

## Accessory kits support logistics and infection prevention process

The hospital management works towards the goal of improving the quality of the hospital for the well-being of patients and staff. Disposable accessory kits for respiratory devices help to do this. They save the nursing staff time, reduce the error rate for fitting ventilator parts and provide help for implementing in-house hospital infection prevention standards.



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CaritasKlinikum Saarbrücken St. Theresia is one of the oldest hospitals in the capital of the federal state of Saarland. But time has not stood still here. CaritasKlinikum in Saarbrücken-Rastpfuhl is very much focused on the requirements of German healthcare. “In recent years, an intense conflict has developed between increasing cost pressure on the one hand and demands for higher quality on the other,” explains Prof. Andreas Sielenkämper, Chief Physician of the Department for Anaesthesiology and Intensive Care Medicine at the hospital. The clinician sets clear priorities: “As a doctor, my first obligation is to my patients and the quality of their treatment.” Patient outcomes are an important parameter in this regard. How high is the mortality rate? How quickly does a patient move from the ICU to a normal ward? And how long is it until a patient can be extubated?

### BALANCE BETWEEN QUALITY AND COST

Of course, costs must also be taken into consideration when it comes to treatment, says Prof. Sielenkämper. “Even we doctors can no longer avoid these discussions.” However, a purely cost-orientated therapy goes against the principles of medical care. Reconciling quality and cost is where Prof. Sielenkämper sees one of his main tasks. “We must therefore take the whole treatment process into account and not only look at the prices of individual materials and products.” This is why quality is important at CaritasKlinikum Saarbrücken, even at the

procurement stage. For this reason, the hospital uses various respiratory devices from Dräger, the medical and safety technology specialists.

“We can only ensure excellent patient outcomes and the highest degree of patient safety with high quality products,” explains the Münster native.

### PROCESS OPTIMISATION AND QUALITY MANAGEMENT

Since taking up his position in 2008, Sielenkämper has made many changes in his hospital. Process optimisation and quality management play an increasingly important role in the OR and the ICU. In recent years, various functional units have been brought into use in surgery and intensive care medicine. According to Sielenkämper, clinical and nursing management have paid attention to optimal process workflows from the start. Here too, priority is given to the best possible level of patient care. At the same time, workflows had to be optimised by nurses and doctors, as heavy demands are placed on OR and ICU staff when emergencies and life-threatening

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Process optimisation and quality management play an important role at CaritasKlinikum.

situations occur. In the past, the focus was not always placed on process optimisation to the same extent: “Both in the OR and in the ICU, we traditionally worked with individual accessory parts. It was tedious, logistically complex and prone to error,” remembers Sielenkämper. “This is why it was important for us to implement standardised workflows and thus reduce the demands placed on staff.”

#### HIGH WORKLOADS IN THE ICU

This is where Roman Geibel becomes involved. The specialist ICU and anaesthetic nurse knows the workflows and needs of this hospital only too well – just a few years ago he was leading the ICU nursing team! Today, Geibel is a manager of the Centre’s ‘Intensive Care Unit, Intermediate Care and Emergency Department’. He brings together many different strands. Geibel takes care of staff and room planning, keeps an eye on quality management and is involved in the ordering process. “We have a very high patient throughput, and our patients are often critical. So we have to be able to focus 110% on patients,” clarifies Geibel with regard to the challenging conditions his colleagues work under. “The better the associated processes work, the better it is for the patient.”

#### ACCESSORY KITS FOR QUICK CHANGEOVERS

For the hospital manager, this also means looking for innovations that help to standardise processes. “I get information from the Internet and from industry exhibitions, as well as congresses,” explains the specialist. A Dräger employee made him aware of the company’s disposable accessory kits, which enable respiratory devices to be made ready quickly, efficiently and safely. “I received a sample kit, and was immediately convinced.”

#### INDIVIDUAL ACCESSORY KITS FOR EACH HOSPITAL

This first test was four years ago. Today, all respiratory devices across CaritasKlinikum Saarbrücken have been equipped with Dräger accessory kits. The company puts together the kits for the individual hospitals. For Saarbrücken, it includes the expiration valve, the hose system, the HME (Heat and Moisture Exchangers) filter, the CO<sub>2</sub> cuvette and the tube extension, also referred to as the ‘catheter mount’. “It has everything we need – no surplus items,” lauds Geibel.

For him, the benefits of the accessory kit are plain to see: they save valuable time during ward procedures, reduce the error rate and ensure better patient safety. And that, says Geibel, is process optimisation. “The staff benefit enormously from the kits in their daily work.”



Simplified logistics for repeat orders.



Pre-packaged accessory kits save time as the time taken to collect individual parts has been eliminated.

### LOWER COST, LESS TIME, MORE SAFETY

As there is no longer any need to look for individual parts, there is less risk of fitting a ventilator with the wrong items. “Previously, in urgent situations the HME filter was sometimes forgotten, meaning that the patient was at risk of drying out, or the CO<sub>2</sub> cuvette was left off,” explains Hospital Manager Geibel. “With the pre-packed kits, there are considerably fewer errors, and the patient is cared for better and more safely.”

The kits also save time. The time taken to collect individual parts has been eliminated. The time saved can be used for other tasks, ideally caring for patients. “This makes the patients and the staff happier,” says Geibel. Staff satisfaction and reduced workloads play a major role in intensive care.

Time is also saved thanks to the simplified ordering logistics: while earlier, different items had to be individually ordered from various suppliers, today there is one order number and one supplier for the whole kit. “The repeat order system is very organised and structured,” says Geibel. In addition, the order frequency has decreased. The delivery and storage of the kits is also simplified: the ward receives one box with a product rather than several boxes with different individual parts. The kit is unpacked into a

compartment in a cupboard and doesn't take up many different surfaces, as the many individual parts used to.

The kit also allows cost savings to be made. “Since we've had the accessory kits, we have paid less rather than more for equipping the ventilators,” says Geibel. How is that? “In the past, we had reusable CO<sub>2</sub> cuvettes. As the staff often forgot which parts were reusable and which were disposable, the expensive reusable cuvettes were often disposed of. This meant we had to re-order 10, 20 or 30 cuvettes each month,” recalls the hospital manager. An extremely high cost factor. “Today, we have one kit. Everyone knows it's a disposable product that is completely discarded after it is changed.”

### QUALITY BEFORE COST

And how did the purchasing department react to the idea of using accessory kits? Here, Geibel, the hospital manager, is in a comfortable situation. If a new product is required, like the accessory kit for equipping respiratory devices, and it has been subjected to clinical testing, he asks the purchasing department to procure it. Such a new order may be challenged. “But generally I get what I need,” claims the specialist nurse. “The purchasing department tends to follow our medical advice.” Because even in the ICU, quality plays an important role. “If the cheapest



Ventilators are equipped with new accessory kits at set intervals.

version is chosen,” explains Geibel, “often material and handling errors are inevitable. With cheap materials, we don’t save time – they just end up causing problems,” he summarises.

#### QUICK CHANGES FOR HIGH LEVELS OF SAFETY

Good news for Michael Rech, current Director of Nursing for the ICU, as he and his colleagues benefit from the Dräger accessory kits on a daily basis: “We use Dräger accessory kits for all of our ventilators – Evita®, Evita® XL, Savina® and V500,” says Rech. “This means we no longer have any issues equipping the devices.” Respiratory devices at CaritasKlinikum Saarbrücken are fitted with new kits at set intervals: “We swap the systems completely once a week, during the night from Sunday to Monday,” explains the ICU nurse. The night service staff, who are responsible for the patients and thus the ventilators, remove the old system and fit a new kit.

Since all material parts are to hand, the change is quick. “We work under tremendous time pressure here, and the kits ensure that fitting the devices is rapid, even in the tightly scheduled hospital routine,” says Rech. And patients benefit from this speed too: they are only disconnected from the ventilator for a short time during the changeover.

#### NO DELIVERY ISSUES

The CaritasKlinikum Saarbrücken ICU re-orders the accessory kits from Dräger once a week. Rech notes that this is taken care of by service personnel. This means the nursing staff can be fully focused on their care-related tasks. Delivery takes place within two days.

#### AN EASIER LEARNING CURVE

The kits provide his staff with more safety, says Rech. “The younger colleagues benefit particularly.” A few years ago, new employees generally stood, in a state of bewilderment, in front of a cupboard full of different items, with little guidance available. With the kit, things have become much easier. Nurses simply have to take the ready-packed kit and can immediately begin fitting the parts, explains the specialist. The transparent packaging means that all individual parts are immediately visible and easily recognisable. Fitting the parts has also become easier, as the kits and the devices are compatible. “They’re a perfect match,” says Rech. “Nothing can be done incorrectly because the connectors are all standardised and fit together very easily.” Particularly in the ICU, where many different people are involved in the therapeutic processes, the kits are an additional safety factor for patients.



For René Steffen and the hospital infection prevention team, accessory kits help to prevent nosocomial infections.

### ACCESSORY KITS BREAK THE CHAIN OF INFECTION

The accessory kits also reduce the risk of patient infection by breaking the chain of infection. As far as René Steffen from the Hospital Infection prevention team is concerned, this is by definition the greatest benefit of the Dräger accessory kits. The most important objective of the infection specialist is to 'prevent nosocomial infections.' The kits help to do this. Infections are difficult to treat due to the increasingly common occurrence of multiresistant pathogens – today, there are already many antibiotics that no longer work. "This is why we must raise staff awareness of hygiene as regards the correct hygienic handling of patients and used materials," explains Steffen. This is the only way to protect patients, and the staff themselves.

### MEDTECH SUPPORTS HOSPITAL INFECTION PREVENTION AND CONTROL

"Pathogens are mostly spread by the hands," says Steffen. Strict hand hygiene can help prevent this. But Steffen recognises other potential hazards that increase the risk of infection of patients or the spread of pathogens: "Medtech plays a major role in hospital infection prevention," says the infection prevention specialist.

In order to reduce the risk of infection, Steffen has strongly endorsed the use of disposable materials and fixed changeover cycles in the ICU:

- HME filters and 'catheter mount tubing' are changed daily.
- The ventilator is completely refitted once a week.

### CONSISTENT DISCARDING OF DISPOSABLE MATERIALS

After each change, regardless of whether it is for a new patient or the weekly cycle, the disposable materials are discarded, the device is disinfected and it is then refitted with new materials. With the discarding of used materials, according to Steffen, more attention is paid to infection prevention than before. The discarded materials are regularly disposed of, in order to avoid other patients becoming infected or staff being contaminated. "In terms of infection prevention, we prefer disposable accessory kits. They help us in establishing in-house hospital infection prevention standards," explains Steffen. In addition, the potential risk from the treatment process is done away with. Another benefit is the reduced workload for the Central Sterile Supply Department (CSSD). This can mean that the preparation of medical devices for other hospitals is quicker.



Equipping devices and surface disinfection in the tightly scheduled hospital routine.

#### HIGH-QUALITY SUPPLIER FOR CERTIFIED HOSPITALS

Prof. Andreas Sielenkämper is certain he took the right decision with the ventilator accessory kits: “They help us improve process workflows, and logistics and procurement are also easier to handle. They are a reliable addition to the respiratory devices that have long been in use at our hospital.” Dräger has Prof. Sielenkämper’s full confidence.

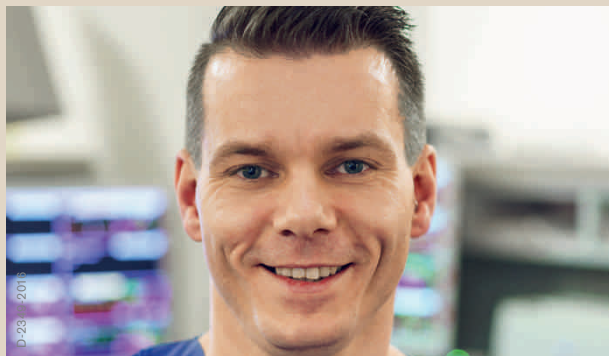
“Dräger is a long-established company that has produced respiratory devices for the hospital for many years. Many generations of doctors have had good experiences using Dräger devices, and many hundreds of thousands of people have been treated successfully with them,” continues the doctor.



After each change, the disposable material is thrown away in the patients’ room.



**Prof. Andreas Sielenkämper, Chief Physician of the Department for Anaesthesiology and Intensive Care Medicine:** Prof. Andreas Sielenkämper has been Chief Physician of the Department for Anaesthesiology and Intensive Care at CaritasKlinikum since 2008. He leads the department for anaesthesiology, which includes surgery, the ICU and the Emergency Care Centre. His doctors and nurses treat between 1,400 and 1,500 patients each year in the ICU. Process optimisation for respiratory technology is a particularly important topic for Sielenkämper: “Here, accessory kits play a key role, as they offer many benefits for patients and reduce our staff’s heavy workload.”



**Roman Geibel, Hospital Management:** Roman Geibel leads the ICU, Intermediate Care and Emergency Department. His tasks are mainly management-related – it is his responsibility to ensure that the individual departments run smoothly. “I do nursing rounds, carry out quality control checks and work closely with the wards,” says Geibel. “But I also look at the ordering process and test new products.” When he discovers a good product, Geibel asks himself questions like ‘Does the new product fit with those that have already been tried and tested?’, ‘Can it be used in practice?’ and ‘Does it have the potential to optimise process workflows?’. For Dräger’s accessory kits, the answer was yes.



**Michael Rech, ICU Team Leader:** As Director of Nursing for the ICU, Michael Rech takes care of roster planning, coordinates training, and is responsible for the use and overall organisation of the ward – in short, he makes sure the ICU ‘works’. Rech and his staff care for patients in a three-shift system. Patient turnover is very high, so the team leader is grateful for any means of optimising processes – such as the Dräger accessory kits: “They really make all of our colleagues’ jobs easier,” Rech is pleased to note. Fitting respiratory devices with new accessories is thus significantly easier and better.



**René Steffen, Hospital Hygiene team:** Infection Prevention specialist Steffen works closely with many hospital employees. “We raise awareness of infection prevention with the staff, carry out microbiological tests and establish plans for infection prevention and control,” says Steffen. “We focus in particular on high-risk areas, in other words the ICU, the OR, oncology and neonatology, as well as the Sterile Supply Department.” In addition, Steffen works closely with the hospital’s Quality Management team. “In terms of infection prevention and control, we prefer disposable accessory kits. They help us to establish in-house Hospital infection prevention standards,” explains the specialist.



### CaritasKlinikum Saarbrücken

With over 500 beds over two sites (St. Theresia and St. Josef Dudweiler), CaritasKlinikum Saarbrücken is one of the highest performing, most competent and most modern medical facilities in south-west Germany. Founded in 1900, its appearance today primarily features extensions and new buildings dating from the 1970s and 1990s. In the 24 specialist clinics, seven departments and special medical centres, doctors and nurses treat over 26,000 patients per year. CaritasKlinikum Saarbrücken is a Saarland University Teaching Hospital.

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