

# FUNDAMENTALS OF IV THERAPY

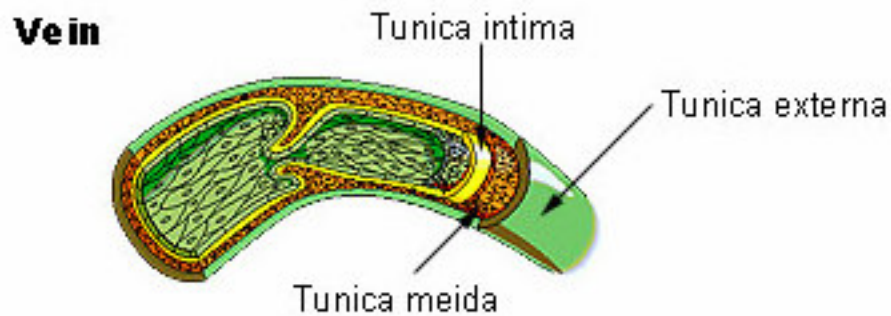
## A&P of veins

### 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**

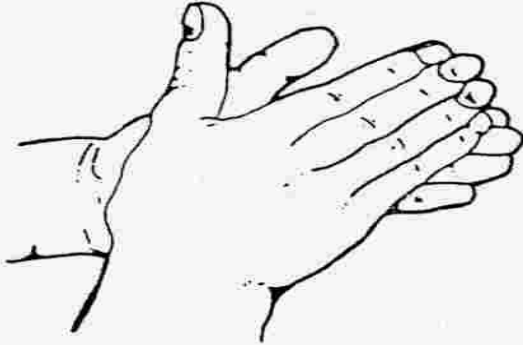
**INFUSION BAGS**

**DIFFERENCE BETWEEN A PERIPHERAL  
AND A CENTRAL VEIN**

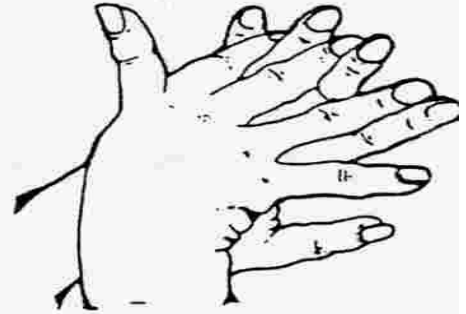
**PHLEBITIS      WHY??**

# KEY NURSING MEASURES TO PROMOTE ASEPSIS

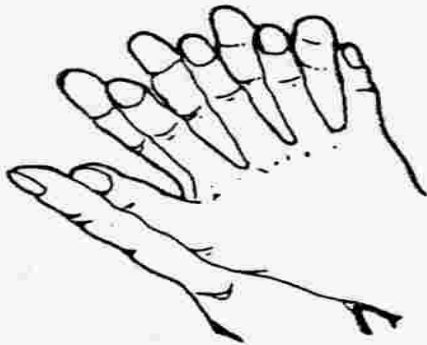
## HAND WASHING - DRYING - ALCOHOL RUBS



1. Palm to palm



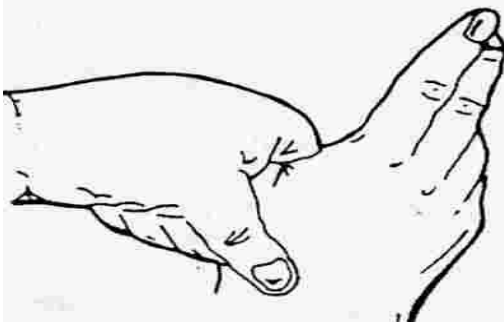
2. Right palm over left dorsum and left palm over right dorsum



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 BUNGS**

**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 NESESITATING NURSES TO REGULARLY CHECK INFUSION RATES**

**HEIGHT OF FLUID**

**SITE OF CANNULA INSERTION  
ESPECIALLY CLOSE TO JOINTS**

**KINKS, LEAKS OR DISLODGEEMENT**

**RATE OF INFUSION TO PRVENT 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**

# **IHC Guidelines on Infection Control 14th Dec 2006**

## **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**