FUNDAMENTALS OF IV THERAPY

A&P of veins

Peripheral Veins and Central Veins

Tunica Adventitia

Tunica Media

Tunica Intima
IV fluids which can be administered via veins

**CRYSTALLOIDS**

- Hypotonic Solutions
- Isotonic Solutions
- Hypertonic Solutions

**COLLOIDS**

- Blood
- Plasma
- Human Albumin

**Blood Products**
(Cryoprecipitates & Platelets)

**Blood Product Synthetics**
(Gelafusin or Gelafundin)
NOSOCOMIAL INFECTION

BACTERIA            VIRUSES

FUNGI               YEASTS

POTENTIAL SITES FOR ORGANISMS ENTERING IV INFUSION SYSTEMS

INTRINSIC

BEFORE START OF INFUSION

EXTRINSIC

DURING INFUSION
Common IV equipment

IV CANNULE PERIPHERAL
CENTRAL LINES
NORMAL IV SET
BLOOD GIVING SET (RAPID)
IV CANNULA DRESSINGS
INFUSION BAGS

DIFFERENCE BETWEEN A PERIPHERAL AND A CENTRAL VEIN

PHLEBITIS WHY??
KEY NURSING MEASURES TO PROMOTE ASEPSIS

HAND WASHING - DRYING - ALCOHOL RUBS

1. Palm to palm

2. Right palm over left dorsum and left palm over right dorsum

3. Palm to palm fingers interlaced

4. Backs of fingers to opposing palms with fingers interlocked

5. Rotational rubbing of right thumb clasped in left palm and vice versa

6. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa
KEY NURSING MEASURES TO PROMOTE ASEPSIS.. cont.

ASEPTIC TECHNIQUE DURING INSERTION OF CANNULA

HAND WASHING - DRYING - ALCOHOL RUBS

INJECTION BUNG

ASEPTIC TECHNIQUE DURING CHANGING OF INFUSION BAGS

INSPECTION OF IV CANNULA DRESSING

IVI SETS CHANGED EVERY 48 HRS

IV CANNULAE CHANGED EVERY 48 TO 72 HRS

CENTRAL LINES - DEPENDS

IMPORTANCE OF DOCUMENTATION

INVASIVE PROCEDURE LIST

INSPECTION OF FLUIDS FOR CONTAMINATION AND EXPIRY DATES

USE OF SMALLEST CANNULAE AS MUCH AS POSSIBLE TO MINIMIZE DISRUPTION OF LAMINAR FLOW OF BLOOD
FACTORS NEEDED TO REGULARLY CHECK INFUSION RATES

HEIGHT OF FLUID

SITE OF CANNULA INSERTION
ESPECIALLY CLOSE TO JOINTS

KINKS, LEAKS OR DISLODGE

RATE OF INFUSION TO PREVENT SPEED SHOCK

FLOW CONTROL CLAMP

THE PRESENCE OF AN IN-LINE FILTER

OCCLUSION OF CANNULA DUE TO CLOT FORMATION

PHLEBITIS

MANIPULATION BY PATIENT

FLOW RATES SHOULD BE CHECKED FREQUENTLY WHEN A NEW OR DANGEROUS DRUG IS BEING INFUSED
Criteria used in selecting a peripheral line as a means of IV therapy

MAINTAIN OR CORRECT FLUID AND ELECTROLYTE BALANCE

TRANSFUSE BLOOD OR BLOOD PRODUCTS

ADMINISTER CONTINUOUS OR INTERMITTENT MEDICATIONS

ADMINISTER A BOLUS PREPARATION OF DRUGS

FACILITATE IMMEDIATE VENOUS ACCESS IN CASE OF EMERGENCY

ADMINISTRATION OF ANAESTHESIA
Information required before IV drug administration

PATIENT

NAME  ID TAG
ALLERGIES
TREATMENT CHART

THE DRUG

NAME  DOSE
EXPIRY DATE
SIDE EFFECTS

SAFETY POLICIES

DOUBLE CHECKING
INFECTION CONTROL
SHARPS DISPOSAL
Hand Hygiene

• Alcohol hand rubs are the recommended method to decontaminate hands when they are visibly clean.

• Hand rubs are portable and can be carried around.

• Hands must be washed after removing powdered gloves.

• Gloves should be removed when they are heavily soiled with blood.
General Principles

Sharps Container

All items which have a sharp point must be discarded in Sharps Box. This includes all needles, guidewires, intravenous giving set spikes, trocars.
Clinical Waste

One must keep in mind the heavy environmental risks from unnecessary incineration. Hence, items which are heavily soiled with blood, serous body fluids like csf, pleural, peritoneal and pericardial fluids, should be discarded in Clinical Waste.
Domestic Waste

These items should be discarded in **domestic** waste:

- All packaging
- Tissues for hand drying
- Used aprons, gloves
- Nasogastric tubes
- Urine catheters
- Suction catheters
- Drainage bags which have been emptied from their contents.
- Used syringes
- All intravenous lines and connections
- Nappies & Incopads
- Masks
- Used tray from dressing
- Venflons and central lines
- Slightly soiled swabs
Particular situations:

• Nappies from patients who have gastroenteritis

• N95 masks worn when in close proximity with patients who are suspected or confirmed TB.

• Blood soiled items from patients who are HIV, Hep B and Hep C.
PREVENTING ERRORS IN IV THERAPY

THE FIVE RIGHTS

RIGHT PATIENT

RIGHT DRUG

RIGHT DOSE

RIGHT ROUTE

RIGHT TIME