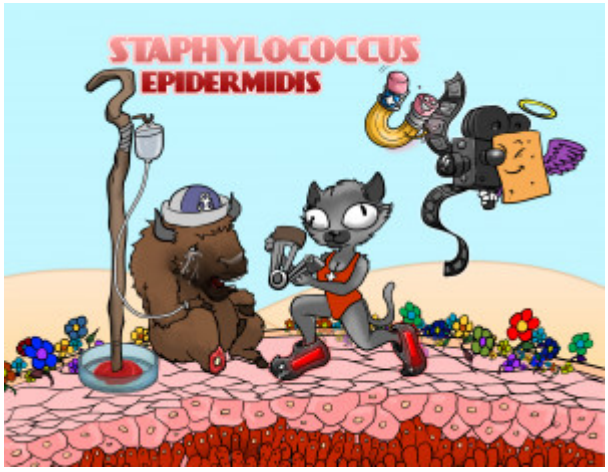
Staphylococcus epidermidis

Staphylococcus epidermidis is a gram-positive cocci that is part of the human skin flora. This organism is usually not pathogenic, but can cause infection in patients with compromised immune systems. Staphylococcus epidermidis is also a large concern with patients with catheters or other prosthetic devices, because it is known to cause adherent biofilms that grow on the devices. Characteristically, it is a catalase-positive, coagulase-negative bacterium. Staphylococcus epidermidis can be differentiated from Staphylococcus saprophyticus, which is also catalase-positive, coagulase negative, but Staph epidermidis has a sensitivity to novobiocin. Because this organism is a component of normal skin flora, it is a common contaminant of blood cultures.



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Characteristics

Cocci
Cockeyed
This bacterium has a spherical shape.

Gram-Positive
Graham-cracker Positive-angel
This organism stains positive on Gram stain due to thick peptidoglycan layer which absorbs crystal violet.

Catalase-Positive
Positive-cat
Characteristically, Staph epidermidisis is catalase-positive, meaning it produces the enzyme catalase. This enzyme allows the bacterium to convert hydrogen peroxide to water and oxygen. This characteristic is helpful in distinguishing Staphylococci from catalase-negative Streptococci and Enterococci.

Urease-Positive
Positive U-eraser
This bacterium has the ability to produce urease, which hydrolyzes urea in the body to ammonia.

Coagulase-Negative
Negative Clogs
Staph epidermidis can be differentiated from other Staphylococcal organisms, such as Staph aureus, because Staph aureus is coagulase-positive, while Staph epidermidis is coagulase-negative.

Novobiocin-Sensitive
Navy-bison Sensitive-crying
Staphylococcus epidermidis is catalase- positive and coagulase-negative, but is sensitive to novobiocin. In comparison, Staphylococcus saprophyticus is novobiocin- resistant, but also catalase-positive and coagulase-negative.

Component of Normal Skin Flora
Flowers on Skin
Staphylococcus epidermidis is a gram- positive cocci that is part of the human skin flora.

Infects Prosthetic Devices and IV Catheters
Prosthetic-leg and IV
Staphylococcus epidermidis is also a large concern with patients with catheters or other prosthetic devices, such as heart valves, because it is known to cause adherent biofilms that grow on the devices.

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Contaminates Blood Cultures

Blood on Petri-dish

Because this organism is a component of normal skin flora, it is a common contaminant of blood cultures.

Produces Adherent Biofilms

Movie-film

Staphylococcus epidermidis is also a large concern with patients with catheters or other prosthetic devices, because it is known to cause adherent biofilms that grow on the devices.

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