

# Gram POSITIVE Cell Wall Structure Bacteria

## I. COCCI

### A. *STAPHYLOCOCCUS* Cocci in clusters / packets both aerobic and facultative

Coagulase positive

*S. aureus*

1. MSSA (Methicillin-Sensitive)

2. MRSA (Methicillin-Resistant)

a. HA-MRSA (Hospital-Acquired)

b. CA-MRSA (Community-Acquired)

Coagulase negative

*S. epidermidis*

*S. saprophyticus*

*S. lugdunensis*

### B. *STREPTOCOCCUS* Cocci in pairs and chains (facultative)

PYOGENIC

Lancefield group

Representative species

Hemolytic pattern

A

*S. pyogenes*

$\beta$

B

*S. agalactiae*

$\beta$

C

*S. equisimilis*

$\beta$

G

*S. canis*

$\beta$

NON-PYOGENIC (Viridans streptococci – aka  $\alpha$  hemolytic streptococci)

Mutans group

*S. mutans* / *S. sobrinus*  $\gamma$

Salivarius group

*S. salivarius*  $\gamma$

*Anginosus* group

*S. anginosus* / *S. intermedius*  $\alpha$

Mitis group

*S. mitis* / *S. oralis*  $\alpha$

*Sanguinis* group

*S. sanguinis*, *S. parasanguinis*, *S. gordonii*  $\alpha$

*Bovis* group

*S. bovis*  $\alpha$  /  $\gamma$

*Pneumococcus*

*S. pneumoniae* (classified as part of Mitis group)  $\alpha$

### C. *ENTEROCOCCUS*

*E. faecalis* / *E. faecium*

$\gamma$

### D. *PEPTOSTREPTOCOCCUS*

## II. BACILLI

### A. Regular, Endospore - forming

- Bacillus
  - *B. anthracis* / *B. cereus*
- Clostridium
  - *C. difficile* / *C. perfringens*
  - *C. botulinum* / *C. tetani*

### B. Regular, Nonsporing

- Listeria
  - *L. monocytogenes*

### C. Irregular, Nonsporing (“Coryneform”)

- Corynebacterium
  - *C. diphtheria*

## ACTINOBACTERIA

- don't stain or weakly stain Gram +

### Mycobacteriaceae

- Mycobacterium (Strongly Acid-fast)

### Nocardiaceae

- Nocardia (Weakly Acid-fast)
- Rhodococcus (Weakly Acid-fast)

### Actinomycetaceae

- Actinomyces (GMS stain +)
- Tropheryma (PAS stain +)