

الأسبوع التاسع :

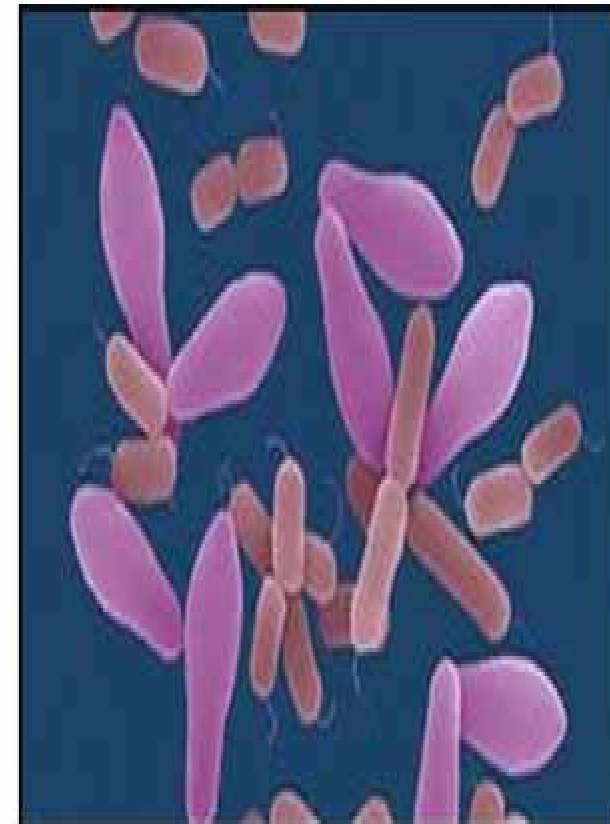
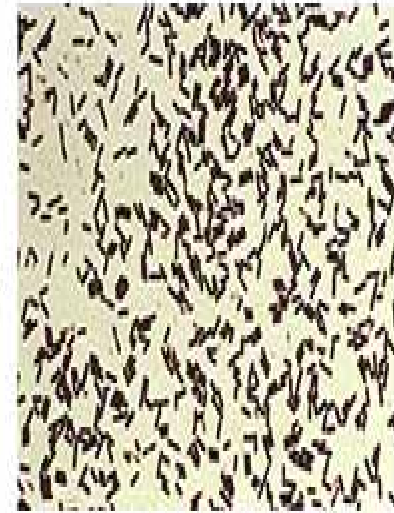
C. perfringens (Physiology and Structure)

- Large gram-positive bacilli.
- Spores are rarely observed.
- Non-motile; capsulated.
- Hemolytic and metabolically active.

Clinical Diseases

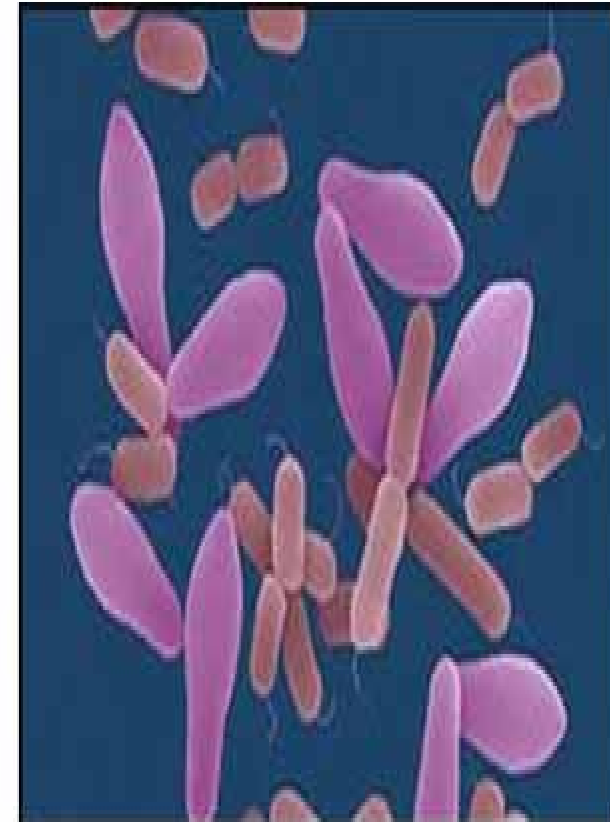
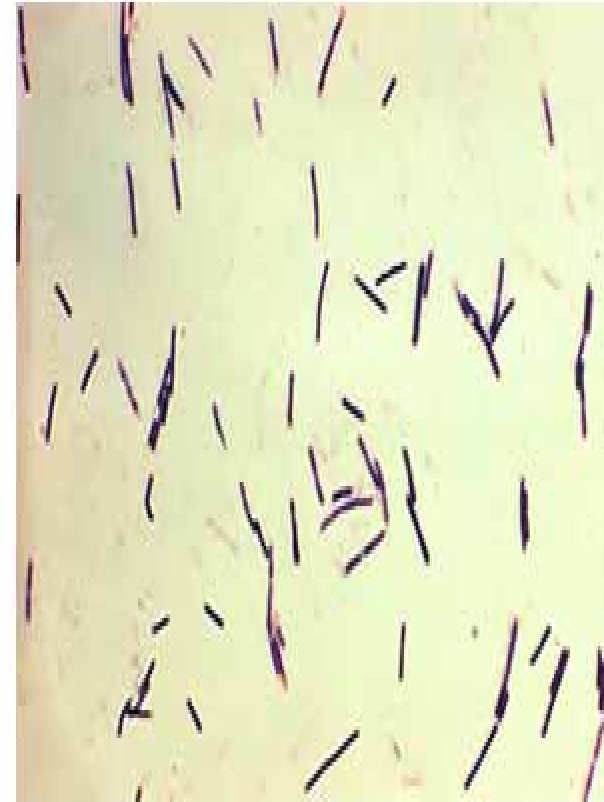
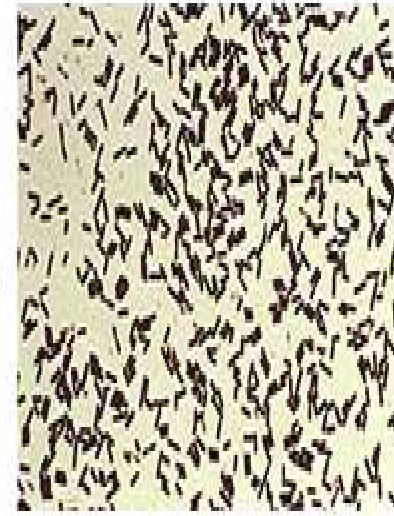
- **Soft tissue infections**
- Portal of entry: trauma or intestinal tract.

Morphology of *Clostridium perfringens*



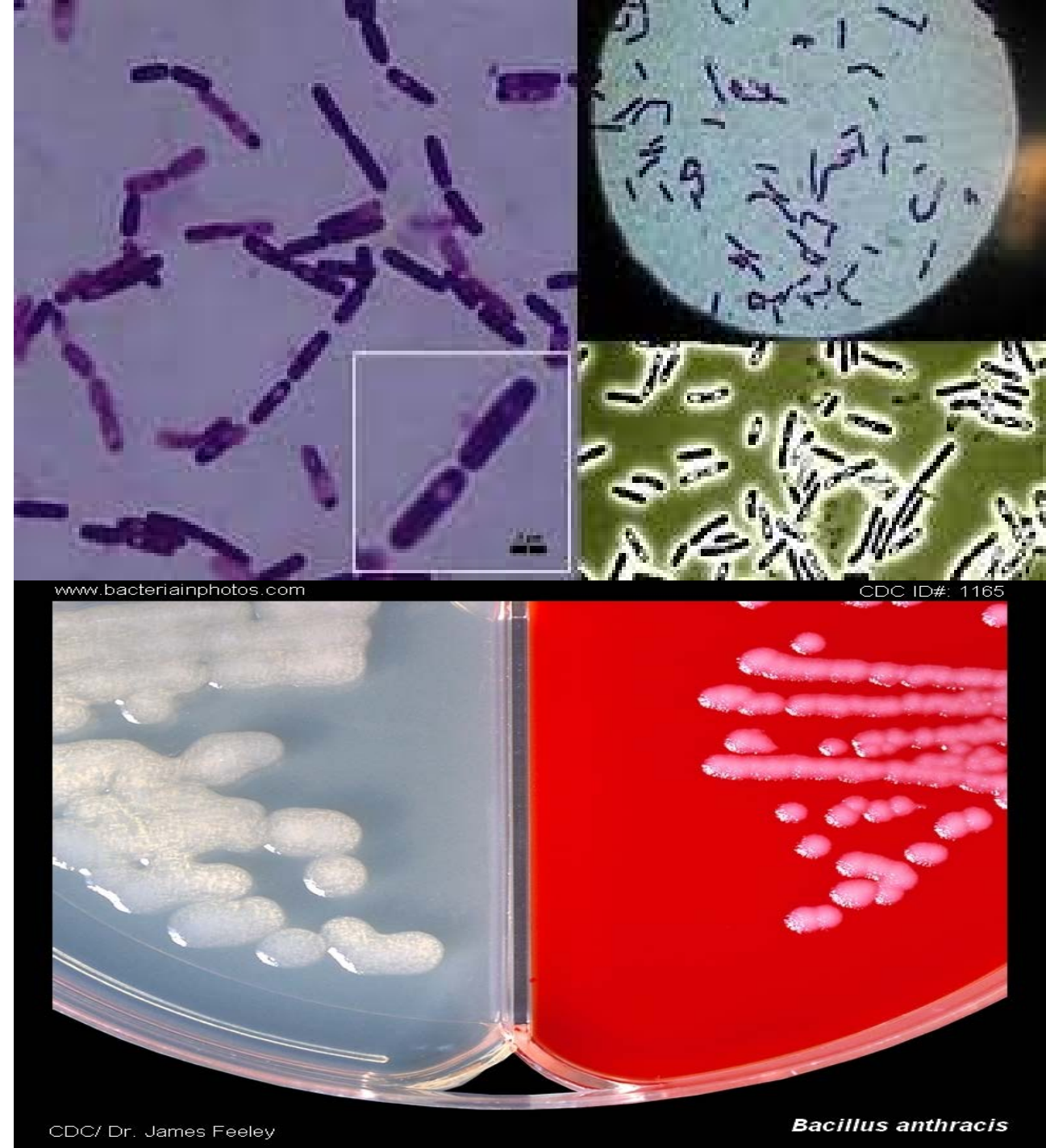
- Three types of infections with increasing severity:
- Cellulitis: gas formation in the soft tissue.
- Fasciitis or suppurative myositis: accumulation of gas in the muscle planes.
- Myonecrosis or gas gangrene: a life-threatening disease
- **Gas gangrene**
- Spores germinate vegetative cells multiply, ferment carbohydrates and produce gas in the tissue. This results in distension of tissue and interference with blood supply the bacteria produce necrotizing toxin and hyaluronidase, which favor the spread of infection tissue necrosis extends, resulting in increased bacterial growth, hemolytic anemia, then severe toxemia and death.
- Incubation: 1–7 days after infection.

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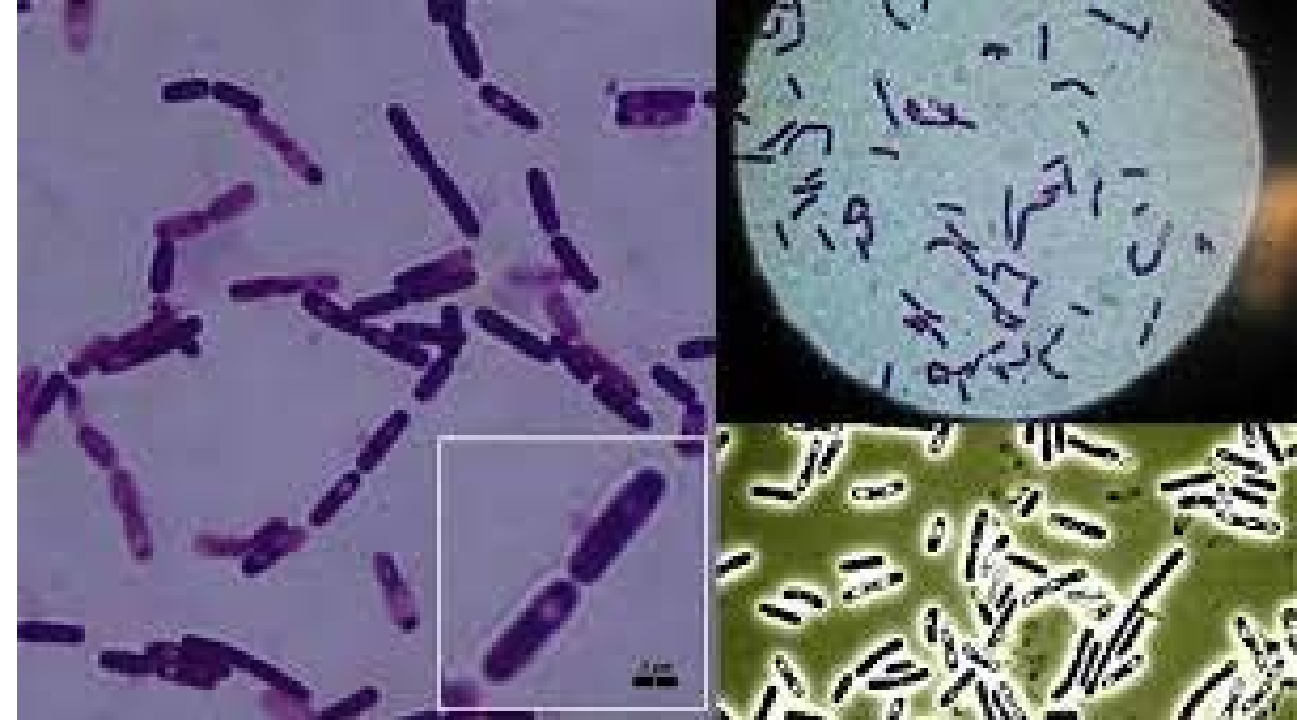


Bacillus anthracis

- Gram positive rods
- Capsulated (Protein) – Capsule form in animal tissue and in special laboratory condition (5% CO²)
- Forms endospore, centrally located, do not form in animal tissues
- MacFadyean (Polychrome methylene blue) stain blue bacilli with purple capsule



- Aerobic/ Facultative anerobe
- Grows on all ordinary medium (Medusa head appearance- uneven wavy margin)
- Biochemicals : Catalase +, reduces nitrate to nitrite, lecithinase+, glucose, maltose, sucrose, trehalose fermnted.



www.bacteriainphotos.com

CDC ID#: 1165

Diseases : the disease of this bacteria is called (anthrax)

Treatment

- Penicillin is drug of choice
- Erythromycin, chloramphenicol acceptable alternatives
- Doxycycline now commonly recognized as prophylactic.



CDC/ Dr. James Feeley

Bacillus anthracis

Thank You

Questions?

Comments and opinions would be appreciated.