Long term care facility
Improved efficiency and safety through hydrogen peroxide and UV-C technology.

Case study from Seelandheim in Worben
Introduction

The Seelandheim is located in the heart of the Bern Seeland in Switzerland. In the midst of beautiful surroundings, they offer living space for over 200 senior citizens and 60 people with disabilities in 18 residential groups. In addition, 26 flats for the elderly are rented out. The Seelandheim is characterised by a wide range of services, their open culture and ever-learning organisation. They place a special emphasis on further education, initiative, participation as well as opportunities for development and advancement for the staff.
Challenge

Every winter the Seelandheim fights with great effort to prevent the introduction and spread of seasonal flu and norovirus in the Seelandheim. The times of an outbreak, be it SARS-CoV-2, norovirus or similar, are very challenging times. Better performance must be achieved with the same or even reduced staff. Thus, the affected residents must be isolated and given optimal care, and the rooms and surrounding areas must not only be optimally cleaned, but also disinfected so that further spread of infection can be prevented. The entire residential group is put in isolation if three or more residents are infected. In this case, not only the rooms of the infected residents are cleaned and disinfected, but the entire residential group. Especially during this situation, the employees are enormously challenged.

“Due to the current threat of SARS-CoV-2, which is many times more aggressive than previously known flu viruses, we as a large home have been confronted with a much higher risk for our residents and staff in a short time. A weak spot could possibly trigger a devastating chain reaction in our home.”

Reimund Zbinden, Head of Hospitality Seelandheim Worben
Solution
A hygiene concept was created in cooperation with the interdisciplinary interfaces of nursing, housekeeping, and kitchen. Over the years, the concept has been further developed and now shows results. The process owner is the head of housekeeping, who defines the cleaning procedure and regularly trains the staff. Housekeeping is responsible for disinfecting surfaces and nursing disinfects residents’ care materials and personal belongings.

Originally, disinfection was planned using quaternary ammonium compounds (QAC), which was then, after a thorough analysis of the active chemicals available, replaced by accelerated hydrogen peroxide (AHP - Oxivir Plus and later Oxivir Excel - combined with the TASKI Jonmaster system). The TASKI Jonmaster system is a microfibre technology that was combined with AHP to achieve excellent cleaning results and maximum productivity. Oxivir Excel wipes were used during isolation for disinfection of frequently touched surfaces and critical areas close to the patient. This product is characterized by its short contact times (fully virucidal in 30 seconds according to EN 14476), optimal cleaning properties, and material compatibility. Additionally, disinfection cleaning was supplemented by the additional use of MoonBeam™3 (UV-C light), further optimising safety. The MoonBeam™3 is only used by selected and trained staff.

As a preliminary step, a combined and time-saving disinfection cleaning with Oxivir Excel was conducted. Oxivir Excel can be used on most surfaces due to its optimal cleaning performance and surface compatibility, which supports the convenient use of the product. This is followed by a targeted application with the UV-C technology, MoonBeam™3, on both sides of the resident’s bed and in the bathroom.

“We were already familiar with disinfection with UV-C light from trade journals and the media. However, the acquisition costs of previous suppliers were enormous and could not stand up to the cost-benefit analysis. The MoonBeam™3 was about 1/3 cheaper than the previous offers we received. In the course of the corona crisis, the understanding of the necessity of safe disinfection has developed in our institution. For this reason, the Seelandheim decided to purchase MoonBeam™3 as a UV-C disinfection unit for an additional, highly effective surface disinfection process within a very short time.”

Reimund Zbinden, Head of Hospitality Seelandheim Worben
Results

The hygiene concept could be significantly optimised, especially by switching from a QAC-based product to an AHP-based one (Oxivir Excel - disinfection with outstanding cleaning performance in one step). The time required for the daily disinfection cleaning of a patient room (in isolation) could be reduced from 20 minutes (QAC) to 10 minutes (AHP) per room, mainly through the use of disposable textiles such as Oxivir Excel Wipes (AHP) and the TASKI Jonmaster system. Furthermore, significant progress in the efficacy spectrum and exposure times of the disinfectant cleaner could be achieved. Since the switch to AHP, a surface in the vicinity of a resident with a norovirus infection, can be safely used again after only 30 seconds (vs. 60 minutes - previously with the QAC-based product). This optimisation is particularly significant in the area of general cleaning and disinfection. The average processing time was reduced from 4.5 hours (QAC) to 3.5 hours (AHP & disposable textiles).

This time saving created the opportunity to implement a UV-C disinfection process for increased safety. The ten minutes of working time saved per room during the daily disinfection cleaning in the isolation room were used for the application of the MoonBeam™3. Three cycles of three minutes each are carried out (two in the immediate vicinity of the resident’s bed and one in the sanitary facilities). During the discharge cleaning, the MoonBeam™3 is used with at least four cycles of three minutes each. Thus, the total processing time of a room at discharge is 3.75 hours on average.

The additional disinfection level achieved through the use of MoonBeam™3 increases the safety of residents and staff immensely. Laboratory micro-efficacy test data shows a >4-log reduction in bacteria and viruses, including harder to kill, non-enveloped viruses, and TB (Mycobacterium tuberculosis). Even a >3-log reduction could be achieved in C. difficile spores during a three-minute cycle. With this additional step, areas that could not be taken into account before (e.g. personal belongings of residents) can now be treated in the same process. At the same time, the UV-C disinfection process could be optimally integrated into the workflow, setting up and reallocating the MoonBeam™3 hardly involves any additional effort.

“Oxivir Excel is very fast-acting, has a much broader spectrum of activity and is used as a disinfectant cleaner. With MoonBeam™3, we have now added another step to our hygiene process to completely eliminate any residual pathogens with an additional disinfection process. This further increases the safety for our residents and staff and minimises the risk for our institution.”

Reimund Zbinden, Head of Hospitality Seelandheim Worben
Diversey has been, and always will be, a pioneer and facilitator for life. We constantly deliver revolutionary cleaning and hygiene technologies that provide total confidence to our customers across all of our global sectors. Diversey is headquartered in Fort Mill, SC, USA.

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