

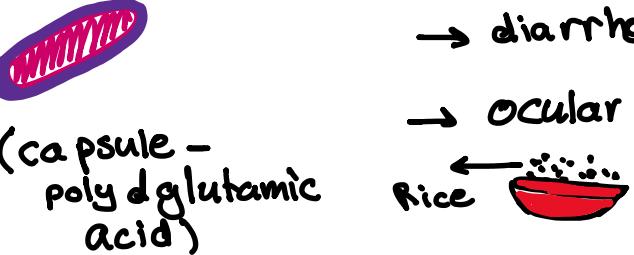
Endotoxins and Exotoxins

- stain purple due to their thick peptido glycan cell wall (Thick)
- Endotoxins
  - G-
  - component of LPS (lipopolysaccharid)
  - Released when Bacteria die or lyse.
  - The toxic part is lipid A
- No outer membrane
- No Endotoxins (G-)
- produce Exotoxins
- some can form spore (G+ Rods only)

Exotoxins

are toxic proteins that are actively secreted by bacteria into the surrounding tissue or bloodstream

Bacillus Anthracis



(capsule - poly-D-glutamic acid)

Bacillus Cereus

Enterotoxins → diarrhea → ocular infec

Rice

Aerobic

Bacillus Anthracis

Bacillus Cereus

Enterotoxins → diarrhea → ocular infec

Rice

(capsule - poly-D-glutamic acid)

Aerobic

Anaerobic

Clostridium

① *difficile*

→ taking Antibiotics

② *perfringens*

→ Make complete hemolysis and partial hemolysis.

→ Enterotoxin

→  $\alpha$ -toxin /  $\beta$ -toxin

→ Myositis and myonecrosis (gas gangrene)

③ *tetani*

→ tetanoycin  $\hookrightarrow$  x RBC

→ tetanospasmin  $\hookrightarrow$  x GABA x Gly

→ spastic paralysis

④ *botulinum*

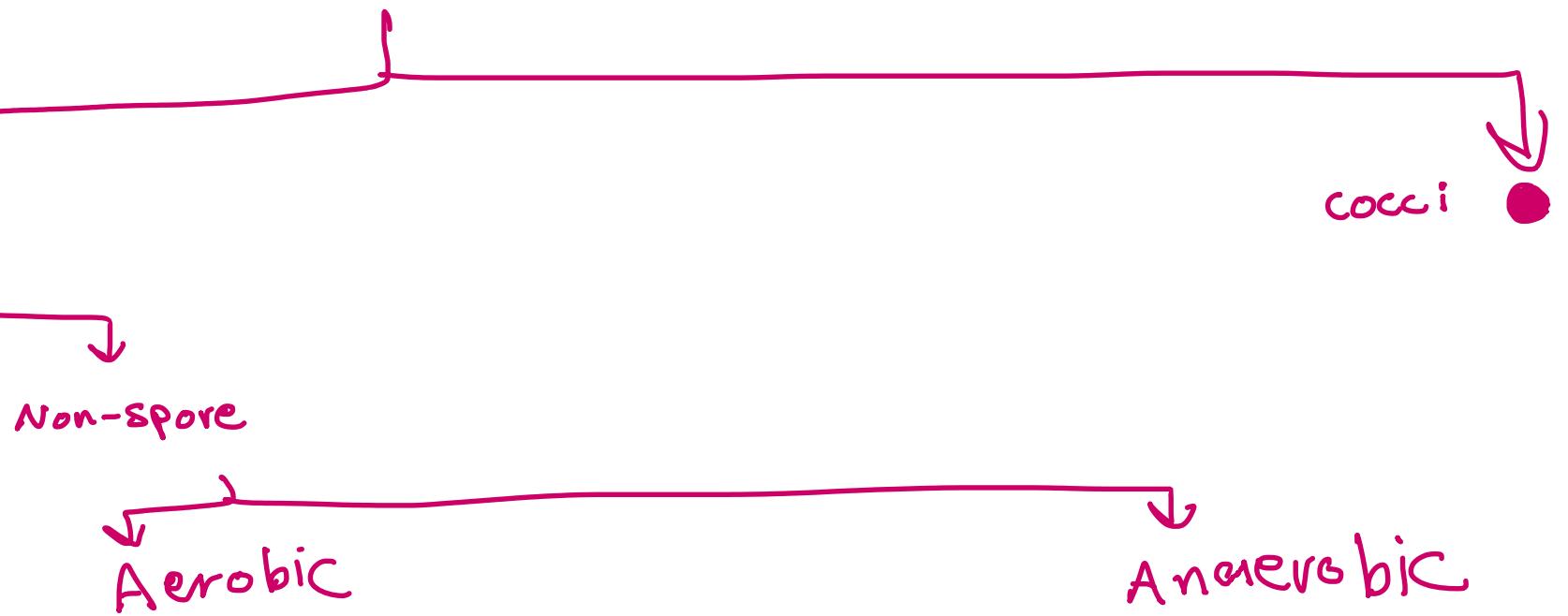
→ foodborn botulism

→ infant botulism

honey

→ flaccid paralysis x Ach

## Gram positive +



### ① *Nocardia*

→ weakly acid fast stain

→ Exogenous inf

→ Avoid phagocytic killing

→ fistules and granulomas

### ② *Listeria monocytogenes*

→ Mother to child

hi mani

### ③ *Corynebacterium diphtheriae*

→ Exudative pharyngitis



→ Affect protein synthesis

### ① *Actinomyces*

→ cervico facial

→ draining sinus

### ② *Mobiluncus*

M-crutisil → in bacterial vaginosis

### ③ *Lactobacillus*

commonly found in probiotics

→ Facultative Anaerobic

### ④ *Propionibacterium*

→ Found on the skin

→ acne vulgaris



### ⑤ *Bifidobacterium* and *Eubacterium*

→ Found in the oropharynx