

Hand hygiene compliance is key in neonatology units:
AKH in Vienna relies on modern technology for performance feedback

November 2021 – **On a global scale, infections are the third leading cause of neonatal mortality. High hand hygiene compliance is, especially in neonatology, a valuable part of any infection prevention strategy. In the neonatology unit of Allgemeines Krankenhaus Währingergürtel (AKH)/Medical University in Vienna, an evidence-based, AI-enhanced quality assurance system provides immediate visual feedback on hand hygiene practice, both for parents and the clinical staff.**



Dr. Judith Rittenschober-Böhm, MD, PhD works as a senior physician in the neonatology unit of AKH/Medical University Vienna, Austria's largest hospital. With a total of 50 beds, AKH's neonatology unit has two intensive-care and two intermediate-care wards as well as one post-partum support ward. Among 800-900 admissions every year, about 180 are below 1000 g. This is the largest neonatology in Austria.

In clinical practice, as well as in research, the focus of Dr. Rittenschober-Böhm is on hospital-acquired and perinatal infections. Hygiene issues are part of that focus. She holds a PhD in immunology.

Neonatology – a department where hygiene is most relevant

“Neonates are particularly vulnerable”, explains Dr. Rittenschober-Böhm. “The immaturity of their immune system makes them predisposed for infections; and their thin skin does not work that well yet as a protective barrier against diseases. In addition, neonates are subject to multiple types of invasive procedures, which include catheterization and intubation, which result in major risk factors.” With perinatal infections not easy to be avoided, staff needs to concentrate on preventing hospital-acquired infections.

According to Dr. Rittenschober-Böhm, there are two target groups to address with technology-enhanced training. Clinical staff is one of them – physicians, nurses, and physiotherapists. Parents are the second, similarly important stakeholder group.

Key factors in hospital hygiene

The number one factor is about the “moments of hand hygiene”. Staff needs to be reminded of the necessity to practice hand hygiene in situations such before and after patient contacts. Many studies focus on this issue. “However, the second factor is also

important”, says the expert: “how well are hands disinfected?” Disinfection solutions are transparent, and it is difficult to realize whether the quality in the process is appropriate.

Patient safety is paramount

“Patient safety is of strategic importance in our unit, and the application of modern methods on the path towards achieving best results is supported by Prof. Berger, the head physician of our unit”, outlines Dr. Rittenschober-Böhm. Together, they have ordered two Semmelweis Scanners from HandInScan. These systems visualize the effects of the individual hand hygiene procedure in an easy-to-handle process which takes only 30 seconds.

Teaching parents

Both parents and staff are target groups for the use of these scanners. Parents of newborns in neonatology, who are integrated into nursing activities in the unit, are typically highly motivated to engage, because they will do anything to support their children. They may find the necessary steps to take for effective disinfection, and the



identification of the proper amount of disinfectant, which is not really easy. “We train parents on their first day in our unit with regard to carrying out hand disinfection”, explains Dr. Rittenschober-Böhm. “In our intensive care wards, we use the Semmelweis Scanners for this training. The visual performance feedback parents receive from the scanners regarding the quality of their disinfection procedures is extremely valuable to them.” Parents are shown which areas they have neglected. “Feedback from parents regarding use of the scanners was very positive”, says the expert.

Addressing staff

The other target group is of equal importance – nurses and physicians. “Their challenge is that they will have practiced hand hygiene for years as part of their everyday routine; this may lead to a lack of reflection about the quality of that process”, underlines Dr. Rittenschober-Böhm. Typical areas which are disinfected with a lower degree of diligence are the back and the thumb of the dominating hand which is visualized very well by the scanners. Maintaining awareness is crucial: humans – team members – are needed to keep reminding their colleagues of the availability of the scanners.



Re-training of the staff by the hospital hygiene managers is currently carried out with a conventional method. "The scanner is a useful alternative which would allow this procedure to be carried out faster and more elegantly", according to the expert.

Combination of technology and human nudging

Avoiding hospital-acquired infections is a strategic goal for AKH, and is the major aim related to the Semmelweis Scanners in neonatology. "Continued awareness raising is key in achieving this goal – team members and posters reminding parents and staff serve as support. And the Semmelweis System is a highly valuable tool for performance efficiency checks", summarizes Dr. Rittenschober-Böhm.

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About HandInScan

HandInScan develops industry-leading training systems proven to significantly improve hand hygiene behaviors that eliminate the spread of infectious disease. This is accomplished through strategic partnerships with leading global hand hygiene experts in combination with patented AI technology. The result is a user-friendly system for educating, reporting, and improving life-saving processes. Semmelweis Systems are being used in more than 20 countries worldwide.

For more information about our solutions, visit <https://www.handinscan.com/eu/> and follow us on [LinkedIn](#) and Twitter [@HandinScan](#).