Gangrene: is the term given to a condition where an area of tissue becomes necrotic (dies) and is then subsequently invaded or "digested" by bacteria
Gangrene is the death of tissue in part of the body. 

- Foul-smelling discharge
- Surface and subsurface discoloration
Gangrene

It can be classified into two types according to the cause of the tissue necrosis:

• Primary gangrene
• Secondary gangrene
GANGRENE

Blood & oxygen supply to tissue is blocked

Tissue Death

Bacteria Infection spreads in tissue
PRIMARY GANGRENE

It is brought by infection with pathogenic bacteria which both kill the tissue by secreting exotoxins and then invade and digest the dead tissue.
GAS GANGRENE

- **Gas gangrene**: is a severe form of primary gangrene (tissue death) caused by the bacterium Clostridium welchii.

- It generally occurs at contaminated wound or surgical site, bacteria produce gases in the tissue which gives the characteristic “crepitus” when examining the wound.
Gas gangrene of the uterus, note the gas within the necrotic tissue produced by Clostredia species
Gas gangrene

Clean wound

Gangrenous wound
GAS GANGRENE

- Patients with underlying vascular diseases are more prone to spontaneously develop gas gangrene, which is rapidly progressive and often fatal.
Gas gangrene

Atherosclerosis

Colon cancer

Diabetes

Patients with these diseases are more prone to developing gas gangrene.

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SECONDARY GANGRENE

- This type of gangrene is characterized by necrosis due to some other causes, usually loss of blood supply from vascular obstruction or tissue laceration & saprophytic bacteria then digest the dead tissue, there are two types:
  - **Dry gangrene**
  - **Wet gangrene**
Dry gangrene

- Due to gradual cut of blood supply.
- The line of demarcation between dead and living tissue is clear.
- The lesion remains localized.
DRY GANGRENE

A. Digital arteries supply blood to fingers

B. Constricted digital arteries block blood to finger tips, causing discoloration

C. Constricted digital arteries cause blood flow blocked
DRY GANGRENE
WET GANGRENE

- The infected tissue are edematous due to large amount of subcutaneous fluid.
- The demarcation between dead and living is indistinct.
- May extend proximaly beyond the site of infective. Wet gangrene is seen in the bowel due to mesenteric vascular occlusion and in diabetic limb.
WET GANGRENE
Wet gangrene – D.M.
CLINICAL FEATURES

- High fever
- Acute hemolysis
- Features of septic shock
thank you