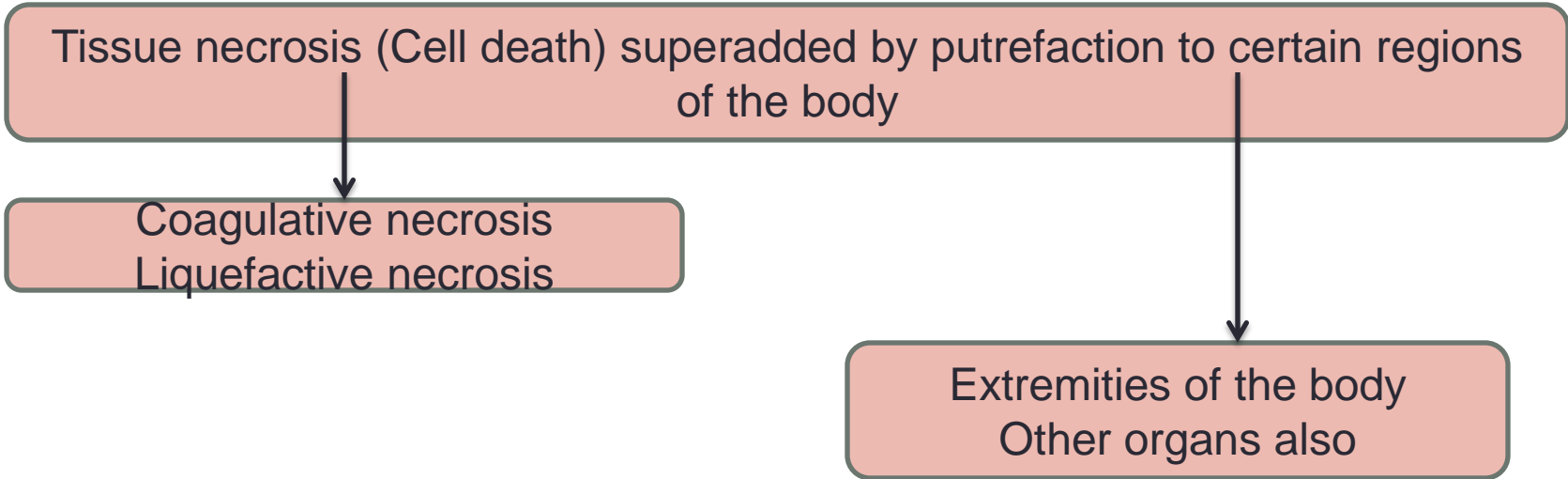


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Causes

Lack of blood supply to particular region of the body

Thrombosis

Peripheral vascular disease

Atherosclerosis

Diabetes

Causing damaged blood vessel

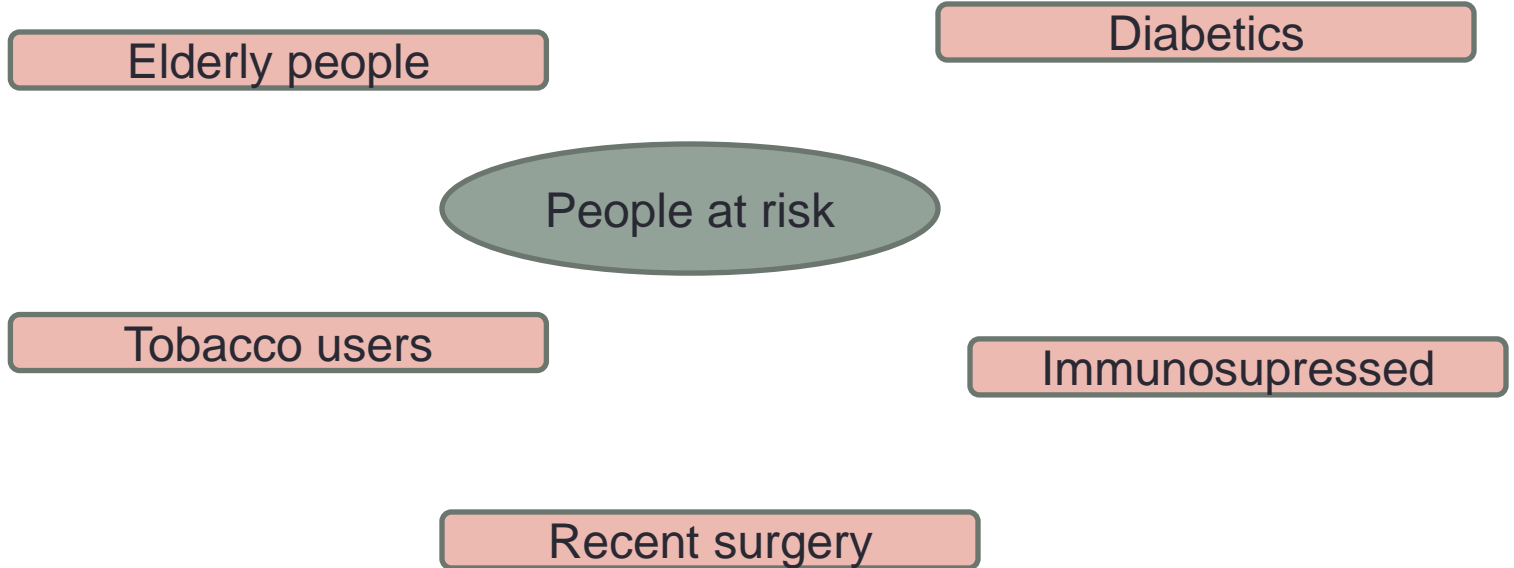
Immune disorder that suppresses body's ability to fight infection

Severe injury

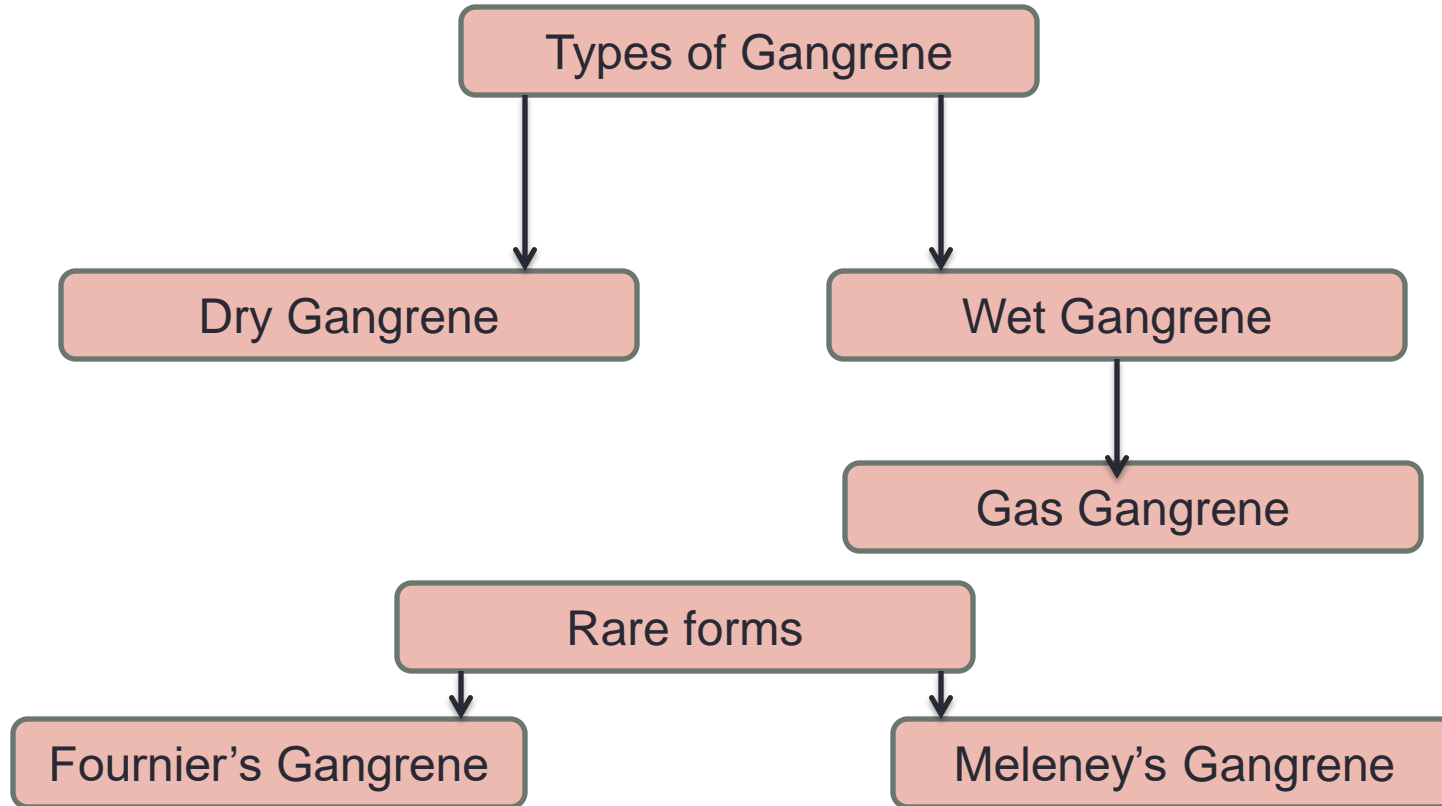
Frost bite

Infection

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Dry Gangrene

Begins at distal part of the limb due to ischemia

Thromboangiitis obliterans
Buerger's disease

Raynaud's disease

Ergot poisoning

Trauma

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Dry Gangrene

It is initiated in one of the toes which is farthest from blood supply

Poor blood supply

Invading bacteria cannot survive

Gangrene spreads slowly upwards until it reaches point where blood supply is adequate to keep the tissue viable

Line of separation is formed between gangrenous part and the viable part

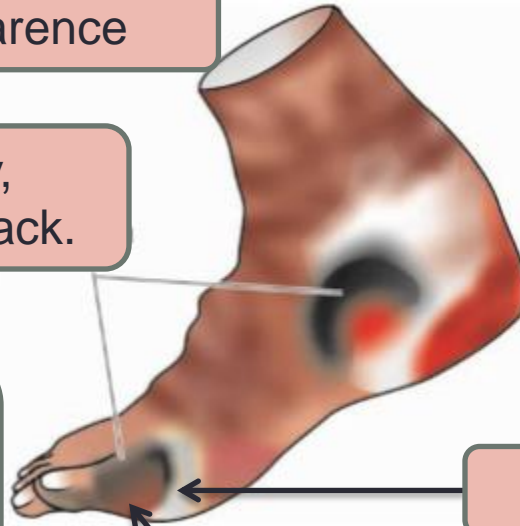
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Dry Gangrene

Gross appearance

Affected part is dry, shrunken and dark black.

- Liberation of haemoglobin from haemolysed RBCs
- Acted upon by hydrogen sulphide
- Black iron sulphide



Line of separation

Gangrenous tissue may fall off if not removed surgically

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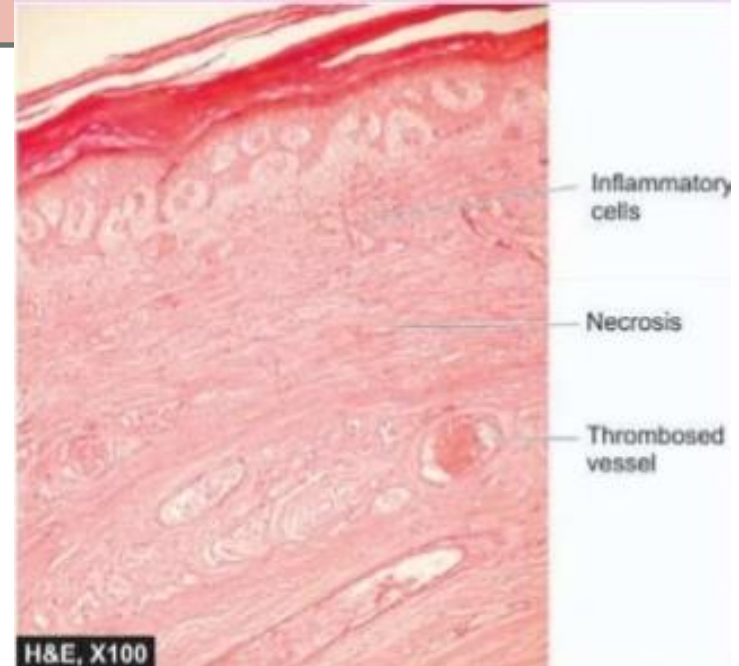
Dry Gangrene

Histology

Coagulative necrosis with smudging of skin, muscles and other soft tissues

Thrombosed vessels

Line of separation consists of inflammatory cells



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Wet Gangrene

Occurs in naturally moist tissue

Mouth, Bowel, Lung, Cervix, Vulva etc

Diabetic foot

Bed sores

Develops rapidly due to blockage of venous and arterial blood flow due to thrombosis or embolism

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Wet Gangrene

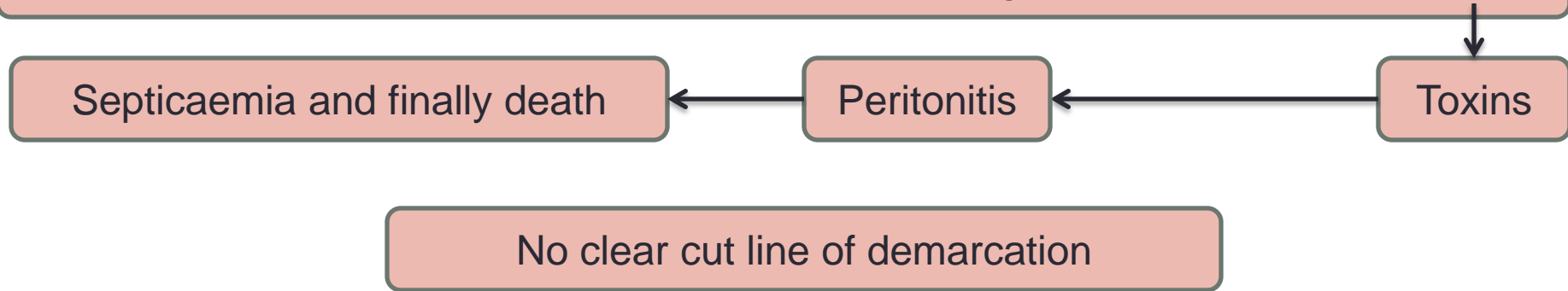
Affected part is stuffed with blood which favours rapid growth of putrefactive bacteria

Septicaemia and finally death

Peritonitis

Toxins

No clear cut line of demarcation

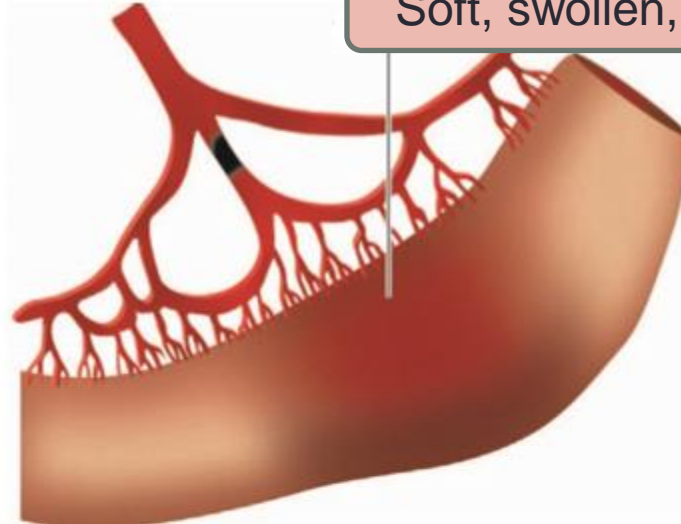


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Wet Gangrene

Gross appearance

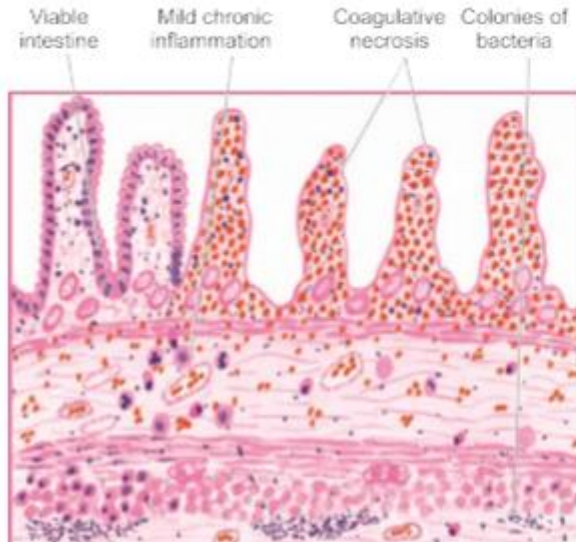
Soft, swollen, putrid, rotten and dark



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Wet Gangrene

Histological appearance



- Coagulative necrosis
- Stuffing of affected part with blood
- Ulceration of mucosa
- Intense inflammatory infiltration

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Gas Gangrene

Special form of wet gangrene

Gas forming gram positive anaerobic bacteria--- *Clostridia perfringens*

Contaminated wound

Colon surgery

Clostridia---- Toxins -> necrosis, oedema, systemic manifestation

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Gas Gangrene



Gross appearance

- Affected area is swollen, oedematous, painful and crepitant due to accumulation of gas bubbles in tissues.
- Area becomes dark black and foul smelling

Microscopic appearance

- Muscle fibre undergo coagulative necrosis with liquefaction
- Large number of gram positive bacteria are identified
- Periphery → zone of leucocytic infiltration
 - Oedema and congestion
 - Capillary and venous thrombi

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Rare Forms of gangrene

Fournier gangrene

Acute necrotic infection of the scrotum; penis; or perineum.

It is characterized by scrotum pain and redness with rapid progression to **gangrene** and sloughing of tissue.

Progressive bacterial synergistic gangrene

Meleney's gangrene

This type usually causes painful lesions on skin 1 to 2 weeks after surgery or minor trauma.

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