, as Chandrakant S. Ruparelia explains in an interview on the back page of this issue of "Hygiene for the World". To build awareness and provide development assistance in the realm of hygiene, you need to have your feet planted firmly on the ground. Understanding how people "tick" in order to give them appropriate information on the importance of disinfection, sterilization and hand hygiene is the key to intercultural cooperation. We hope to play a small part in achieving this with "Hygiene for the World". That's why we put together this issue by talking to people, asking them questions and presenting their insights to you, all as part of our efforts to encourage greater understanding of how hygiene, emotions and innovation are all ultimately interrelated. Very best regards, Markus Braun

## Brain games

**When hygiene worries move beyond the realms of reason, paranoia is never far away. An interview with infection control specialist and psychoanalyst Dr. Bodo Kirchner**

Our knowledge that hygiene can shift fluidly between anxiety, compulsion and hysteria is as old as our knowledge of hygiene itself. Dr. Bodo Kirchner used his presentation slot at the Salzburg Hygiene Days to discuss what happens when hygiene moves beyond the realms of reason. It's hard to imagine a medical professional better suited to addressing this question and providing a few speculative answers. Kirchner is a specialist in internal medicine, a general practitioner and an expert in geriatric, palliative, psychosocial and psychosomatic medicine. He is also a psychoanalyst and training analyst in the Salzburg Psychoanalysis Study Group, as well as a psychotherapist, Balint Group Leader and Supervisor. We spoke to this multifaceted medical professional – who also works as a hygiene specialist at the trauma hospital run by the Salzburg regional office of the Austrian Workers' Compensation Board – and asked him whether hygiene can drive you mad...

### Question:

Many hygiene specialists and infection control experts end up in their roles almost by chance, often simply stepping in to a position that simply needs filling. Does the responsibility of what the job entails affect people? Or, to put it more provocatively, how much psychosis or even neurosis do people develop in this profession?

### Dr. Bodo Kirchner:

There's no doubt that one of the biggest challenges of this job is to avoid becoming paranoid! Obviously you become a lot more aware of the invisible dangers posed by the world of germs, but you have to maintain your ability to assess the risks realistically. Of course that's where you often get

institutions falling into a classic trap. I remember a situation in Austria where we would have had to shut down the entire OR unit from one day to the next if we had followed to the letter the instructions coming from top management, which were triggered by pure fear. Ignorance is one of the key factors that fuels anxiety – though it's equally true that extensive theoretical knowledge without practical experience can be just as dangerous. Sometimes a lieutenant in the thick of battle knows more than a general stuck back at base camp.

### Question:

That brings us nicely to the military, warlike imagery which so often crops up in the field of hygiene control: antibiotics as weapons, the battle against germs, emerging victorious from a major outbreak, killer bugs and bacteria and so on.

### Dr. Bodo Kirchner:

Our difficulty in recognizing and identifying this "enemy" often leads us to associate it with evil intentions. Yet germs essentially have the same vital interests as human beings. All this warlike imagery most probably stems from the past, because people have always fantasised about keeping things clean and pure. The idea that supposedly inferior beings pose a risk to things we consider superior goes back a long, long way.

### Question:

Patients suffering from anxiety disorders can be treated through exposure therapy, for example exposing people who are scared of spiders to those very creatures or



helping people to overcome flight phobias by taking them up in a plane. How can you help a patient who has a phobia of germs?

### Dr. Bodo Kirchner:

Well, that pushes therapy to its limits, because germs are something we can't actually see! You have to work with the imagination, for example getting the patient to imagine touching a door handle even though he or she is afraid that it's covered in germs. The fear of infection is generally very hard to treat. It poses similar challenges to doctors as delusional parasitosis, where patients have a delusional belief that they are infested with parasites. You generally only get results by prescribing additional psychotropic drugs to tackle the anxiety prompted by the delusions.

### Question:

In your lecture at the Salzburg Hygiene Days you talked about Obsessive Compulsive Disorder. *Continued on page 2*

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The infection control unit at Vancouver General Hospital in Canada has won a prize for its groundbreaking research. The team led by infection control specialist Dr. Elizabeth Bryce received the award at the second ICPIC conference in Geneva for a pilot project which involved treating patients with nasal photodisinfection immediately prior to surgery.
- [3] **Salzburg Hygiene Days:**  
Gertie van Knippenberg-Gordebeke, the "Queen of Bedpans", recently ran a training session for student nurses. Her course for up-and-coming care professionals in Salzburg focused in particular on learning the best ways to handle care utensils.
- [4] **His culture code: "Saving Lives".**  
The international non-profit health organization Jhpiego runs programmes in more than 50 countries to prevent the needless deaths of women and their families. We spoke to Chandrakant S. Ruparelia – a specialist in infection prevention and control at Jhpiego – about the importance of "culture codes".
- [4] **Masthead**

## Questions & Answers

### Question:

Is there really no treatment for the pulmonary virus MERS?

### Answer:

Over 50 people so far have died of the new coronavirus, MERS, with more than 110 infections confirmed. Since there is no direct treatment for the virus, patients are currently kept on organ support in intensive care. But a trial involving monkeys has raised hopes that an initial treatment approach may have been found.

Heinz Feldmann's team from the Rocky Mountain Laboratories in the US state of Montana infected six rhesus macaques. Three were treated with a combination of the agents interferon alpha and ribavirin. The three others were only given placebo treatment. The animals receiving the real medication had no breathing difficulties, whereas the other monkeys did. Progression of the illness in rhesus monkeys is similar to mild to moderately serious illnesses in humans. The medication is obviously most effective when administered soon after infection.

# Innovation Award for Dr. Bryce and Vancouver General Hospital

Photodynamic therapy (PDT) tested at Vancouver General Hospital, Canada. Dr. Elizabeth Bryce on behalf of VGH receives ICPIC award for pilot program

"If at first, the idea is not absurd, then there is no hope for it. Innovation is not the product of logical thought, although the result is tied to logical structure." This quote from Albert Einstein was selected as the motto of the 2nd Innovation Academy at the 2013 International Conference on Prevention & Infection Control (ICPIC), which was held in Geneva. This year's innovation award was won by Dr. Elizabeth Bryce and her team from Vancouver General Hospital which included specialists from the fields of infection control, quality & patient safety, surgery and medical microbiology.

The accompanying prize of 10,000 Swiss francs acknowledged the team's work to prevent surgical site infections by conducting pre-operative patient decolonisation.

risk of surgical site infection more than ten-fold.

The pilot program was conducted over the course of 12 months at

Vancouver General Hospital. More than 5,000 patients were treated with a combination of nasal photodisinfection (the novel new technology) and chlorhexidine body wipes during the study and the number of post-surgical wound infections was reduced by 42 percent. This has yielded multiple benefits, as Dr. Bryce explains: "Thanks to this new method, Vancouver General Hospital saved 1.3 million Canadian dollars that it would normally have spent on treating the infections that would otherwise have occurred."

The multidisciplinary team notched up plenty of other impressive results in the course of the year-

*Decolonizing a patient to protect them from harm takes just a few minutes*

long project. For example, the decolonization method employed by the team is effective immediately and takes just ten minutes to perform, as opposed to traditional methods of decolonization using nasal antibiotics for five to seven days and chlorhexidine washes. According to Bryce, a compliance rate of 94 percent shows that this new decolonization process can easily be incorporated in the pre-operative preparation of patients for surgery.

Bryce is equally pleased with some of the other benefits: "Antimicrobial photodynamic therapy does not cause microorganisms to develop resistance – so that means we can even use this method

to eliminate bacteria that are already resistant."

Bryce and the team have successfully presented a business case to hospital managers demonstrating that incorporating decolonization in pre-op preparations yields significant cost benefits. For example, the number of patients readmitted with post-operative surgical site infections fell to just 1.5 patients per month during the pilot project, as opposed to the previous figure of four patients per month. The patients involved in the study were admitted for major surgeries including cardiac, spinal,

orthopaedic, thoracic, vascular, breast reconstruction, and neurological surgeries.

A total of 40 teams took part in the ICPIC innovation contest during the conference in Geneva, which was initiated for a second time in June 2013 by Didier Pittet, Director of the Infection Control Programme and WHO Collaborating Centre on Patient Safety at the University of Geneva Hospitals.

The antimicrobial photodynamic therapy was developed by the Vancouver-based company Ondine Biomedical.



"Our method involves using nasal photodisinfection in combination with chlorhexidine wipes for the rest of the body immediately prior to surgery," says Bryce, describing the team's innovative approach. According to the hospital's microbiology experts, the method had a successful impact in 82 percent of patients colonized with *Staphylococcus aureus* in their nose. A propensity score analysis that compared treated and untreated patients demonstrated that decolonization therapy reduced the



## Flu vaccine with ability to adapt

The main crux of the flu vaccine is that the pathogens of the flu virus constantly change. Having a vaccine that can quickly adapt to viral mutations would be a highly practical solution to the yearly vaccination programme against flu. It would be a so-called recombinant flu vaccine.

And this is exactly what has just been approved in the USA. According to the manufacturer, Protein Sciences Corporation, the innovative seasonal flu vaccine, FluBlok, has one major advantage: the genetically engineered flu vaccine does not contain any complete viruses, but rather only the glycoprotein haemagglutinin, which in turn bears the main antigen structures of the viral surface. What's more: the envelope of influenza A virus is 80 percent haemagglutinin. The new vaccine can cover three of the currently relevant virus types: the influenza A strains H1N1 and H3N2 and an influenza B strain.

The World Health Organisation (WHO) stipulates the measures for selecting the virus types, and thus direct the vaccine manufacturers towards the strains to be used for the following season.

According to a press release by the US medical authority, the FDA, the effectiveness of the recombinant vaccine was tested on a total of 2300 Americans in a placebo-controlled multicentre study. Approximately 45 percent of those vaccinated developed protective antibodies – antibodies against all the strains of the virus in circulation at that, not just the three whose proteins are contained in the vaccine.



### Continued from page 1 Brain games

which revolves around fear of dirt and infection and concepts of order, cleanliness, correct behaviour, power, control, monitoring and punishment. Does that offer a template for the ideal infection control expert?

**Dr. Bodo Kirchner:**  
I certainly intended that question

to offer a healthy dose of irony and critical self-awareness! Because yes, it's true that all these terms essentially form the core duties of an infection control expert, including the restrictive measures. But the hygiene specialists and infection control experts that I typically meet at conferences all seem to have their feet firmly on

the ground. They don't generally fit the pattern of obsessive compulsive people who enjoy tormenting others! But of course dealing with anxiety often requires a certain degree of compulsive behaviour.

The fact that pilots are obliged to work through a check-list before take-off is a responsible and diligent way of dealing with the fear of forgetting something important.

All you have to ensure is that the compulsive aspects are kept in check and do not develop into hysteria or paranoia. You mustn't fall into the trap of believing that this is a battle you can win.

Whenever that delusion strikes, it's essential to remind ourselves that this battle is only just beginning. Penicillin didn't just give us a stronger weapon for

curing diseases, it also weakened us by promoting selective pressure among bacteria.

Absolutist systems or forms of hygiene fascism will never be the way to win battles. And of course AIDS has taught us that the problem is sometimes not the bacteria themselves, but rather the failure of our immune system to find the right response.



## Salzburg Hygiene Days: An enhanced profile and an opportunity for carers of the future

With its Salzburg Hygiene Days the Salzburg Hygiene Working Group (SAKH) has earned the reputation of a conference organiser that likes to take a different approach to hygiene matters in order to broaden the perspective of its own work. The event took place in May this year for the seventh time. Looking back, Dr. Markus Hell, specialist for hygiene at the Salzburg University State Hospital, was very happy with the response to the event and the fact that they achieved an important objective: "We want to give the event a profile. On the one hand this includes a regional catchment area, on the other we offer international speakers."

This year this once again included the Dutch hygiene specialist and proprietor of the consultancy firm KNIP Consult, Gertie van Knippenberg-Gordebeke.

The internationally renowned speaker, who is now known as the "Queen of Bedpans", gave a presentation on the work of a hygiene specialist as a "spider in the web" at a hospital, as well as spending time enthusiastically training young nursing students. "They are the future," said Dr. Markus Hell, explaining why they had introduced an opportunity for future health-care staff as part of the Hygiene Days.

Using a bedpan washer provided by MEIKO, manufacturer of cleaning and disinfection equipment, the dedicated Dutch expert showed the trainees how to correctly load a cleaning and disinfection machine. But she also shared factual theory about bedpan washers and the risks involved in not adequately treating / incorrectly using care utensils.

## The goodies and the baddies in intensive care

**Should we be questioning the existing hygiene and medical practices in hospitals? Is there too much cleaning, disinfection and sterilisation? Researchers from the Technical and Medical University of Graz have studied the microbial inhabitants of an intensive care unit in more depth. They concluded that not only was there an unexpectedly high number of different types – some of them might even be useful!**

Professor Dr. Gabriele Berg's team published its results in "Scientific Report" and explained in a press release: "Useful microbes in hospitals combat potential pathogens and should therefore be encouraged."

However, Professor Dr. Christina Wolz, who heads up a research group at the Institute for Medical Microbiology and Hygiene at the University of Tübingen, cast serious doubt on this argument: "This survey of the microbiome of an intensive care unit provides no evidence whatsoever that hygiene practices should be changed." Even non-pathogenic germs could be dangerous to patients in

intensive care and "therefore, it has to be as clean as possible there."

Professor Berg, on the other hand, quotes the warning of microbiologist Professor Dr. Martin Blaser in her press release. He is head of the Department of Medicine at the Langone Medical Center of New York University and warned against the overuse of antibiotics. As far back as two years ago he urged in an editorial: "Stop killing useful bacteria!" Blaser wrote an article on the subject in the "Nature" journal. He believes that destroying the protective, friendly flora in the human body with antibiotics may be even more dangerous to health than creating resistant microbes, or so-called "superbugs". Blaser continues in his editorial in "Nature": "Every child in the USA and other developed countries receives on average 10 to 20 doses of antibiotics before adulthood. But these also kill friendly bacteria, which may contribute to a rise in obesity, allergies, asthma, inflammatory bowel disease and type-1 diabetes. I think that doctors in the future will replace the lost members of our natural flora to reduce the chance of

these serious and chronic illnesses developing." Berg's researchers took samples from 34 places in the intensive care unit of the Graz university hospital: from the floor, numerous workstations and different medical equipment. They found bacteria which occur ordinarily outside a hospital, as well as close relatives of potential pathogens of human diseases – but they did also find many useful bacteria. The researchers, however, also detected several subspecies of propioni bacterium, pseudomonas and burkholderia bacteria – in total they came across 405 genera from seven different bacterial strains.

Another of their findings was that genera that live on the skin were dominant on medical equipment and work surfaces. The researchers expected this, because, after all, there are typically over 150 types of bacteria living on the palm of the human hand.

Berg and her colleagues reported that a high percentage of the bacteria were potentially human pathogens, and they suspect that the patients in intensive care contributed to the spread of the bacteria. The team compared the data with the infections recorded during the time of the study and their suspicion was confirmed.

## NEWS - NEWS

### Bacteria inhibitor triclosan: danger in toothpaste?

What does brushing your teeth have to do with bacterial resistance? Quite a lot! Triclosan, the active ingredient used in toothpastes, is intended to combat gum problems, plaque and bad breath. However, Bo Jönsson – a Swedish professor of chemistry at the University of Lund – has observed that within just one week of using toothpaste containing this active ingredient, the triclosan reading in the urine of the subject group had increased over a thousandfold. He therefore advises children and pregnant women to avoid toothpaste containing triclosan, as he fears it could have an adverse effect on hormones.

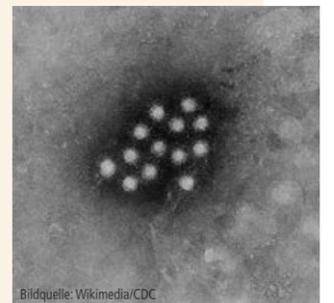


Foto: Vally – Fotolia.com

The German Federal Institute for Risk Assessment's (BfR) attitude towards triclosan is not quite clear. The Institute has been advising against the use of triclosan in non-medical areas for years due to the possible development of bacterial resistance. The BfR, however, is not unduly concerned about Bo Jönsson's research findings and refers to the applicable pan-European triclosan limit values for cosmetics stipulated in the European Union.

### Hepatitis – an underrated danger?

All five types of hepatitis virus have one thing in common: they attack the liver cells that they use to multiply themselves. The immune system can only fight the viruses by destroying infected cells. The result is hepatitis. Hepatitis A and E are considered to be less dangerous; infections with virus types B, C and D, on the other hand, can be critical. German experts are, therefore, calling for more intensive screening, as patients with the hepatitis-B or C-virus in particular, are usually only diagnosed by chance. Cancer of the liver is one of the fifth most common cancers in the world.



Bildquelle: Wikimedia/CDC

One of the ways infected patients excrete the hepatitis-A virus is in their stool. Approximately 50 percent of infected patients develop jaundice. The illness usually cures itself without leaving any damage.

The hepatitis-E virus is particularly prevalent in south east Asia, Africa and central and south America and is transmitted through contaminated drinking water or food. There are no specific drugs to treat it.

The hepatitis-B virus is extremely contagious. It is transmitted from person to person via blood, saliva and vaginal secretion. In adults the disease passes in up to 95 percent of cases within three months. If the infection lasts for more than six months it is referred to as chronic viral hepatitis. In 20 to 30 percent of cases, it can even cause liver cirrhosis. There is a vaccine against this virus.

The hepatitis-C virus is primarily transmitted via blood and blood products. 95 percent of those infected have no complaints and there is no direct correlation between infection and increased liver function readings. Hepatitis-C viruses can be completely eliminated from the body, however the risk of chronic infection is high. 50 to 80 percent of those infected develop chronic hepatitis. The risk of developing cancer of the liver is roughly four percent. Hepatitis-D viruses can only be contracted by people already infected with the hepatitis-B virus. If both infections occur, the illness usually becomes serious. Drugs are only effective in roughly a quarter of patients.

Most of the illnesses were caused by staphylococcus, E. coli, klebsiella, pseudomonas, serratia, enterobacter, edwardsiella, proteus and chryseobacterium. What Berg's researchers also found, however, were genera of bacteria that can live in symbiosis with plants or can be used as probiotics and prebiotics such as burkholderia, pseudomonas, lactobacillus and methylobacterium.

They concluded that, "It is wrong to immediately assume that bacteria in hospitals are dangerous pathogens. Because the existing hygiene and sterilisation methods don't distinguish between desirable and dangerous bacteria, we need to change our understanding of sterility and reassess current hygiene practices in hospitals."

Source: Medscape

# His culture code is: "Saving Lives"

Dr. Chandrakant S. Ruparelia (pictured) – a doctor and Senior Technical Advisor at the international health organization Jhpiego – is keen to give back to the people something he himself received when he moved from his native India to America: the chance of a better life. Jhpiego is a Baltimore-based, non-profit affiliate of John Hopkins University that is working in more than 50 countries to prevent the needless death of women and families. Ruparelia's family also lives in Baltimore, but he spends most of his time travelling. He feels most at home on the African continent, although he also occasionally works in India. His mission is to provide assistance in situations where women and children are fighting for their lives, whether in relation to HIV/AIDS, maternal and child health or infection prevention and control. Jhpiego has spent 40 years focusing on its core mission of saving lives. The 'Hygiene for the World' editorial team spoke to Chandrakant Ruparelia about his work and his organization at the ICPIC conference in Geneva.



**Question:**

Why does Jhpiego focus its efforts primarily on women? Wouldn't it make more sense to work on men's issues since it tends to be the men in developing countries who wield the power within families?

**Chandrakant S. Ruparelia:**

It's true that we focus a lot of our efforts on helping women – for example by providing information on contraception, taking steps to make birth safer, reducing infant mortality and fighting against cervical cancer – but that doesn't imply that men don't benefit from our work, too. They are always encouraged to make the most of that opportunity. We obviously also need men to accept the work we are doing to help women. We constantly need to find ways of getting them involved – that's a key part of what we do in all countries. In Nigeria, for example, we have used male health promoters to discuss family planning issues with husbands and male relatives, and in India, we targeted men as prime recipients of family planning information, explaining how healthy birth spacing benefits mother, baby and the entire family.

**Question:**

You were born in India and you still do much of your work on the Indian subcontinent. There is a huge variation in standards here nowadays, unlike in Africa. How does that affect your work?

**Chandrakant S. Ruparelia:**

We adapt the standards according to the situations we encounter in our work, but we still rigorously pursue best practice based on solid scientific evidence. India has developed in leaps and bounds over the past 10 years, but there is still an awful lot to do. As far as health-

*You can only make progress if a system really wants to change!*

care and hygiene are concerned, many private institutions have now achieved very high standards, and it seems likely that public health-care facilities will steadily follow.

**Question:**

How difficult is it to make progress in the field of healthcare in these countries?

**Chandrakant S. Ruparelia:**

You have to overcome significant hurdles to achieve political consensus, just like in almost every other country. The only feasible strategy is to start at the point where a system really wants to change!

**Question:**

One of your primary tasks is to improve infection control procedures. Are you also collaborating with the WHO in this area?

**Chandrakant S. Ruparelia:**

We're drawing on the WHO's technical guidelines to implement the standards, but that's essentially true of all the countries where we work. The WHO always acts as our technical partner.

**Question:**

You strive to build awareness, encourage behavioural change and pass on knowledge through Train the Trainer courses, yet you have expressed the opinion that you can only truly achieve useful results if you know how to deal with the "culture code" in each particular country. I suppose you need to know how people will

respond to certain issues...

**Chandrakant S. Ruparelia:**

Absolutely. If we are looking to change people's behaviour in regard to healthcare in a developing country, then we need to adapt our communication and our messages to their cultural code as effectively as possible. I would highly recommend reading Clotilde Rapaille's book "Culture Code." He is an anthropologist and marketing expert who has shown numerous companies why we live, love and buy things in the way we do – and why other cultures do things completely differently! If we could apply that understanding to our public health work and development aid, we would undoubtedly be more successful in many of our efforts.

**Question:**

Could you give us an example?

**Chandrakant S. Ruparelia:**

Well, just think of the conditions in an Indian slum: How will people accept your ideas on hand hygiene when they do not have clean water to drink? We

can learn to help them practice hand hygiene even in these situations provided we know their culture code for hand hygiene.

**Question:**

What is your personal culture code?

**Chandrakant S. Ruparelia:**

Making a Difference and Saving Lives!

## CALENDAR

2-4 October 2013  
IFIC Buenos Aires, AR

8-9 October 2013  
IHEEM Manchester, GB

10-12 October 2013  
Congrès National Sapeurs-Pompiers Chambéry-Savoie, F

15-17 October 2013  
Pflege + Homecare Leipzig, D

23 October 2013  
12th Hygiene Day Fürth, D

30 October - 1 November 2013  
IFAS Romandie Lausanne, CH

6 November 2013  
Hygiene Symposium Baden-Baden, D

20-23 November 2013  
Medica Düsseldorf, D

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## "The standard of processing care utensils is of huge importance!"



From Geneva to Offenburg to Essen: this was the journey made by a delegation of ten infection control and hygiene specialists from Singapore. In Geneva the experts attended the International Conference for Prevention & Infection Control (ICPIC). In Offenburg they visited the German manufacturer of cleaning and disinfection equipment, MEIKO, where they learned how the machines are made. Gertie van Knippenberg-Gordebeke, who has specialised in research and training regarding the correct use of care utensils, also gave a talk for the visitors at MEIKO. Moi Lin Ling (Singapore General Hospital) concluded: "We still do not pay enough attention to how we process care utensils. And yet the standard we apply to our work is of huge importance!"

And Lily Lang, hygiene specialist (Infection Control Nurse) at the National Healthcare Group Polyclinic, concurred: "I myself had a British mentor in the 80s who emphasised the importance of paying attention to care utensils. Today we use MEIKO appliances and the customised facilities in our utility rooms and the interfaces of the equipment significantly contribute to patient safety as well as to our own safety."