

Preventing Infections

Associated With

Intravascular Therapy

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Extent of Problem

- > 60% of pts. admitted to hospital receive IV therapy
- All pts. in ITU/CCU at least 1 device inserted in central vein or artery
- Most imp. are blood stream infections which affect 1% of pts. admitted to hospital
- Blood stream infections fatality rate at least 20% (critically ill up to 35%)
- Bloodstream infections may lodge in other body tissues e.g. endocarditis

Infections Associated with Peripheral IV Devices

■ Phlebitis

- Inflammation of the vein where device is sited
- Develops approx. 1/3 of pts. who have peripheral catheter

Cause:

- Mechanical: irritation of tissue by device
- Chemical:
 - i) irritation by device e.g. material
 - ii) Infusate: hypertonic solution, incomplete reconstituted drugs, fragments of rubber / glass

Phlebitis cont.

- Risk of Phlebitis influenced by:
 - catheter material
 - catheter size
 - quality of insertion of catheter
 - duration of catheter in place
 - management / care of catheter

Phlebitis cont.

- Signs and Symptoms:

- tenderness on site
- superficial redness of skin
- swelling / palpable cord

* Infection: temperature, presence of pus

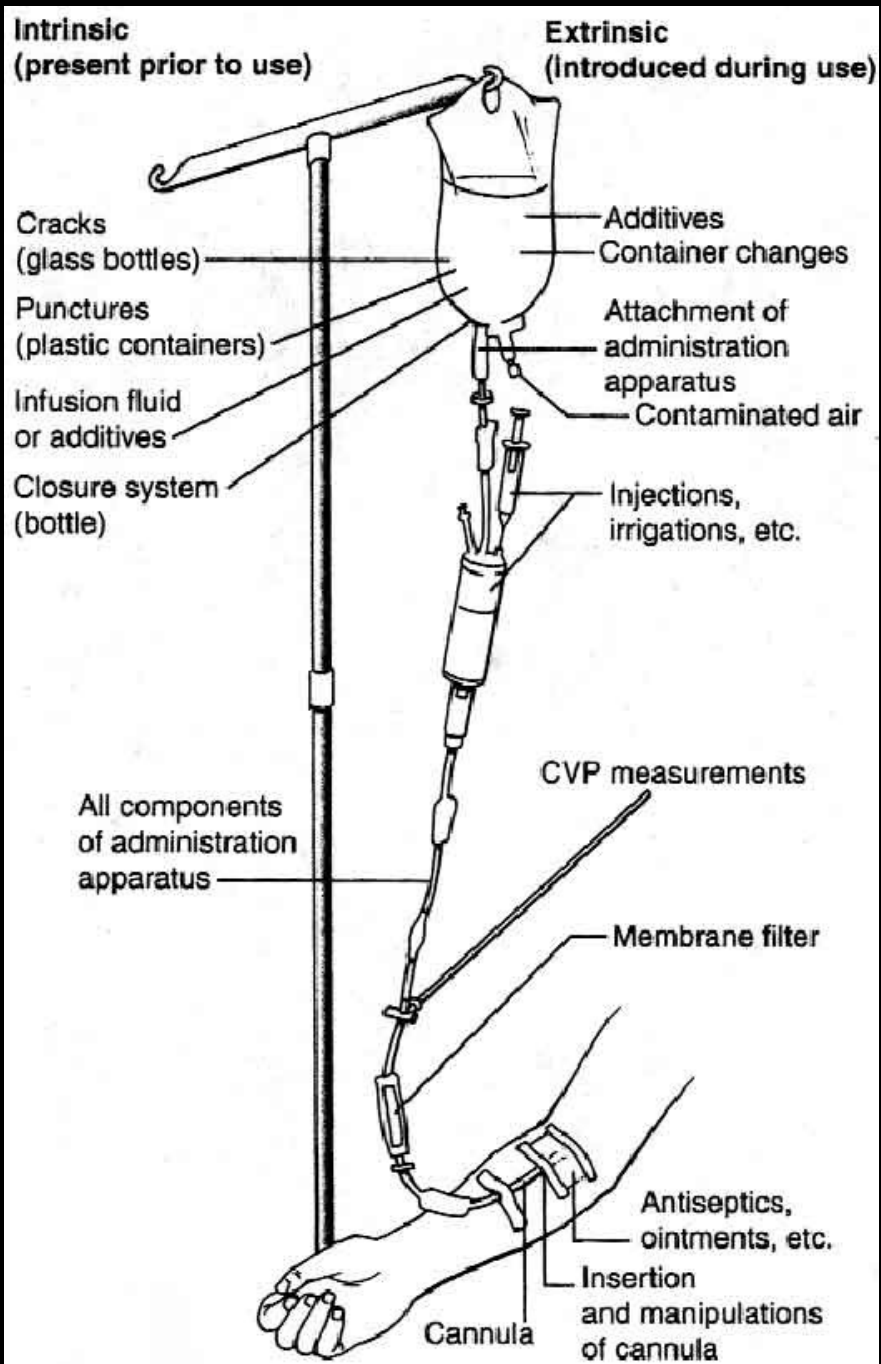
Bacteraemia: bacteria colonizing surface of catheter are released into blood, may be transient or leading to

Septicaemia: multiplication of bacteria in blood producing S&S of infection: fever, rigor

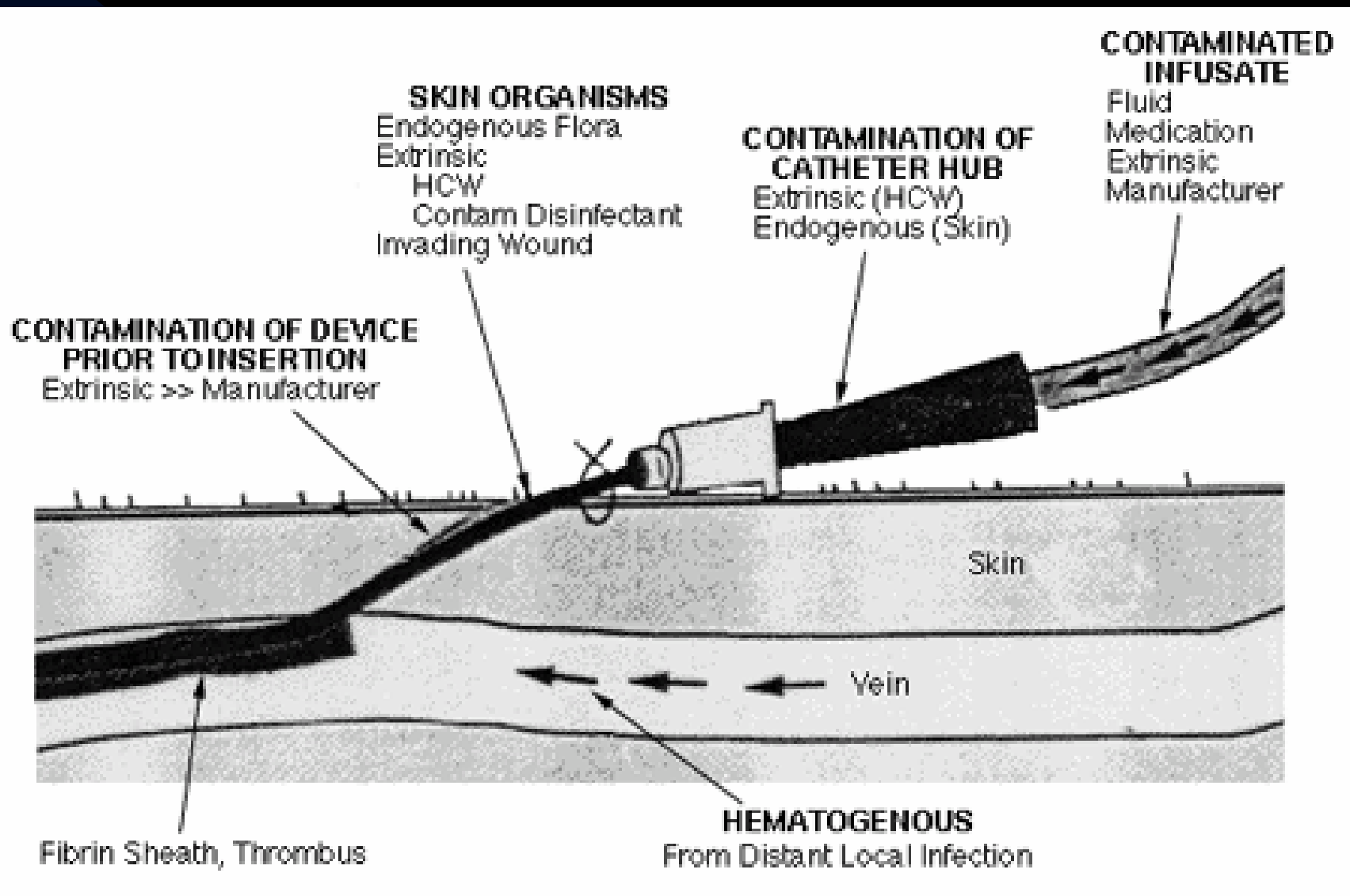
Diagnosis of CAI:

- Difficult to diagnose
- Link between presence of bacteria at insertion site & subsequent bloodstream infection (skin culture)
- Typical indications:
 - pyrexia for no other apparent cause
 - unresponsive to antibiotics
- Confirmation:
 - tip of catheter for culture
 - blood culture (peripheral vein & catheter)

CAI: Portals of entry:



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