Staph infection

- Gram positive cocci.

Classification:

A) Based on coagulase production:

1. Coagulase positive: like S. aureus
2. Coagulase negative: like S. epidermidis
   S. saprophyticus

B) Based on pathogenicity:

1. Common pathogen: e.g- S. aureus
2. Opportunistic pathogens: eg S. epidermidis

pathogenecity and risk factors

Source of infection:

A) Exogenous: patients or carriers

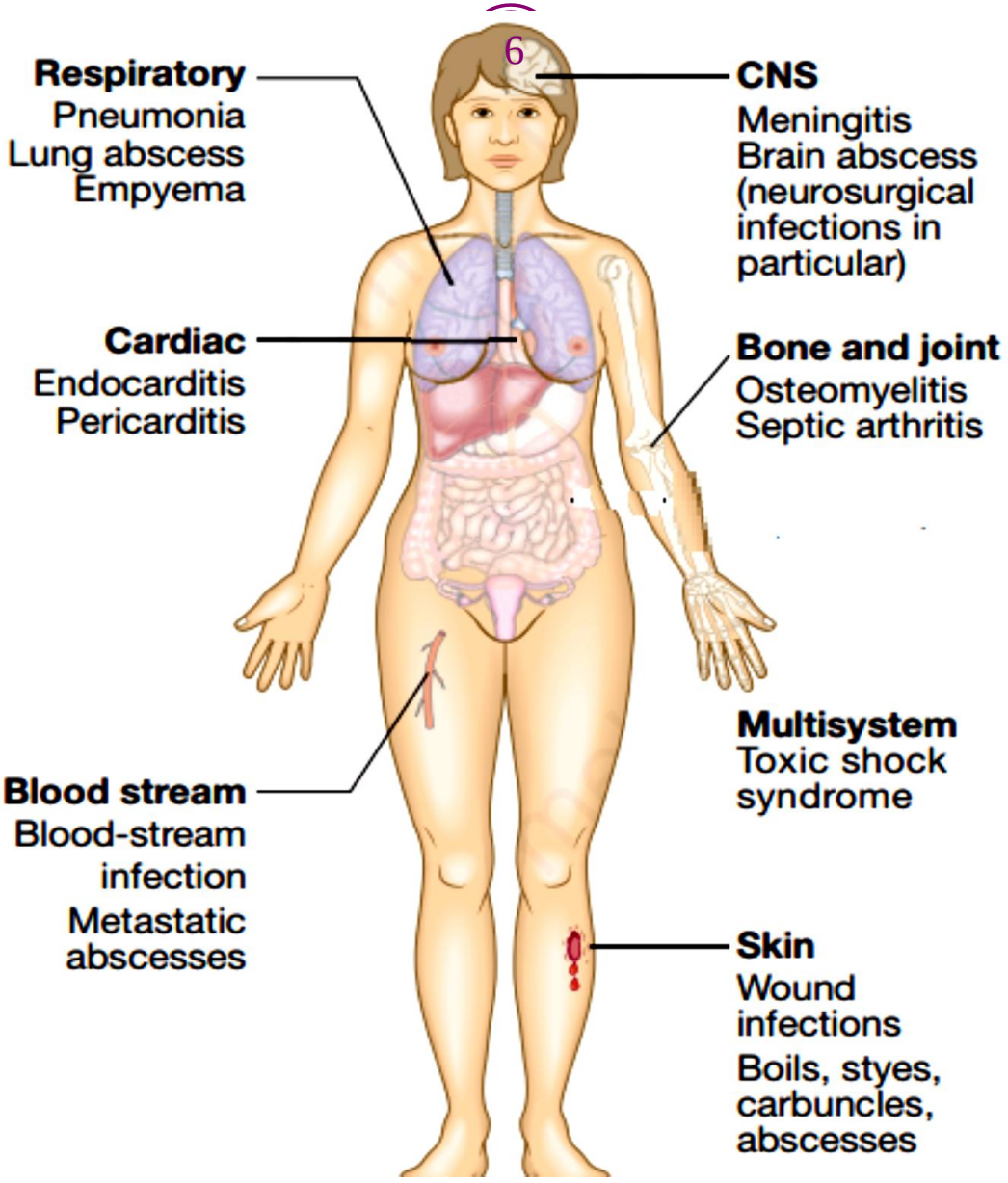
B) Endogenous: From colonized site 30%

Immune compromized /dm/foreign body

Diseases two types

- **Due to direct effect of organism**
  - Local lesions of skin
  - Deep abscesses
  - Systemic infections
- **Toxin mediated**
  - Food poisoning
  - toxic shock syndrome
  - Scalded skin syndrome

Infections caused by Staphylococcus aureus

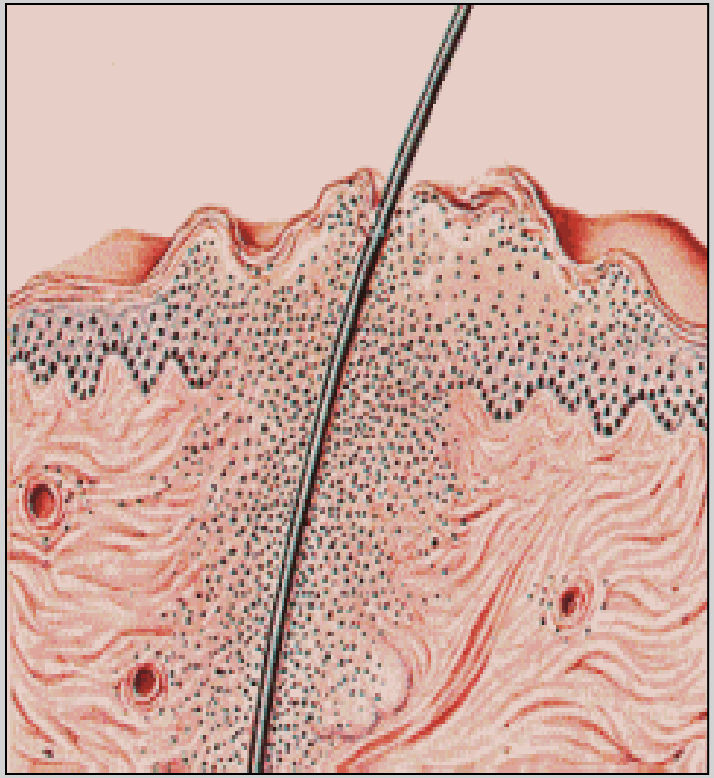


Skin lesions

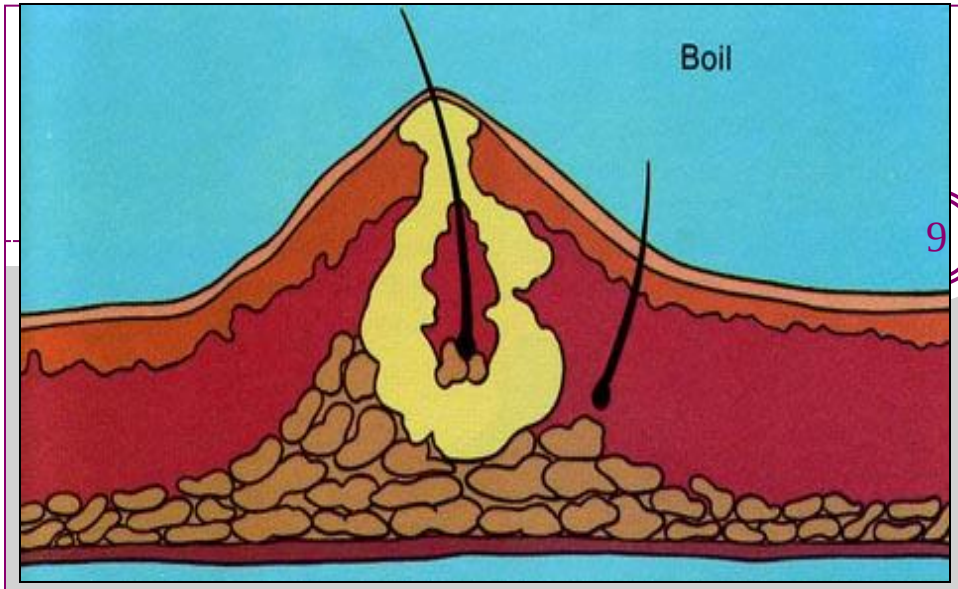
- Boils
- Furuncles(infection of hair follicle)
- Carbancles (infection of several hair follicles)
- Wound infections(progressive appearance of swelling and pain in a surgical wound after about 2 days from the surgery)
- Impetigo(skin lesion with blisters that break and become covered with crusting exudate)

Common Staphylococcal infections are:

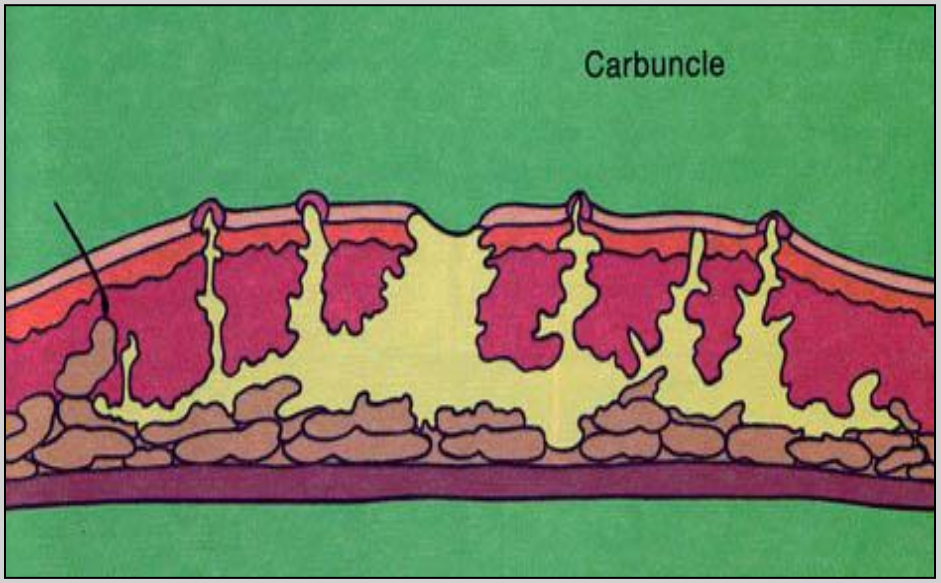
1) Skin and soft tissue: Folliculitis, furuncle (boil), carbuncle, styes, abscess, wound infections, impetigo, paronychia and less often cellulitis.



Folliculitis



Furuncle (boil)



Carbuncle

Impetigo

Paronychia

Wound infection

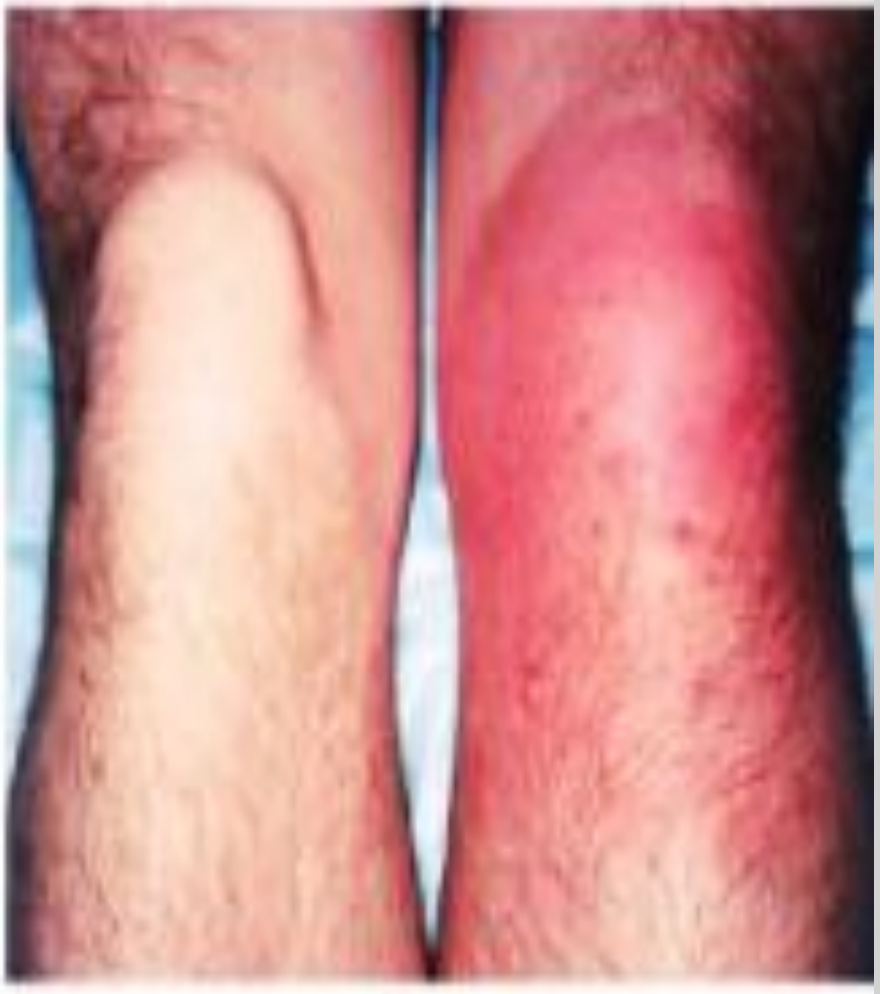
Cellulitis

Cannula related infection

Musculoskeletal

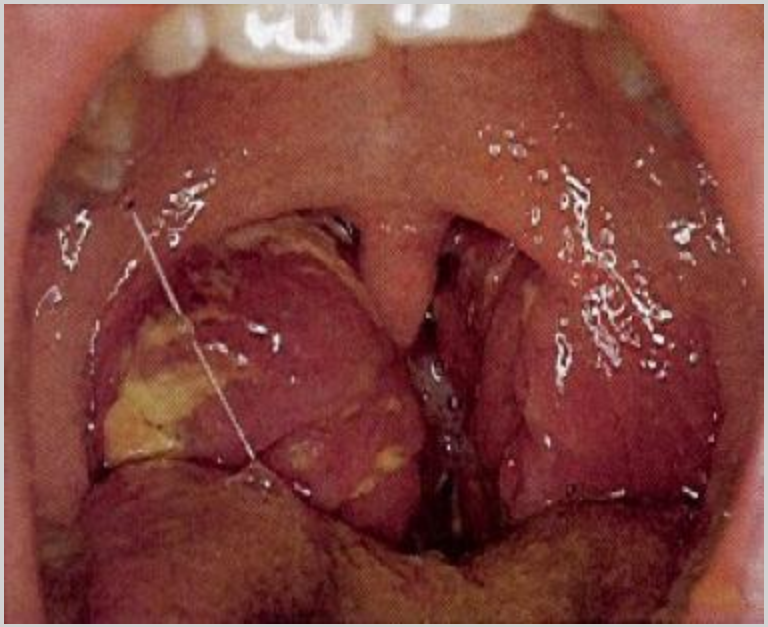
2) Osteomyelitis, arthritis, bursitis.

Bursitis and arthritis

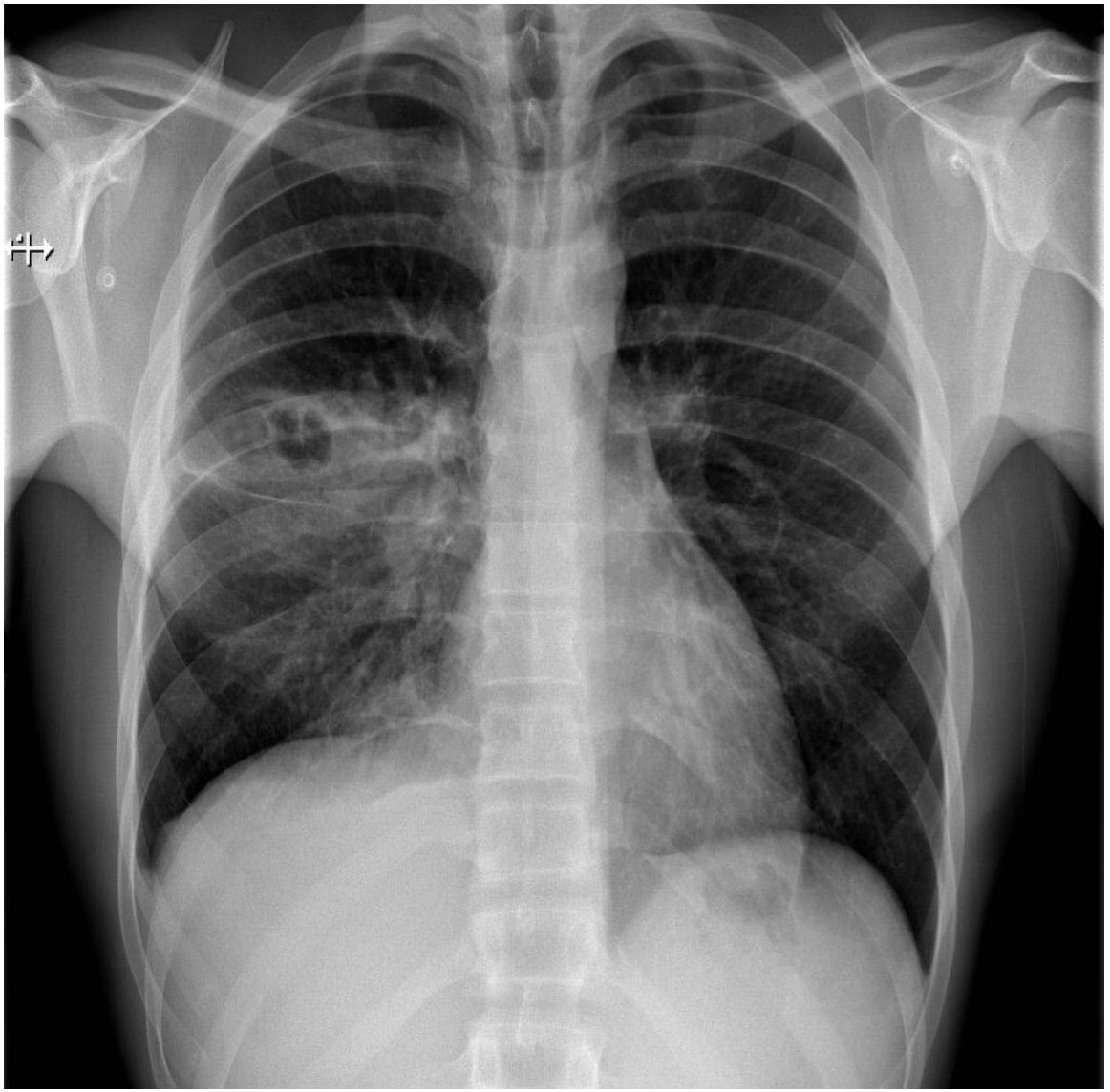


Respiratory

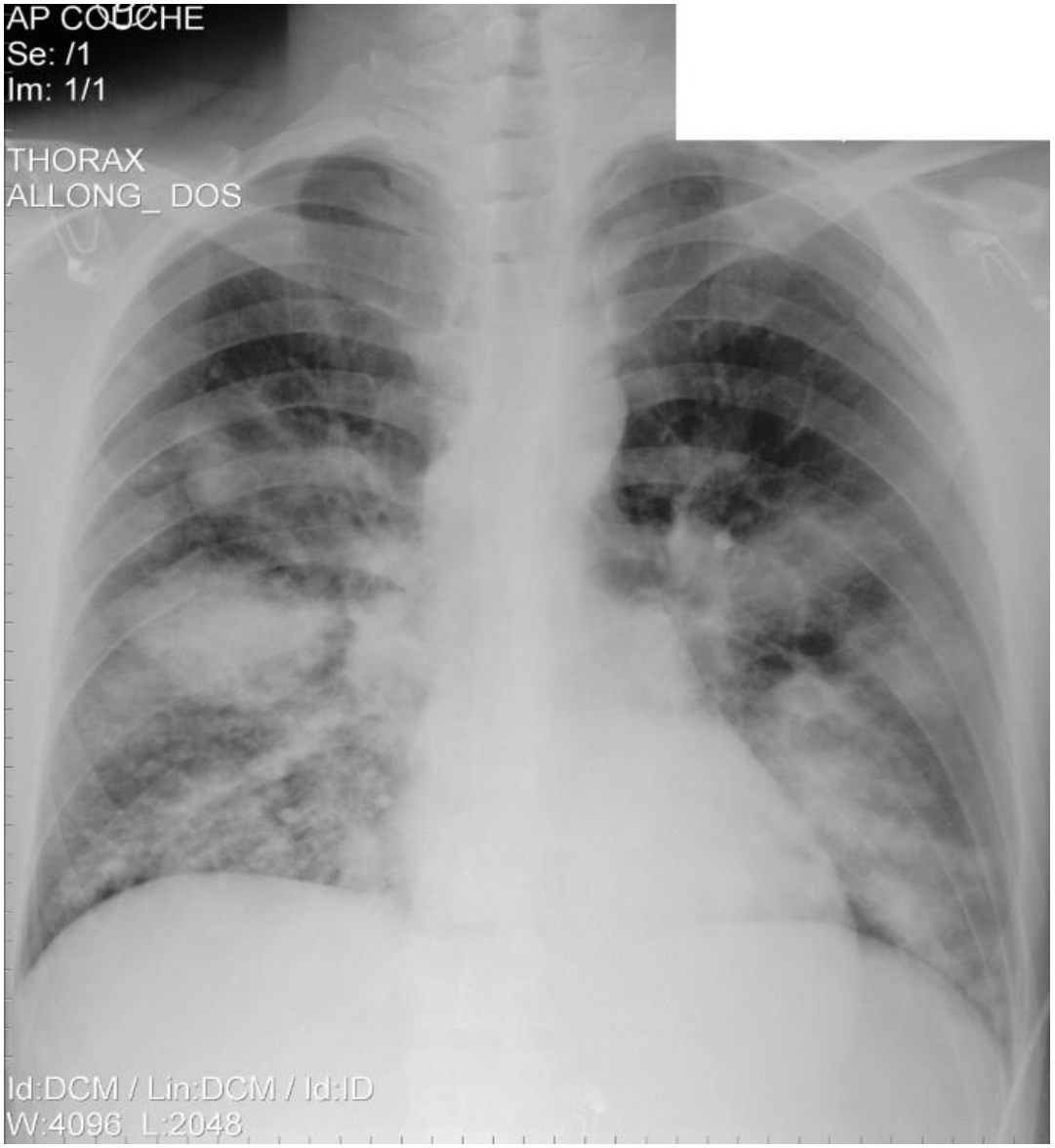
- Tonsillitis, pharyngitis, sinusitis, otitis, bronchopneumonia, lung abscess, empyema, rarely pneumonia.



Staph pneumonia

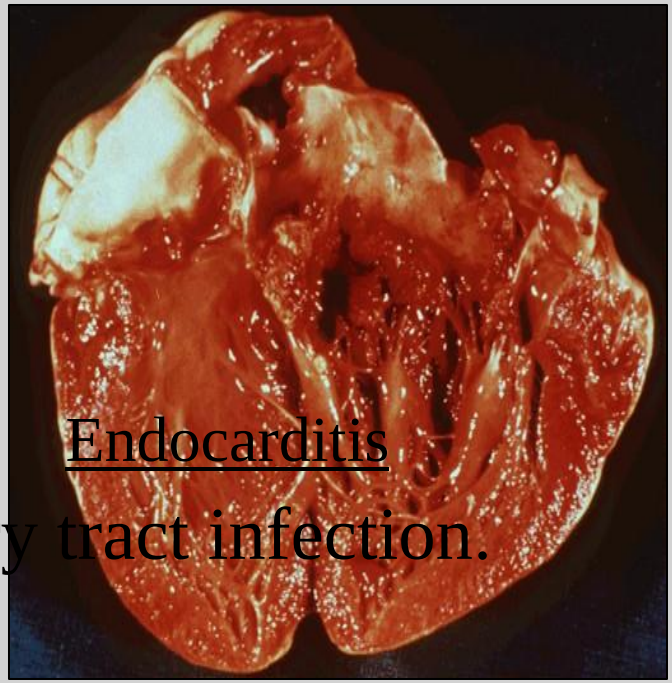


Staphaylococcal brochpneumona



4) Central nervous system: Abscess, meningitis, intracranial thrombophlebitis.

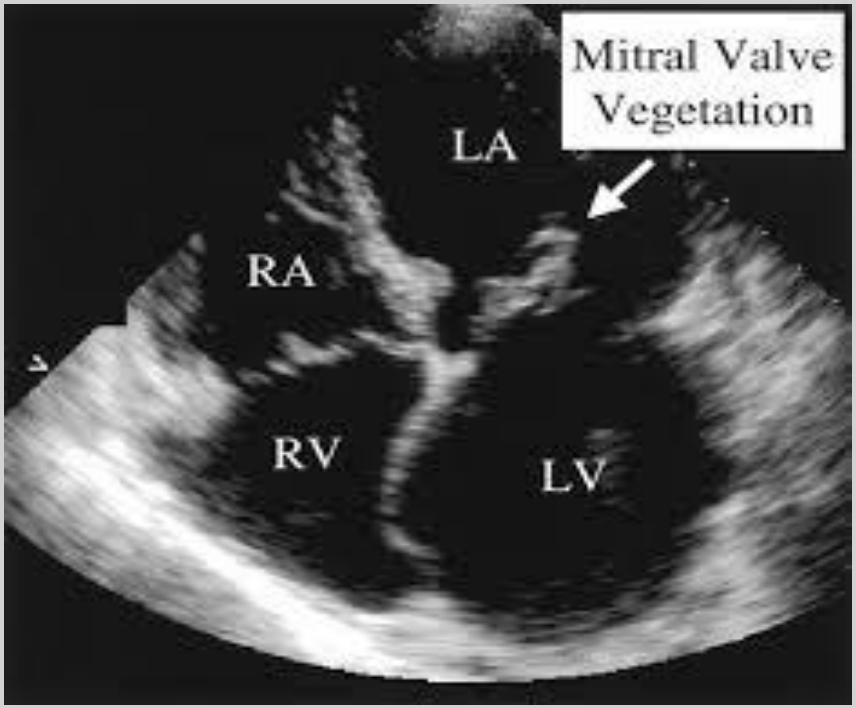
5)



Endocarditis

6) Urinary: Urinary tract infection.

Endovascular: Bacteremia, septicemia, endocarditis.



B-intoxication

The disease is caused by the bacterial exotoxins, which are produced either in the infected host or preformed in vitro.

There are 3 types-

1. **Food poisoning**
2. **Toxic shock syndrome**
3. **Staphylococcal scalded skin syndrome**

Food poisoning:

1)

- Enterotoxin is responsible for manifestations of staphylococcal food poisoning.
- Eight types of enterotoxin are currently known, named A, B, C1-3, D, E, and H.
- It usually occurs when preformed toxin is ingested with contaminated food.
- The toxin acts directly on the autonomic nervous system to cause the illness, rather than gut mucosa.

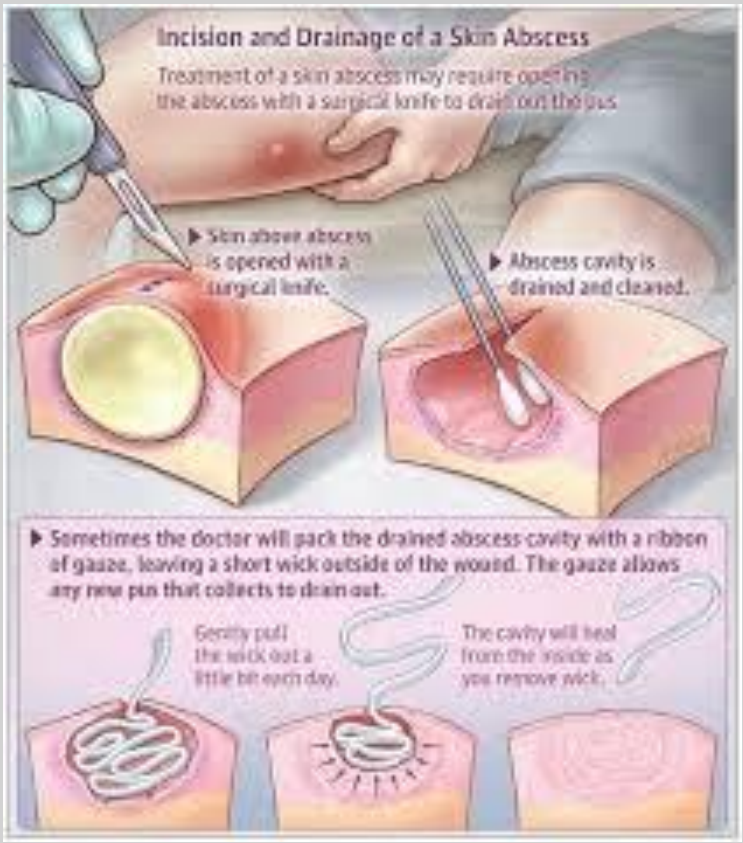
- The common food items responsible are - milk and milk products, meat, fish and ice cream.
- Source of infection- food handler who is a carrier.
- Incubation period- 2 to 6 hours.
- Clinical symptoms- nausea, vomiting and diarrhoea.
- The illness is usually self limited, with recovery in a day or so.

Septic shock	Streptococcal toxic shock syndrome
Presumed or confirmed infection	Isolation of GAS from normally sterile site
Plus at least **ONE** of the following	Plus at least **TWO** of the following
Renal dysfunction	Renal dysfunction
Respiratory distress	Respiratory distress
Hepatic dysfunction	Hepatic dysfunction
Hematological abnormalities	Coagulopathy
Altered mental status	Erythroderma ± desquamation
Unexplained metabolic acidosis	Soft tissue necrosis
Tachycardia	Pain
	Tissue destruction
	Skin discoloration

Toxic shock syndrome

Treatment

- reatment is with immediate and aggressive fluid resuscitation and an intravenous antistaphylococcal antimicrobial (flucloxacillin. or vancomycin), usually with the addition of a protein synthesis inhibitor (e.g. clindamycin) to inhibit toxin production
- ***Vancomycin*** and ***Linozelide*** are used now in treatment of infections with MRSA strains.
- Abscess -drainage

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