Tackling hygienic risks actively: safe infection control in demanding situations.
Ensuring quality of life.

Reliable protection against infection is considered an important element of human health and well-being. To ensure safety also in critical conditions, for example in areas with particular risk, it is important to act with caution and apply tailored solutions.
Dear Reader,

Risks are omnipresent in healthcare facilities. They are part of everyday life. However, the crucial issue is how we counter these risks.

Currently, the rapidly growing number of refugees in emergency shelters is a special challenge – also in terms of hygiene. To ensure infection control, operators are presently pushed to their limits.

Presumably, also hospitals will have to face new demanding tasks in treating refugees. The head of the Infectious Diseases unit at the Clinic Heidenheim reports on their experiences with suspected cases of Tb and the demands the hygiene management has to fulfil.

I wish you an insightful reading,

Dr. Henning Mallwitz
Head of Research & Development
Status quo:

Infection protection in German clinics

To what extent have the recommendations and legal requirements of the Federal Law on the Prevention of Infectious Diseases in Humans, which was revised in 2011, been implemented? How many facilities and departments participate in surveillance systems? How active are hygiene commissions? DISINFARTS introduces important indicators for infection control in clinics. The data are derived from the Federal Government’s recent report on nosocomial infections and pathogens with special resistances and multiple drug resistances [1].

Implementation of selected infection control measures in German hospitals

Data are from 2013. The graph shows the results of the Federal Laender in per cent. Results: A median of 80 % of the 1.961 hospitals that had participated in a previous survey were audited. The legally required and recommended infection control measures have not yet been implemented in all hospitals; in part, there are wide differences.

Development of participation in KISS surveillance modules

In the beginning of 2014, more than 1.403 German hospitals participated in one or more modules of the Hospital Infection Surveillance System (KISS). 58 % of the German acute-care hospitals actively engage in KISS (without hospitals that only participate in HAND-KISS). Another 20 to 30 % of acute-care hospitals perform surveillance based on KISS methods in high-risk areas.

Source:
Heroes wanted – and found
Our role model for improved hand hygiene

Christian Pux is a man of deeds – and our Modern Day Hero in Hand Hygiene. The senior infection control nurse is committed to enhance compliance in the Geriatric Health Centres Graz. And even more: as member of a work group he also supports other care facilities in Austrian Styria in terms of hand hygiene.

“Good role models are most important in hand hygiene,” resolutely states infection control nurse Marion Pongratz. Hence, the HARTMANN campaign “Nominate your Modern Day Hero in Hygiene” immediately generated her interest. The hygiene expert nominated her colleague Christian Pux as she perceives him as outstanding example. It is his commitment that motivates her and many other people in Styrian care facilities to improve hand hygiene.

“AKTION Saubere Hände” in Styria
It all started in 2011. Christian Pux, who had been working as nurse for several years before, completed his training as infection control nurse. At the same time, the Styrian Health Fund decided to implement the German “AKTION Saubere Hände” (Clean Hands Campaign) in Styria. The management of the Geriatric Health Centres Graz took the chance and registered for participation in November 2011 already. Thus, the facility is among the first Styrian and Austrian long-term care facilities that have started implementing the hand hygiene initiative.

Much has happened since. The compliance in the Geriatric Health Centres Graz, which comprises a geriatric clinic and four nursing homes, has improved considerably – particularly thanks to Christian Pux’s commitment.

The senior infection control nurse quickly initiated numerous measures and campaigns to enhance hand hygiene.

Positive approach to hygiene
His approach is characterised by a positive attitude to the core. Especially when it comes to hygiene people often focus on the things that do not work, emphasises Christian Pux. He further explains: “For me personally, however, it is important to get away from this focus on shortcomings.” In his opinion, there is an urgent need to place a more favourable emphasis on hygiene and implement a sustainably positive approach.

And his colleague Marion Pongratz confirms that he manages to do so. It is his broad expertise and his positive, empathetic manner that motivates employees, patients, residents and visitors to improve hand hygiene. “He does some convincing, because he is convinced himself,” says Marion Pongratz.

Training tailored to occupational groups
Christian Pux’s particular focus is on sophisticated, practical training concepts, such as bedside teaching. In these training sessions directly at the bedside, the hygiene team trains staff how to correctly perform hand hygiene, for example, during whole-body
wearing. For the participants to get the most out of the training, they receive the infection control nurses’ feedback directly afterwards. Together, they analyse which situations require hand disinfection and which do not.

But there is more: to further optimise staff training, Christian Pux additionally relies on the exact observation of compliance. The hygiene team observes certain activities of different occupational groups, for example the compliance when nursing staff perform whole-body washing or when physicians carry out venipunctures. All results generated this way again have an influence on future training courses.

**Together – for more compliance**

And the result of this great commitment? “We have witnessed a fantastic development. The employees’ awareness of the importance of hand hygiene has increased significantly,” summarises Christian Pux. The data on hand disinfectant consumption confirm this. In one of the four homes of the Geriatric Health Centres Graz, the consumption has even increased by 120 % from 2011 until 2013.

His experiences on how useful and beneficial the “AKTION Saubere Hände” is, the infection control nurse shares with other long-term care facilities in Styria. As member of the “Hand Hygiene” work group of the Styrian Health Fund he has the objective to motivate Styrian nursing staff to improve compliance and support them in implementing appropriate measures. And there is a great deal of interest. The Styrian “AKTION Saubere Hände” information day was attended by more than 70 employees from care facilities.

A success that Christian Pux very much appreciates – and a great motivation to get involved with more campaigns for safe hand hygiene. His most recent idea is a presentation for the video walls in the Geriatric Health Centres Graz: every occupational group of the facility holds a poster in the hand with the text “AKTION Saubere Hände – ich mache mit” (Clean Hands Campaign – count me in).

Read the complete interview with our Modern Day Hero Christian Pux at www.sterillium.com, where you can also nominate your personal hand hygiene role model!
Measles, polio, tuberculosis – not to mention the upcoming norovirus and influenza season: in emergency shelters, these diseases are a real threat to refugees. However, also clinics have to increasingly deal with these risks of infection.

The Infectious Diseases department of the Clinic Heidenheim has already admitted first cases with suspected infections. The unit’s head nurse Hans Eberhardt reports on how to proceed adequately and on future challenges.

DISINFACTS: Your clinic in Heidenheim is less than 40 kilometres away from the initial reception centre for refugees in Ellwangen. Most recently, you have admitted four suspected cases of tuberculosis (Tb) from there. How do you proceed?

Hans Eberhardt: The diagnosis of Tb is extremely complex. For the clinical and microbiological examination, we have a multilevel approach. In addition to the external x-ray that we read in and analyse, our standard diagnostic procedure comprises a bronchoscopy and several microbiological tests and rapid tests.

DISINFACTS: What are the special challenges?

Hans Eberhardt: The language barrier causes difficulties: how do you explain people, who cannot speak German or English and for whose rare dialects you cannot find an interpreter, what is being done and why? Our solution: we use information sheets on Tb that were translated into differing languages*. Another great challenge certainly is that for many symptoms we do not know right from the beginning what tasks we have to expect.
**DISINFACTS: Which risks do you think are particularly severe?**

**Hans Eberhardt:** Whether tuberculosis or other microorganisms – we have to deal with potentials for transmission or diseases that must not be underestimated. Diseases such as latent tuberculosis and measles show no symptoms at first. Pathogens can be passed on unnoticed, but even faster as most emergency shelters are hopelessly overcrowded. The reception centre in Ellwangen, for example, is intended for 500 to 800 residents. At the moment, there are around 4,200 refugees, as there is simply no other option. So many people in a small area – also the expected wave of influenza will be a threat. This place alone could serve as example of an infectiological nightmare scenario.

**DISINFACTS: What needs to be done?**

**Hans Eberhardt:** The common thread is the prevention of transmissions and possible nosocomial infections: with adequate and active basic hygiene – starting with hand disinfection. The current situation demands clinics to be even more attentive than usual, from well-founded anamnesis, adequate management and control with isolation options to hygienically correct and responsible barrier precautions. The number of necessary isolation rooms will presumably increase considerably.

**DISINFACTS: Do you expect further effects on clinics in the middle term?**

**Hans Eberhardt:** I think we increasingly will have to deal with multidrug-resistant pathogens. On the one hand, as they are common in the countries of origin, and because of the hygienic conditions in the shelters. When 350 people have to share one toilet, *C. difficile* of a resident treated with antibiotics can fast become a huge problem. Hence, basic hygiene is not only imperative in clinics: emergency shelters should implement consistent and targeted hand and surface disinfection.

* www.explainb.org. Website with explain videos in many languages.

### Overview: Relevant pathogens in emergency shelters

<table>
<thead>
<tr>
<th>Pathogen</th>
<th>Disease</th>
<th>Transmission paths</th>
<th>Spectrum of activity for disinfection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mycobacterium</td>
<td>Tuberculosis</td>
<td>mainly airborne (via finest droplet nuclei)</td>
<td>tuberculocidal</td>
</tr>
<tr>
<td>Poliovirus</td>
<td>Polio (poliomyelitis)</td>
<td>faecal-oral; airborne</td>
<td>virucidal</td>
</tr>
<tr>
<td>Measles virus</td>
<td>Masern</td>
<td>droplet infection; contact with infectious secretion from nose or throat</td>
<td>virucidal against enveloped viruses</td>
</tr>
<tr>
<td>Itch mite (Sarcoptes scabiei)</td>
<td>Scabies (or acarodermatitis)</td>
<td>direct body contact; rare: indirect transmission via textiles</td>
<td>chemical disinfection ineffective</td>
</tr>
<tr>
<td>Influenza viruses</td>
<td>Influenza</td>
<td>droplet infection; direct hand contact with surfaces contaminated with virus-containing secretion and subsequent hand-mouth/hand-nose contact</td>
<td>virucidal against enveloped viruses</td>
</tr>
</tbody>
</table>
Direct observation is the method of choice to investigate hand hygiene compliance of nursing and medical staff. It offers many advantages as it, for example, not only collects the mere number of performed hand disinfection procedures, but also assesses the appropriateness and rub-in technique. There are, however, several factors that may bias the collected data: the selection of test persons, the observer herself/himself, and not least the Hawthorne effect. According to the latter, people change their behaviour as soon as they are observed – and they are aware of it.

Real-time data with time stamp
Using an electronic monitoring system (EMS), Srigley et al. investigated whether, and if yes to what extent, the Hawthorne effect also temporarily increases hand hygiene compliance of healthcare workers. For this, the researchers equipped 60 clinic employees with portable transmitters for 8 months and installed a network of wireless receivers, for example, in corridors and above soap and hand disinfectant dispensers. The real-time data were collected including location and time stamp. And for every single dosing dispenser the number and time of actuations were recorded as well.

After four and a half months, hand hygiene compliance was observed directly. To document both observation time and location also the observers carried a transmitter. For data analysis, the frequency of use of dispensers within the observer’s eyesight was compared to the one of dispensers not visible to the observer. The latter were divided into five groups with different locations and times of data collection (see figure below).

Observed compliance three times higher
As expected, the frequency of hand disinfection procedures performed increased as soon as the healthcare workers knew they were visible to the observer. The result is however surprising: hand hygiene compliance increased almost threefold. Conclusion: a combination of direct observation and monitoring system delivers real-time data and the opportunity to determine the quality of hand disinfection – and train individually.

<table>
<thead>
<tr>
<th>Dispenser actuation per hour</th>
<th>Visible to the observer</th>
<th>Not visible to the observer</th>
<th>1–5 minutes before arrival of observer</th>
<th>1 week before observation</th>
<th>2 weeks before observation</th>
<th>3 weeks before observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.75</td>
<td>1.48</td>
<td>1.5</td>
<td>1.07</td>
<td>1.5</td>
<td>1.5</td>
<td>1.25</td>
</tr>
</tbody>
</table>
Measuring compliance – it all depends on the right mix

There are two methods to measure compliance with hand hygiene protocols: the collection of data on hand disinfectant consumption and direct observation. Only those who combine both methods can get a comprehensive and realistic picture of a facility’s compliance performance.

Facilities use the measurement of the consumption of hand disinfectants as surrogate parameter to assess compliance. For standardisation purposes and to compare it with other facilities/wards, the consumption of hand disinfectants is calculated per patient-day.

Important: there is not generally desired value, as the frequency of hand disinfection – when it is performed as indicated – depends on the differing types of units and patient groups.

For measuring consumption data, the European Centre for Disease Prevention and Control (ECDC) therefore distinguishes various hospital types: primary, secondary, tertiary, specialised and unknown. According to the ECDC data the consumption in tertiary hospitals was significantly higher than in primary hospitals [1].

Only observation can evaluate the quality

Those who want to gather information on the status quo of the hand hygiene behaviour will not get around direct observation. It is the only method that allows the assessment of quality of hand hygiene performance, i.e. whether it is carried out following the 5 Moments and whether the exposure time of 30 seconds is adhered to.

It may also identify unnecessary hand disinfection procedures, for example, when walking down the corridor, and reduce them by feedback. In addition, studies conducted in, for example, Spain, Australia and the US demonstrate that repeated observation contributes to increasing compliance with hand hygiene by 48 per cent and more for years [2–4].

The disadvantages of this method include the “Hawthorne effect”. However, experts think that direct observation is an indispensable method to evaluate compliance [5].

Sources:
1. ECDC SURVEILLANCE REPORT
BODE SCIENCE CENTER’s lunchtime symposium:
Healthy skin –
better infection protection

Why is an employee’s healthy skin important for the prevention of nosocomial infection? And why is there such a wide gap between the awareness of the importance of hand disinfection and the actual action. Four experts in the fields of dermatology and social psychology discussed these questions at the lunchtime symposium “Healthy skin – better infection protection” which was held on 10 July in Berlin. Its focus: the human factor.

Only hand disinfection procedures that are carefully performed in the right moment reliably protect against nosocomial infection. Most healthcare workers are aware of this fact – and yet compliance often stagnates at around 50 %. Why is that? This question was examined by the four speakers at BODE SCIENCE CENTER’s lunchtime symposium: Prof. Dr. med. Swen Malte John1, Prof. Dr. med. Hans Smola2, Prof. Dr. Johannes Keller3 and PD Dr. Sonja Christine Molin4. The experts gave an insight into the latest dermatological and behavioural research, reported on practical experiences and threw light on unconscious action.

Hand eczema: a “culture medium on the hand”
The prelude to the lunchtime symposium was the speech of Prof. Dr. med. Swen Malte John, University of Osnabrück, Germany. The dermatologist emphasised how important it is that employees have an intact skin to prevent a spread of nosocomial infection and MDR pathogens. He vividly described the consequences of contact dermatitis: “It is like a culture medium on the hand that almost automatically attracts pathogens.” A problem that also figures reflect: taken together, the EU and U.S. rates of MRSA colonisations among clinic and nursing facility staff are 5 % on average. The 18 % of German healthcare workers who suffer from a contact dermatitis on their hands are 15 times more frequently colonised with resistant microorganisms than nursing and medical staff with healthy hands. The prevention of skin irritations therefore is very important, underlined Prof. John. The expert recommends: disinfect hands rather than wash them. Hand disinfection is not only more effective, but also gentler on the skin than handwashing.

Hand disinfection: well moisturised skin
Without any doubt, hand disinfection with alcohol-based hand disinfectants is the gold standard. But hand disinfection with the right product can even achieve more, as reported by dermatologist Prof. Dr. med. Hans Smola. He introduced the latest study of the BODE SCIENCE CENTER that investigated the nurturing properties of Sterillium classic pure. The outcome of the study speaks for itself: after one

Experts provide answers to skin health: Prof. Dr. med. Swen Malte John, Prof. Dr. med. Hans Smola, Prof. Dr. Johannes Keller and PD Dr. Sonja Molin (from left to right)
week, the skin hydration increased significantly by an average of approximately 30%. And also in the subjective perception of the test persons the increased skin hydration was assessed as extremely positive.

Attitude: the influence of the unconscious
Social psychologist Prof. Dr. Johannes Keller answered the question of why this positive feeling – in addition to being aware of the importance of hand disinfection – plays such a key role. In his speech, the expert explained that behaviour is often controlled by feeling and not only by knowledge. This especially applies to impulsive behaviour such as hand disinfection. Hand hygiene behaviour is therefore very much determined by the unconscious attitude towards hand hygiene, explained the behavioural scientist.

These unconscious convictions are based on favourable or unfavourable connotations towards objects, other people or a certain behaviour that are automatically activated in the brain. Hence, it is essential for healthcare workers to associate hand hygiene with something positive: a pleasant scent, enjoyable experiences or with a good feeling on the skin.

Daily routine: prevention is indispensable
The speech of PD Dr. Sonja Christine Molin concluded the lunchtime symposium. In her Hand Consultation, the Head of Occupational Dermatology of the Clinic and Polyclinic for Dermatology and Allergology of the Ludwig-Maximilians-University in Munich, Germany treats healthcare workers suffering from contact dermatitis. According to the dermatologist, hand eczema are among the most common occupational skin diseases. They result in prolonged inability to work and cause many employees concerned to change their occupation. In healthcare professions, there are numerous risks of developing a hand dermatitis, for example, contact allergens or irritant activities such as use of gloves, wet work and frequent handwashing. In case contact dermatitis occurs, the “dermatologist’s procedure” and its guideline-based therapy can help retain people in their profession, particularly nursing staff. To prevent skin irritations in the first place, the expert recommends: disinfect hands, wash them as little as possible and perform intensive skin care.

1 Head of Dermatology, Environmental Medicine and Health Theory, University of Osnabrück, Germany
2 Dermatologist, University of Cologne, Germany and Head of Med Science, PAUL HARTMANN AG
3 Head of Social Psychology, University of Ulm, Germany
4 Head of Occupational Dermatology and Hand Consultation of the Clinic and Polyclinic for Dermatology and Allergology of the Ludwig-Maximilians-University, Munich, Germany

Better feeling on the skin – more compliance
Skin tolerability is a prerequisite that hand disinfectants need to fulfil. A nurturing effect is a highlight: it may promote a positive unconscious attitude and thus improve compliance.

Source: BODE SCIENCE CENTER
Always in the thick of action

Hygiene in the intensive care unit

In the Rottal-Inn clinics, things are personal – also and particularly in terms of hygiene. Short communication paths, fair teamwork, and hygiene solutions that are tailored to the requirements of all working areas. A winning formula that helps implement the demanding hygiene tasks in the facility’s two intensive care units successfully.

“Safe hygiene is a top priority in the Rottal-Inn clinics. This applies to all of our three locations,” states Alexander Zugsbradl, Managing Director of the Rottal-Inn clinics. And the fact that the hygiene team of three reports to him directly proves that hygiene is a matter for the boss.

“To me it is very important to signalise that hygiene concerns all – independent of hierarchies,” clarifies Alexander Zugsbradl.

Hygiene team as service provider

The firm position of their boss is a great support and additional motivation for the members of the Rottal-Inn clinics’ infection control department. Karsten Wede, Ursula Camus and Udo Eder are responsible for the hygiene management at the three locations in Eggenfelden, Pfarrkirchen and Simbach. A broad scope of duties that the three infection control practitioners cope with in a committed fashion.

As contact point for all hygienic matters, the team endeavours to support all occupational groups with suitable solutions. “We consider ourselves as a service provider,” explains hygiene expert Karsten Wede. He continues: “Due to our facility’s structure and size, everybody knows everybody. Hence, our colleagues are not afraid to turn to us when they have questions on hygiene.”

Professional communication

The short communication paths are a great advantage, particularly when it comes to special challenges such as the hygiene in the intensive care units at the two facilities in Eggenfelden and Pfarrkirchen. Intensive care patients normally have a considerably higher risk of infection. Severe underlying diseases often weaken their immune system and their natural immune barrier has been broken through by the necessary intensive care measures. Especially venous accesses, drains or artificial respiration may serve pathogens as portal of entry.
Clinic for general internal medicine, geriatric medicine and orthopaedics in Pfarrkirchen

In the intensive care units of the Rottal-Inn clinics, the share of ventilated patients is almost 40%, as Markus Ellinger, head nurse of the intensive care units in Eggenfelden and Pfarrkirchen explains. To safely protect these patients against infections, highest hygienic standards are observed. This includes a regular exchange of information with the hygiene team.

In case of special circumstances, for example isolation precautions, the communication between infection control department and intensive care unit becomes even closer. In such cases, at least twice a day, an infection control practitioner checks how things stand. But also for all other matters the intensive care unit staff can turn to the hygiene team with questions and suggestions at any time. And the same applies to visitors and relatives. They are often uncertain about what to pay attention to, especially in terms of hygiene, when the patient comes home.

The infection control specialist of the intensive care unit, however, also plays an important role in the hygiene management. Together with the head nurse, he ensures that the hygiene protocols are observed and implemented. In addition, the infection control specialist is member of the hygiene commission, where he brings in his experiences from daily practice. Another component of the hygiene management is the participation in ITS-KISS (hospital infection surveillance system). This module, which is overseen by senior physician Dr. Michael Böhme, is to record and assess nosocomial infections in the intensive care unit.

Surface hygiene in the intensive care unit

It is obvious that a proper product choice is essential in order to cope with the complex hygiene tasks. An exceptional challenge is the hygiene of surfaces on technical equipment, such as touch screens, computers and keyboards in the intensive care unit. Here, the Rottal-Inn clinics rely on HARTMANN’s Bacillol 30 Tissues. They use the tissues that have a balanced composition and a low alcohol content to disinfect surfaces on technical devices, working surfaces and all near-patient surfaces, such as bedside tables.

A real benefit for head nurse Markus Ellinger: “We are very pleased with the Bacillol 30 Tissues in the Flowpacks. They are gentle on material, easy to use and accelerate disinfection.” To have the tissues within easy reach, there is a pack in every patient cabin and next to every working area.

Also the hygiene team of Karsten Wede, Ursula Camus and Udo Eder is satisfied with the disinfection tissues. However, there will also be enough hygienic challenges in the future for the team to step up to. Udo Eder says: “Sure, we still have some areas where we wish to become better.” And his colleague Ursula Camus adds: “Yes, but we are looking forward to finding new solutions.”
Effective organisation of infection control programmes

In spite of intensive infection control efforts, the burden caused by nosocomial infections in Europe is high and results in 37 000 deaths every year. A recent review of Zingg et al. [1] has determined essential elements for the organisation of effective infection control programmes.

Several evidence-based guidelines on the prevention of nosocomial infections have been published over the past decade. However, despite these practical strategies’ efficacy has been proven, hospitals are still in a struggle with fulfilling the infection control requirements.

Hence, in their review, Zingg et al. wanted to create an evidence-based guidance to effectively organise infection control programmes in hospitals. Their focus: identification of effective and generally applicable elements of infection control programmes in acute-care clinics and of the associated indicators to monitor structures and processes.

92 studies were selected from a total of 48 079 studies published between 1996 and 2012. Evaluation of the studies showed: there are ten factors that play a vital role in effective infection control in hospitals. These key factors were also assessed in terms of their evidence quality, ease of implementation and EU-wide applicability.

The key factors in detail

1. Organisation of infection control at hospital level
   Effective infection control programmes in acute-care clinic should at least have one full-time nurse especially trained in infection control per up to 250 beds, one physician trained in infection control, microbiological support, and data management support.
   Indicators: Continuous monitoring of surveillance and prevention programmes, outbreaks and audits; local infection control commission; inclusion of infection control in hospital’s administrative programme; defined goals; appropriate staffing; suitable budget for infection control measures.

2. Ward occupancy and workload
   Ward occupancy should not exceed the capacity for which it is designed and staffed; staffing and workload of healthcare workers need to be adapted to local requirements; number of external or stand-by healthcare workers should be kept to a minimum.
   Indicators: Average bed occupancy at midnight; average number of local staff; average share of external or stand-by staff.

3. Material, equipment and ergonomics
   Appropriate availability of and easy access to material and equipment; optimisation of ergonomics.
   Indicators: Availability of alcohol-based hand disinfectants at the point of care; soap and single-use towels next to washbasins.
4. Guidelines, education and training
Use of guidelines combined with practical education and training.
Indicators: Adaptation of guidelines to the situation on site; number of new employees trained according to local guidelines; teaching programmes based on local guidelines.

5. Education and training
Education and training should involve employees and be team and task oriented.
Indicators: Education and training programmes should be reviewed and combined with knowledge and competency assessments.

6. Audit standardisation
Organisation of audits as standardised and systematic practical assessment with prompt feedback.
Indicators: Measurement of the number of audits (total and per department/unit and subject) for defined periods of time.

7. Prospective surveillance, feedback and networks
Participation in prospective surveillance such as the German Hospital Infection Surveillance System (KISS) and active provision of feedback, preferably as part of a network.
Indicators: Participation in national and international surveillance initiatives; number and type of wards with surveillance established; regular reviews of feedback strategy.

8. Development of multimodal strategies and tools
Implementation of infection control programmes based on multimodal approaches, including tools such as checklists and sets of measures developed by multidisciplinary teams taking into account local conditions.
Indicators: Verification whether programmes are multimodal; measurement of process indicators (e.g. hand hygiene, patient care processes); measurement of outcome indicators (e.g. rates of nosocomial infection, MDR infections and transmissions).

9. Identification and involvement of strategy champions
Multimodal studies have shown how useful it is to identify and involve champions to promote intervention strategies.
Indicators: Interviews with local staff and infection control specialists.

10. Creating a positive organisational culture
Creation of a positive organisational culture by promoting work relationships and communication between departments and occupational groups.
Indicators: Questionnaires on work satisfaction; crisis management and assessment of healthcare workers’ absenteeism and fluctuation.

Assessment criteria legend:
- Evidence quality
- Ease of implementation
- EU-wide applicability

Source:
Safely disinfecting surfaces in high-risk areas

Areas with particular risk of infection (e.g. intensive care units) have special and high requirements concerning the use of wipes dispenser systems. DISINFECTS introduces important background information on the surface disinfection in high-risk areas.

Important facts at a glance

1. What areas have a particular risk of infection?
   Intensive care units, haematological oncology, neonatology and burn units are among the areas with special risk of infection. Patients who are treated there are often immunocompromised and thus more vulnerable to infection.

2. Are there differences between wipes dispenser systems? What are they?
   Two types of wipes dispenser systems are distinguished:
   a) Read-to-use wipes dispenser systems: the wipes offered in rigid containers or soft packs are pre-soaked with a disinfection solution. Their standing time normally is up to three months.
   b) Refillable wipes dispenser systems: these systems consist of a container with dispensing opening in the lid. The dry fleece wipes that are already inside or need to be inserted are then soaked with disinfection solution by the user. The standing time is up to 28 days.

3. Why should reprocessed wipes dispenser systems not be used in high-risk areas?
   Since there is the possibility that containers or lids are not reprocessed properly, the risk that use solutions become contaminated is high. An exception is the use of wipes dispensers with alcohol-based disinfectants.

4. Are microbiological checks necessary when using wipes dispenser systems?
   In case alcohol-based surface disinfectants are used in both ready-to-use or refillable wipes dispenser systems, no additional hygienic microbiological examinations are necessary. The reason: microbial contamination of alcohol-based disinfectants has not yet been described. Regular hygienic microbiological examinations are recommended when all other surface disinfectants (e.g. based on QAC or aldehyde) are used.
The new generation

HARTMANN’s new BODE X-WIPES Safety Pack is a convenient single-use system for the disinfection of surfaces, also in high-risk areas.

The innovative stand-up pouch with integrated fleece roll requires no reprocessing. In addition, the single-use fleece wipe dispenser is easy to handle and can be used with all liquid HARTMANN surface disinfectants.

Safe and easy to use – also in high-risk areas: low-alcohol disposable wipes in the Flowpack, such as the Bacillol 30 Tissues.
Stability of hand disinfectants:

The dosing dispenser makes the difference

Dispenser systems provide good protection for hand disinfectants against contamination. The preparations are often as stable as in opened containers with tightly sealed lid. However, the stability of the preparations depends on the type of dispensing system. New: Hand disinfectants used in the Eurodispenser 1 plus and 1 plus Touchless now are also stable for 12 months after opening.

Thanks to the good sealing properties of dispensers, hand disinfectants used in dispensers normally are as stable as in opened and tightly resealed containers. Intensive testing now proved: also the Eurodispenser 1 plus and 1 plus Touchless protect hand disinfectants against contamination for 12 months.

Write down date of opening

It is important to note down the date of opening on the original bottle used in the dosing dispenser. Thus, you will know at any time how long the hand disinfectant has already been used – and for how long it can still be safely used.

Longer stability in original packaging

In most cases, the stability of hand disinfectants in opened containers is shorter than the use-by date for the product in factory packagings specified by the manufacturer. This is due to different reasons: for example, due to opening and closing, also air gets into the container. Thus, the preparations are in danger of becoming contaminated.

Stability of hand disinfectants in different dosing dispensers. The values only refer to products in original containers.

<table>
<thead>
<tr>
<th>Alcohol-based hand disinfectants in dosing dispensers</th>
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<tbody>
<tr>
<td>NEW Eurodispenser 1 plus 12 months</td>
</tr>
<tr>
<td>NEW Eurodispenser 1 plus touchless 12 months</td>
</tr>
<tr>
<td>Eurodispenser 2</td>
</tr>
<tr>
<td>Eurodispenser 3</td>
</tr>
<tr>
<td>Eurodispenser 3000</td>
</tr>
<tr>
<td>Eurodispenser 1 6 months</td>
</tr>
<tr>
<td>Eurodispenser 2000</td>
</tr>
<tr>
<td>Bottle with screwed-on dosing pump 12 months</td>
</tr>
<tr>
<td>Bottle with screwed-on spray head 12 months</td>
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Credits

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