

Staphylococci



Coagulase positive

S. aureus

S. intermedius

S. schlieferi

S. sciuri

Coagulase negative

S. epidermidis

S. hominis

S. haemolyticus etc.

S. aureus 

Microscopy: G+cocci in clumps

Cultivation: blood agar with haemolysis
10% NaCl



Morphology: yellow pigment

Factors of virulence:

bounded coagulase (clumping factor)

free coagulase

catalase, hyaluronidase

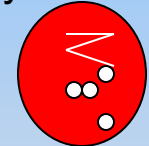
toxins – enterotoxins

haemolysins, TSST 1, exfoliatins

staphylococci coag. negative

Microscopy: G+cocci in clumps 

Cultivation: blood agar without haemolysis
10% NaCl



Morphology: white pigment

Factors of virulence:

slimy - biofilm

catalase



S. aureus

Pathogenicity:

Skin diseases (abscess, furuncle aj.)
wound infections, bone infections, sepsis
enterotoxigenesis, toxic shock syndrome
exfoliative dermatitis

Therapy: common used ATB

oxacillin, cefalotin, septrin, erythromycin, (ampicillin)

MRSA (methicillin resistant)

vancomycin, teicoplanin, rifampicin, linezolid

VRSA (vancomycin resistant) - linezolid

Diagnostic:

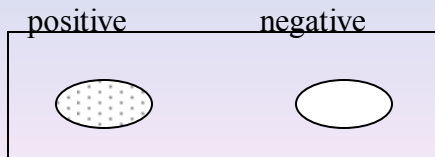
Microscopy: G+cocci in clumps

Cultivation: **blood agar** with haemolysis
10% **NaCl**, **yellow** pigment

Biochemistry: catalase +

Enzyme detection: **rapid** latex test (glass)

Bounded coagulase (clumping factor)+



Staphylococci coag. negative

Pathogenicity: oportunne pathogens

often in: drug users, immunocompromised patients
patients with medical devices
endocarditis, sepsis, bloodstream catheter infections

Therapy: common used ATB

oxacillin, cefalotin, septrin, erythromycin, (ampicillin)
– often resistant -
vancomycin, rifampicin, teicoplanin are used

Diagnostic:

Microscopy: G+cocci in clumps

Cultivation: **blood agar** without haemolysis
10% **NaCl**, **white** pigment

Biochemistry: catalase +

Enzyme detection: latex test (on glass)

free coagulase (clumping factor)-

Free coagulase + (test tube)

Less often used



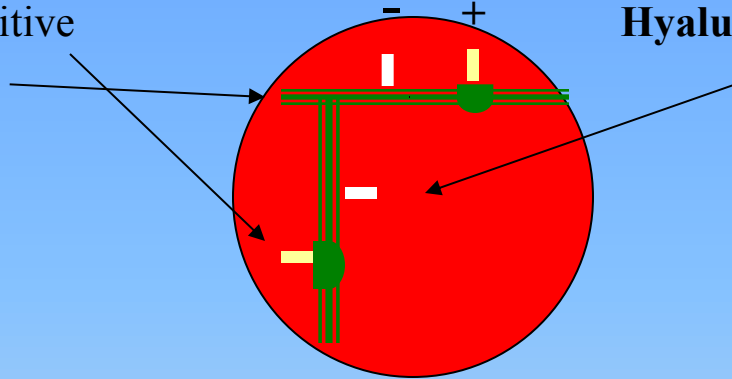
free coagulase – negative



Hyaluronidase positive

Streptococcus equi

Hyaluronidase negative



In case of insurance biochemistry: **Staphytest**

Staphytest

More tests in NRL for staphylococci (Prague):

fagotypisation, DNase detection

PCR, toxin detection

Special methods:

detection of a biofilm

Other catalase positive cocci

Micrococcus

Kocuria, Kytococcus etc. }

Part of the normal skin flora, oportunne patogens able to cause sepsis/endocarditis in immunocompromised patients.