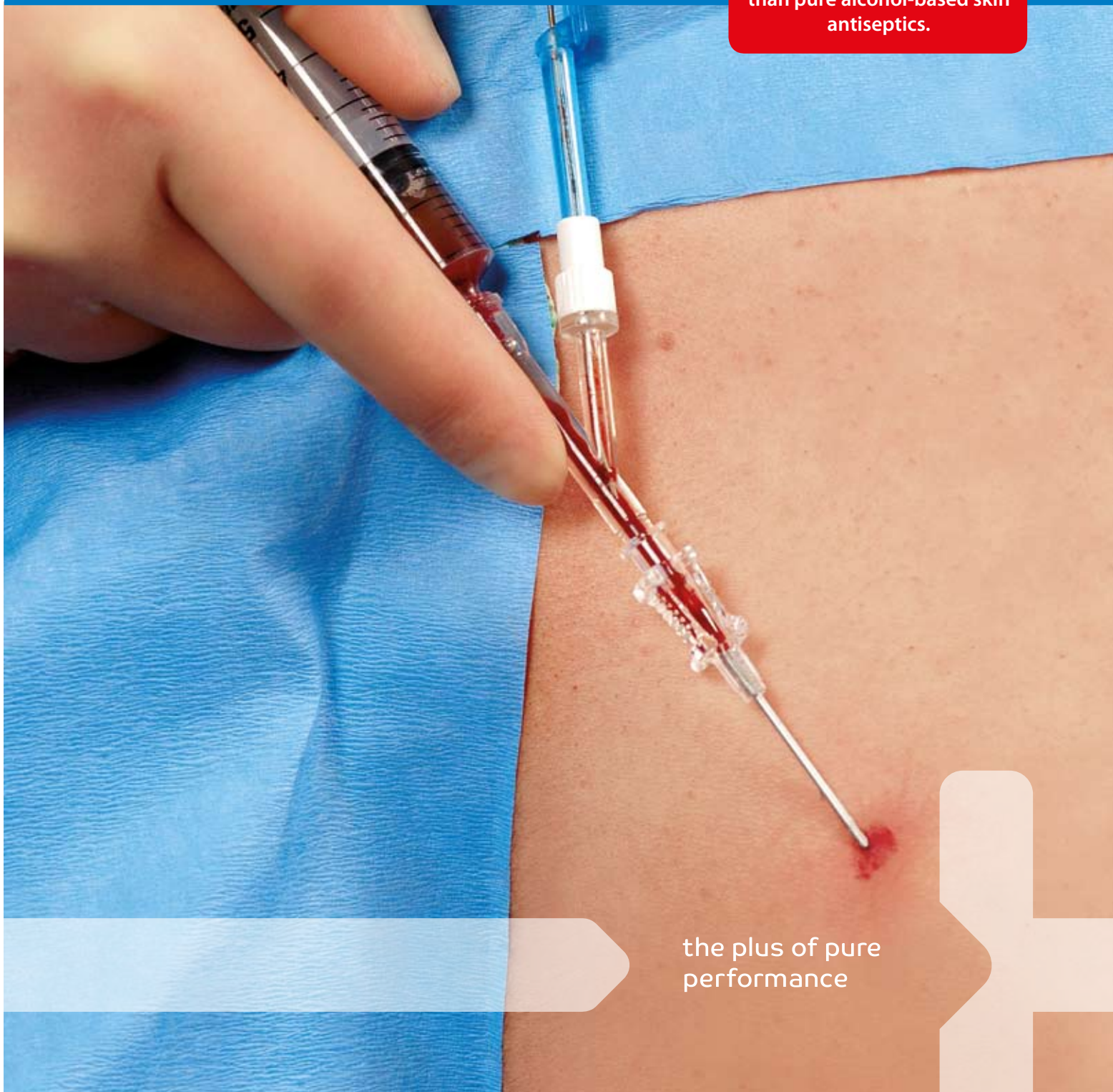


## Highly effective germ barrier.

octeniderm® reduces catheter-associated infections by up to 50 %.

Clinical evidence:  
octeniderm® is more effective  
than pure alcohol-based skin  
antiseptics.



the plus of pure  
performance

# Proper skin antisepsis – Stopping pathogens in their tracks!

## Skin antiseptics play an important role for inserting and care of the catheter.

In modern infusion therapy, intravascular catheters have proved to be by far the most frequent cause of a nosocomial bacteraemia and sepsis.<sup>1</sup> As skin colonisation represents an important source of infections, it is of great importance to choose a remanent skin antiseptic with long efficacy in order to achieve a reduction of catheter-associated infections.

### Studies have shown that:

- Approx. 15,000 patients in Germany die of the consequences of a sepsis.<sup>1</sup>
- Intravascular catheters, especially CVCs, are the most frequent cause of a nosocomially acquired sepsis.<sup>1</sup>
- The average frequency of catheter-associated infections amounts to 1.6 infections per 1,000 catheter days in Germany.<sup>2</sup>



### The consequences:

- Lethality increased by 12 % to 25 %.<sup>3</sup>
- Extra additional costs of approx. 7,000 € per patient.<sup>4</sup>

### CVC-associated sepsis in different intensive care units every 1,000 catheter days.<sup>5</sup>

All intensive care units:	1.2
Surgical intensive care units:	1.59
Interdisciplinary intensive care units:	1.01
Medical intensive care units:	1.47
Paediatric intensive care units:	2.54

### Infection routes:

Catheter-associated infections can be caused by:

- an infected catheter site,
- contamination of the catheter attachment with colonisation of the catheter from inside,
- haematogenic spread, resulting from another focus of infection, with colonisation of the catheter from outside,
- contaminated infusion solutions.

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### References:

- <sup>1</sup> Gastmeier P., Geffers C. (2008): Nosokomiale Infektionen in Deutschland: Wieviel gibt es wirklich? Eine Schätzung für das Jahr 2006. Dtsch Med Wochenschr, 133: 1111 - 1115.
- <sup>2</sup> Zuschneid I. et al. (2003): Reducing central venous catheter-associated primary bloodstream infections in Intensive Care Units is possible: data from the german Nosocomial Infections Surveillance System. Infect Control Hosp Epidemiol, 24: 501 - 505.
- <sup>3</sup> Raad I. et al.(2007): Intravascular catheter-related Infections: advances in diagnosis, prevention, and management. Lancet infect Dis, 7: 645 - 57.
- <sup>4</sup> Frank U. et al. (2003): Cost-effectiveness of an antiseptic-impregnated central venous catheter in the ICU (letter). Intensive Care Med, 29: 139.
- <sup>5</sup> KISS Krankenhaus-Infektions-Surveillance-System 2002 - 2006. www.nrz-hygiene.de <<http://www.nrz-hygiene.de/>>
- <sup>6</sup> Interne Untersuchung.
- <sup>7</sup> Dettenkofer M. et al. Published Online (August 2009): Skin disinfection with octenidine dihydrochloride for central venous catheter site care: a double-blind, randomized, controlled trial. Clin Microbiol Infect, DOI: 10.1111/j.1469-0691.2009.02917.x

# Studies favour octeniderm®.

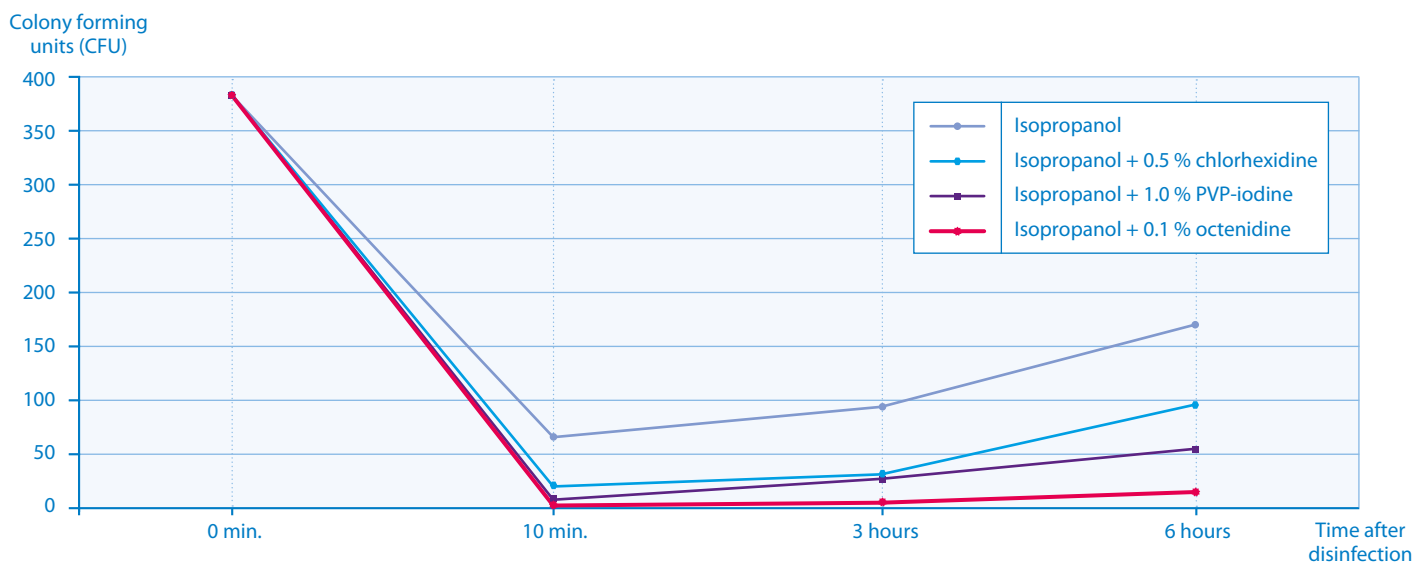
## Significant reduction in catheter infections by using remanent skin antiseptics.

The use of antiseptics reduces the number of germs on and inside the skin and persistently prevents them from multiplying. This persistent effect is also called a remanent effect and plays an important role both with regard to the insertion and care of intravascular catheters. Evidence has shown that catheter infections can be reduced by up to 50 % by using skin antiseptics with remanent active ingredients.

### Octenidine – a remanent active ingredient with many advantages

Active ingredient	Advantages	Disadvantages
<b>Octenidine</b>	<ul style="list-style-type: none"> <li>• effective against bacteria, fungi and enveloped viruses</li> <li>• fast effect</li> <li>• remanence</li> <li>• no development of resistance, no absorption, not allergenic</li> <li>• very good skin, mucous membrane and tissue tolerance</li> <li>• remedy of choice for antiseptics in premature infants</li> </ul>	<ul style="list-style-type: none"> <li>• not effective against non-enveloped viruses and spores</li> </ul>
<b>PVP-iodine</b>	<ul style="list-style-type: none"> <li>• effective against bacteria, fungi, viruses and spore0s</li> <li>• fast effect</li> <li>• no development of resistance</li> </ul>	<ul style="list-style-type: none"> <li>• limited efficacy (protein error: inhibition through proteins, bloods)</li> <li>• weak remanence, absorption, allergy risk</li> <li>• inhibition of wound healing</li> <li>• contraindications thyroid diseases, pregnancy, lactation, newborns and premature infants</li> </ul>
<b>Chlorhexidine</b>	<ul style="list-style-type: none"> <li>• effective against bacteria, fungi and enveloped viruses</li> <li>• fast effect</li> <li>• remanence</li> </ul>	<ul style="list-style-type: none"> <li>• not effective against non-enveloped viruses and spores</li> <li>• limited efficacy against Pseudomonas species</li> <li>• mutagenic, allergy risk, toxic risk</li> <li>• development of resistance possible, inhibition of wound healing</li> </ul>

### Remanence efficacy of antiseptic active ingredients on the skin.<sup>6</sup>



The diagram shows the germ reduction after completed disinfection (time 0 min.) and the subsequent growth of bacteria on the skin. Here, the solution containing octenidine exhibits the best remanence efficacy.

## octeniderm® prevents catheter-associated infections.<sup>7</sup>

### Study objective:

Comparison of efficacy of octeniderm® (skin antiseptic containing octenidine in alcohol-based solution) with a purely alcohol-based preparation regarding the prevention of catheter-associated infections with their target criteria in long-term catheters (five days or longer).

### Study design:

randomised, controlled and double-blind

### Period:

5/2002 until 4/2005

### Patients:

400 patients with central venous catheters (CVC)

### Method:

Skin disinfection before insertion as well as subsequent care of the catheter site in two groups.

- **Group 1:** test preparation octeniderm® (0.1 % octenidine dihydrochloride; 30 % 1-propanol; 45 % 2-propanol)
- **Group 2:** purely alcohol-based preparation (74 % ethanol; 10 % 2-propanol)

### Target criteria:

- (1) skin colonisation around the catheter site (before catheter insertion and every three days),
- (2) colonisation of the catheter tip after removing the catheter,
- (3) incidence of CVC-associated sepsis.

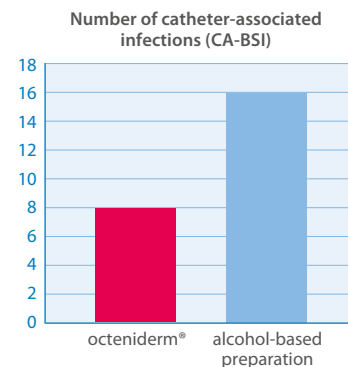
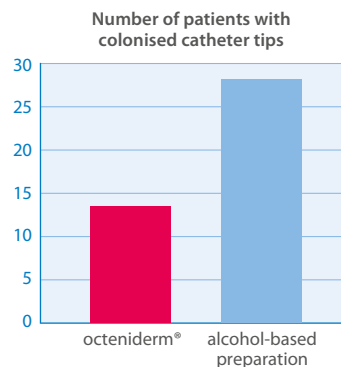
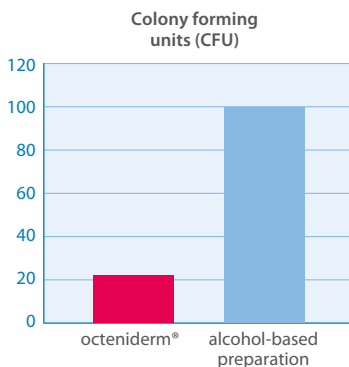
### Results:

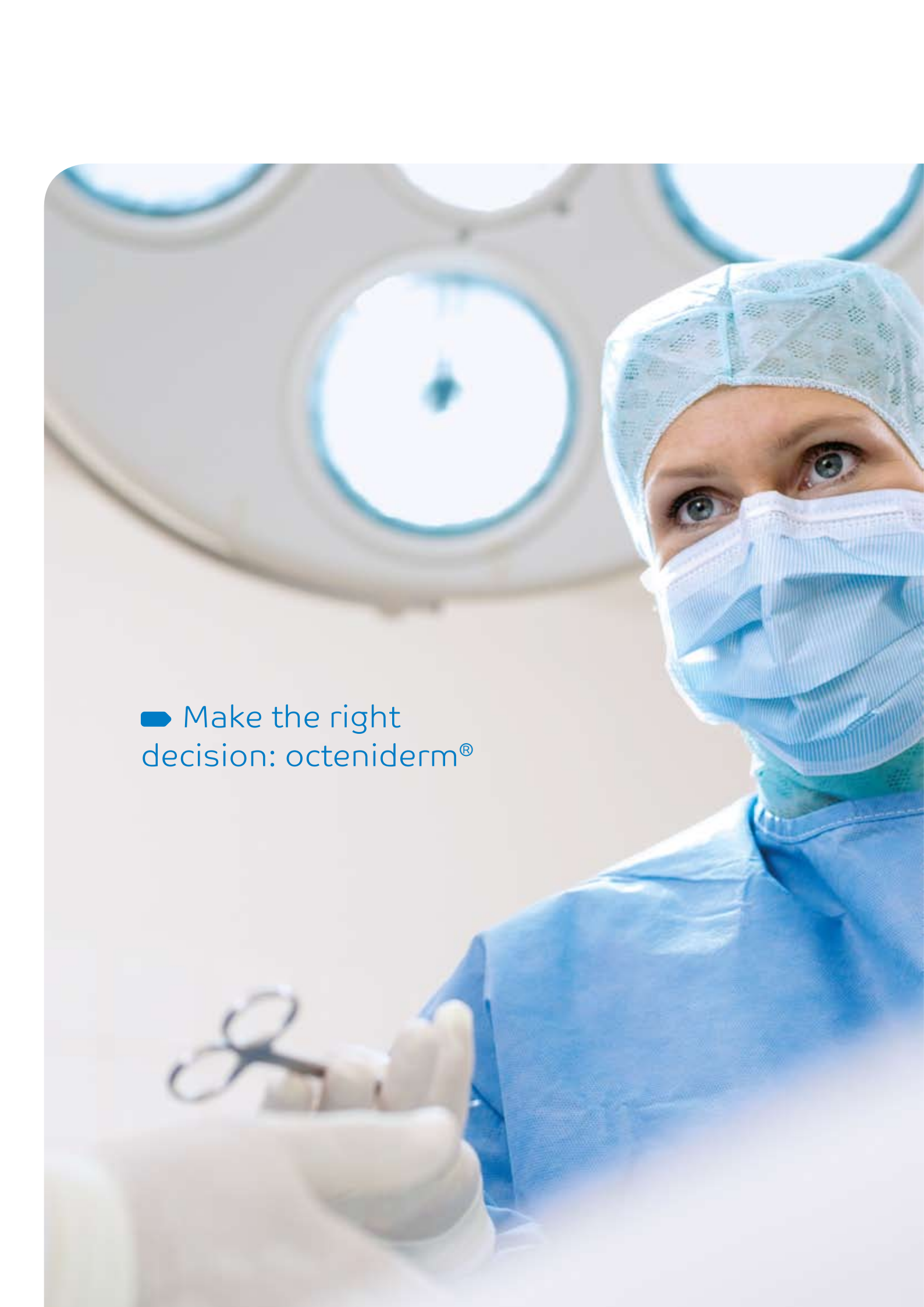
octeniderm® exhibits significant superiority in the reduction of skin colonisation around the CVC insertion site and the colonisation of the catheter tip compared with a purely alcohol-based preparation.

Septicaemia decreased by 50 % in the octeniderm® group ( $p = 0.081$ ).

**octeniderm®:**

- 24-hour remanence effect
- more effective than purely alcohol-based skin antiseptics
- 50 % less CVC infections



A close-up photograph of a female surgeon in a sterile operating room. She is wearing a light blue surgical cap, a matching face mask, and blue scrubs. Her eyes are visible above the mask, looking intently. She is holding a pair of surgical forceps with her gloved hands. The background shows several circular surgical lights on the ceiling, creating a bright, clinical atmosphere.

➤ Make the right  
decision: octeniderm®



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### Mandatory copy for registered pharmaceuticals as per §4 HWG

**octeniderm® colourless** • **Composition:** pharmaceutically active ingredients: 100 g solution contain: octenidinhydrochloride 0.1 g, 1-propanol (Ph. Eur.) 30.0 g, 2-propanol (Ph. Eur.) 45.0 g. Other ingredients: purified water. • **Application areas:** skin disinfection before surgery, catheterising of blood vessels, taking blood and fluid samples, injections, punctures / aspirations, excisions, cannulisations, biopsies, etc, single wound and suture care. If no specific hand disinfection agent is available, octeniderm® colourless may also be used for hygienic and surgical hand disinfection. • **Contraindications:** Incompatibility with any of the ingredients. • **Side effects:** when used frequently it may give rise to skin irritations such as redness, burning and itchiness. Allergic reactions are also possible (e.g. contact eczema). Should you experience any side effects yourself that are not described here please inform your doctor or pharmacist. • **Warning instructions and precautions for use:** Direct contact between octeniderm® colourless with x-ray plates should be avoided. Flashpoint as per DIN 51 755: 1-propanol (Ph. Eur.) 45 °C, 2-propanol (Ph. Eur.) 23.5 °C. Flammable. Do not spray on naked flames. If this alcohol-based disinfectant is spilt, action should be taken immediately to deal with the risks of fire and explosion.

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