

Fact Sheet Folliculitis Furunculosis - Microes Staphefekt SA.100 (Gladskin)

Folliculitis is a superficial infection of the hair follicles, and is frequently found in areas of repeated shaving ("shaving irritation"). Folliculitis appears as clusters of small, red and itchy lesions, sometimes with a central pustule. Furuncles or boils are deeper infections of the hair follicle, with small abscesses under the skin.¹

Folliculitis and furunculosis are usually caused by the bacterium *Staphylococcus aureus*. Although people with diabetes or immune dysfunction are at the highest risk, mere colonization of the bacterium on the skin or in the nose - as is the case in 30-50% of all people - is a risk factor for recurrent infections.^{1,2}

Folliculitis and furunculosis can resolve spontaneously if the pus is drained, but antibiotic therapy can be required, especially when boils proceed to skin abscesses. Topical mupirocine is often prescribed and in more severe infection, oral or intravenous antibiotics are used. With the rise of MRSA, treatment has become more and more of a challenge, as this superbug has developed resistance against most antibiotics. Difficult to treat small epidemics of MRSA furunculosis have been described in families, sports teams and prisons.^{1,2}

Since prolonged use of antibiotics leads to further antimicrobial resistance of bacteria, continuous use of antibiotics to prevent recurrent or chronic folliculitis is not recommended. Therefore, new strategies in the treatment and prevention of bacterial skin infections are needed.³

Staphefekt SA.100 is an endolysin, a targeted antibacterial enzyme. Contrary to antibiotics, it kills only *S. aureus*, including MRSA, leaving the beneficial bacteria intact. And by targeting essential parts of the cell wall of *S. aureus*, resistance is neither observed nor expected.^{4,5,6} As an active ingredient in emollients, Staphefekt is therefore suitable for long-term daily use as suppression therapy of *S. aureus* on the skin.⁷

People will always be challenged with *Staphylococcus aureus*, as it is often present on our body and in our environment. Throughout several stages, colonization with this bacterium eventually can progress to infection, from innocent local folliculitis to severe sepsis. Antibiotics are not suitable as a continuous preventive measure, as they will induce antimicrobial resistance and unintended disruption of the beneficial skin flora. With Staphefekt, the first *targeted* antibacterial compound is available for daily use as maintenance therapy, to intervene before colonization can progress and lead to infection.

		<p><i>Shaving irritation is a very common form of S. aureus folliculitis induced by the little abrasions and ingrowing hairs caused by razor blades, both in men and women. It is characterized by redness, itch, bumps and small pustules. The daily use of Gladskin prevents S. aureus from infecting the abrasions, as witnessed by this customer's feedback: "Continued reduction of pustules; no more itching; less irritation; less painful to touch; smoother and softer feeling of the skin with greater elasticity. I'm properly impressed and very grateful."</i></p>
<p>Before Gladskin</p>	<p>After Gladskin (1 week)</p>	

		<p><i>The first case study of furunculosis was observed in an eighteen-year old man suffering from hyper-IgE syndrome, a severe immune deficiency. During his whole life he had recurrent painful boils on all parts of his body, caused by Staphylococcus aureus. After the boils erupted, pus was produced infecting new parts of his skin, leading to new boils (left). Frequently, this progressed to abscesses and severe cellulitis, for which antibiotics and hospitalization was necessary. Gladskin cream was used twice daily to suppress S. aureus colonization and prevent new boils from occurring. Gladskin gel was applied off label to the wounds after the boils had opened under supervision of his physician. After 2 weeks of daily use, wounds from drained abscesses showed no signs of infection, old lesions were healing and no new infections occurred (right).⁷</i></p>
<p>Before Gladskin</p>	<p>After Gladskin</p>	

References

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4. Nelson DC, Schmelcher M, Rodriguez-Rubio L, Klumpp J et al. Endolysins as antimicrobials. *Advances in Virus Research*. 2012. 83(7):299.
5. Herpers BL, Badoux P, Totté JEE, Pietersma F, Eichenseher F, Loessner MJ. Specific lysis of methicillin susceptible and resistant *Staphylococcus aureus* by the endolysin Staphefekt SA.100. European Congress of Clinical Microbiology and Infectious Diseases (ECCMID); Barcelona2014.
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7. Herpers BL, Offerhaus M. Data presented at the Royal Society of Medicine Medical Innovation Spring Summit 2015, London. Available at <https://www.staphefekt.com/en/newspublications>.