

## Just 'CLIC' it!

See how the Drägersorb CLIC system can significantly reduce sodalime consumption



As part of a profitability analysis, Thierry Chausse, Head of Nursery for the Anesthesia Department<sup>1)</sup> at the University Hospital Center of Limoges, France, compared conventional sodalime absorbent systems with the Drägersorb<sup>®</sup> CLIC system in spring 2005<sup>2)</sup>. By using this disposable solution, the sodalime in the anesthesia machines can be changed without interrupting the patients' controlled breathing during surgery. During the study, Thierry Chausse examined aspects such as service life, costs, ease of use and safety. The results: Despite higher initial costs of acquisition, the Drägersorb CLIC can nevertheless offer savings when all costs are taken into account. Overall consumption of sodalime was reduced by almost 60%.

### DRÄGER: WHAT IS SO SPECIAL ABOUT THE DRÄGERSORB CLIC?

Chausse: In contrast to other systems the sodalime in the anesthesia machines used with this system can be swapped with a saturation point of 100 % without having to interrupt the controlled breathing of patient under general anesthesia during surgery. Previously, replacing the sodalime during a surgical operation meant interrupting the patient's controlled breathing and administering halogenated anesthetics. This can lead to a drop in the concentration of the inhaled anesthetic and the patient may regain consciousness. Possible consequences: Hemodynamic changes and perioperative memories.



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Drägersorb CLIC 800+



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**The method** – Thierry Chausse carried out the study in the operating rooms for Visceral Surgery and Orthopedics at the University Hospital Center of Limoges, France. Both departments have adjoining OR rooms with similar conditions for the type and length of anesthesia administration. One room was used as the test room where the Drägersorb CLIC adapter was trialed and the other as a control room (where a traditional carbon dioxide absorbent lime system was used). The anesthetist staff noted the length of controlled breathing, date and time when the sodalime cartridge was replaced.

**Thierry Chausse** – Over the past 15 years Thierry Chausse has worked first as a nurse, then as a specialist nurse for anesthesiology in various departments in a hospital. After working in cardiology, OR, post-OR area and in the mobile emergency medical services, he began at the department for anesthesiology and post-operative recovery in 1999 where he has the position as a Head of Nursery. Thierry Chausse also gives classes at the School for Anesthesiology Nursing, at the School of Nursing of the French Red Cross and at the Centre Hospitalier Esquirol in Limoges, France.

#### **DRÄGER: WHAT WAS THE QUALITY CONTROL PLAN LIKE BEFORE YOU TESTED THE CLIC?**

The sodalime was either swapped at the end of a working day when all the surgery was finished and when the first signs of saturation arose – independent of the percentage of actual saturation. And that meant higher consumption of sodalime.

#### **DRÄGER: WHAT PROMPTED YOU TO CARRY OUT THE STUDY?**

Costs! When we carried out the study we were using comparatively inexpensive granular sodalime packed in 5-liter canisters. I wanted to find out if the impact of the new system on our work processes would be positive enough to compensate for the higher cost of acquisition.

#### **DRÄGER: ANY OTHER ASPECTS?**

Yes, the health of patients and people working here. The sodalime we use contains a lot of dust. This meant there was a danger that medical personnel could breathe in dust when refilling the canisters. The possible consequences are erythema, edema, toxic effects or damage to the eyes. To prevent this, nursing staff always had to wear surgical masks and disposable gloves. In addition, dust disperses through the anesthesia equipment and shortens its service life because of impurities and oxidation of components, in particular the motor.

#### **DRÄGER: HOW DOES THE DRÄGERSORB CLIC SYSTEM WORK?**

The Drägersorb CLIC adapter is a consumable article fitted with a flap valve and is screwed on to the anesthesia



Replacing the absorber is easy and possible anytime, even during an operation.

equipment. A disposable cartridge is attached to the adapter which is filled with sodalime (e.g. Drägersorb 800PLUS). It is easy to fit and does not require a technician's assistance. You simply press a button. When the sodalime reservoir is opened, the flap mechanism is activated. This means the patient's breathing can be maintained while swapping the sodalime.

#### **DRÄGER: HOW OFTEN DID YOU HAVE TO REPLACE THE ABSORBER DURING YOUR STUDY?**

Using this flap valve meant that the sodalime did not have to be changed until it reaches a 100 % saturation point. This maximized service life. During the study we observed that sodalime in the traditional

system had to be replaced about every 17 hours whereas with the Drägersorb system the sodalime had to be replaced about every 27 hours. This was a significant optimization of service life by almost 60 % and a diminution of sodalime consumption in same proportion.

#### DRÄGER: HOW DID THAT AFFECT COSTS?

The sodalime we used previously was delivered in 5-liter canisters. It contained a high proportion of dust which meant we had to calculate a volume loss of about 22 %. Plus there were additional costs for safety devices such as gloves, masks or safety glasses. Overall the Drägersorb Clic means savings of about 3.3 %.

But other cost factors which we have not examined during the study so far should also be taken into consideration including increasing safety for personnel and patients when replacing the sodalime and improving work processes. For example, when using a conventional sodalime absorbent system we had to call a nurse anesthetist to replace the sodalime. That meant unscrewing the canister, removing the used sodalime, disposing of it, refilling the adapter with fresh sodalime and putting the canister back in its place. That all takes time – time, we could spend looking after a patient.



Has analyzed efficiency and usability of the Drägersorb CLIC system:  
Thierry Chausse.

Our work with the clinical engineers showed something else, too. We actually found sodalime dust on the inside of the motor blocks of anesthesia equipment. This means extra costs for maintenance. Having these aspects in mind I would expect a total savings of around 10 %. All this speaks for the Drägersorb CLIC adapter with a high-grade sodalime such as the Drägersorb 800 PLUS.

Dräger: Thank you for your time and for giving us an insight into your study.

<sup>1</sup> Original French term: Infirmier Anesthésiste  
Cadre de Santé du Département d'Anesthésie.

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