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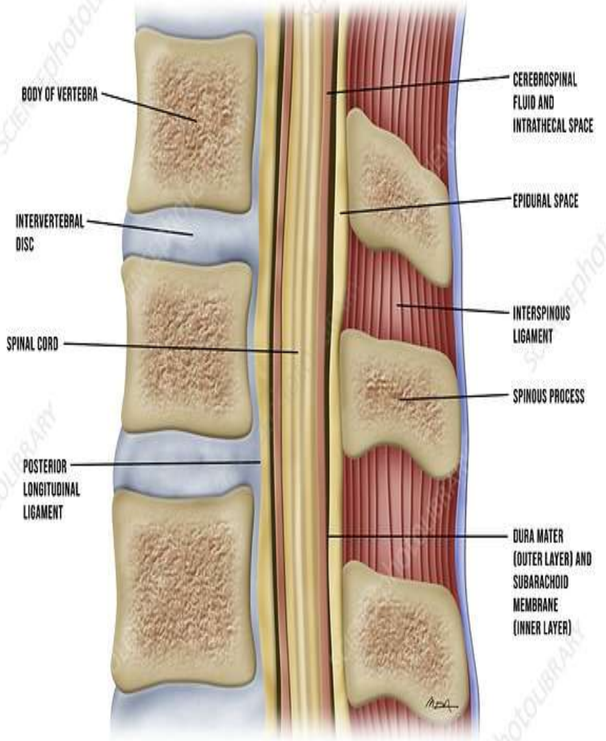
DEPARTMENT OF OPERATION THEATRE AND ANAESTHESIA TECHNOLOGY
3rd YEAR

PAPER 2:PRINCIPLES OF ANAESTHESIA II

TOPIC:SPINAL ANAESTHESIA

ANATOMY:

- *SKIN*
- *SUBCUTANEOUS TISSUE*
- *SUPRASPINOUS LIGAMENT*
- *INTERSPINOUS LIGAMENT*
- *LIGAMENTUM FLAVUM*
- *EPIDURAL SPACE*
- *DURA MATTER*
- *SUBARACHNOID SPACE*
- *ARACHNOID MATTER*
- *PIA MATTER*



ANATOMY:

- *THE SPINAL CORD USUALLY ENDS AT THE LEVEL OF L1 IN ADULTS AND L3 IN CHILDREN*
- *DURAL PUNCTURE ABOVE THESE LEVEL IS ASSOCIATED WITH A SLIGHT RISK OF DAMAGING THE SPINAL CORD AND IT IS BEST AVOIDED*
- *AN IMPORTANT LANDMARK TO REMEMBER IS THAT A LINE JOINING THE TOP OF THE ILIAC CREST IS AT L4 TO L5*

INDICATIONS:

- *SURGERIES OF LOWER LIMBS,PERINEUM,PELVICS,ABDOMEN*
- *IT IS DEAL IN RENAL FAILURE-ONSET IS RAPID,SPREAD IS GREATER BY TWO OR THREE SEGMENTS*
- *CARDIAC DISEASE*
- *LIVER DISEASE*
- *OBSTETRIC ANAESTHESIA*

ADVANTAGES:

- *AVOID HAZARDS OF GENERAL ANAESTHESIA*
- *PATIENT IS ALERT EARLIER IN POSTOPERATIVE PERIOD*
- *LOWER INCIDENCE OF NAUSEA/VOMITTING*
- *BETTER PAIN CONTROL/LESS NARCOTICS*
- *DECREASED RISK OF ASPIRATION*

DISADVANTAGES:

- *DIFFICULT NEEDLE PLACEMENT*
- *HYPOTENSION*
- *POST DURAL PUNCTURE HEADACHE*
- *INFECTION*
- *FAILED SPINAL*
- *URINARY RETENTION*

ABSOLUTE:

1.PATIENT REFUSAL

2.INFECTION AT THE SITE OF INJECTION

3.INCREASED INTRACRANIAL PRESSURE

4.HYPOVOLEMIA

5.SEPTICEMIA

6.COAGULAPATHIES

7.SEVERE AORTIC AND MITRAL STENOSIS

8.BRAIN TUMORS

9.MENINGITIS

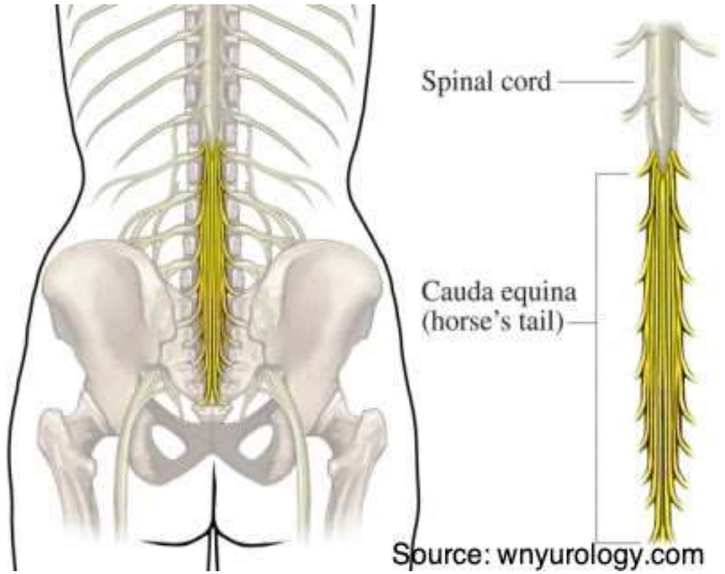
10.SEVERE ANAEMIA

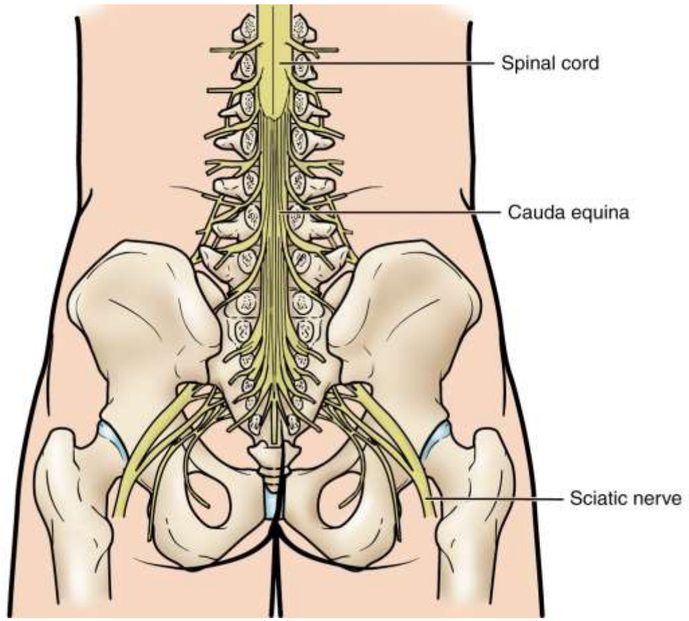
11.UNCONTROLLED

12.HYPERTENSION

13.VALVULAR HEART DISEASE

14.ANTICOAGULANT THERAPY


Spinal cord
Cauda equina
(horse's tail)
Source: wnyurology.com


Spinal cord
Cauda equina
Sciatic nerve

PREPARATION OF THE PATIENT

1.PRE MEDICATION

2.SEDATIVES

3.TO DECREASE ACID SECRETIONS-H2 BLOCKERS,PROTON PUMP INHIBITORS

4.MONITOR

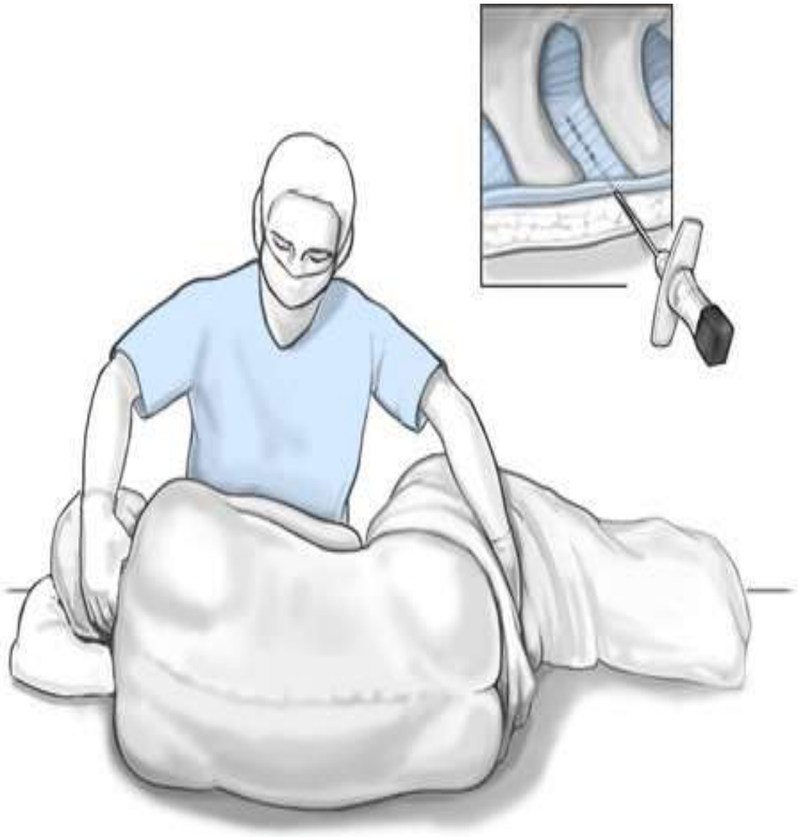
5.INTRAVENOUS LINE-PRELOADING WITH FLUIDS

LATERAL FLEXED POSITION :

1.MOST COMMONLY USED

2.BACK PARALLEL TO EDGE OF TABLE

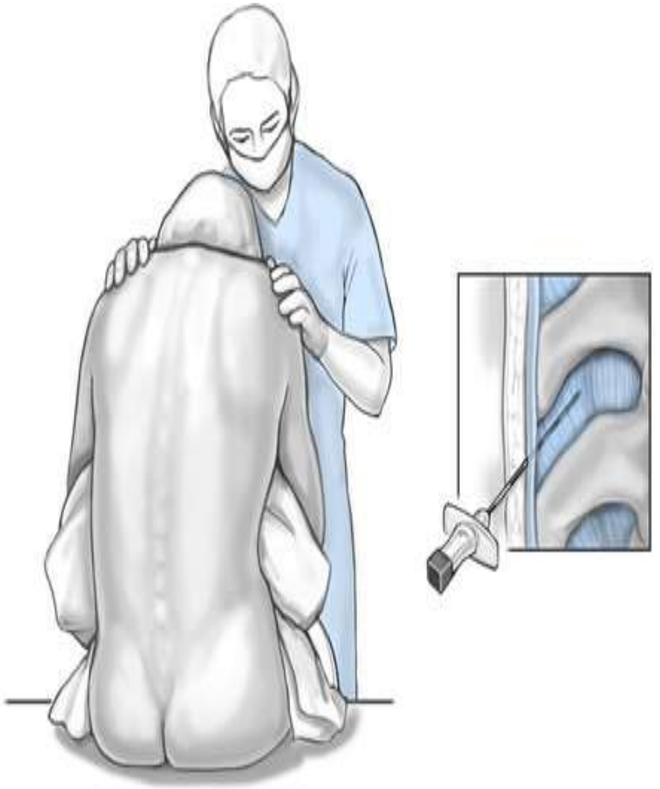
3.HIPS & KNEES FLEXED NECK & SHOULDER FLEXED TOWARDS KNEES



1.SITTING POSITION IS FOR OBESE PATIENTS

2.PATIENTS WITH ABNORMAL SPINAL CURVATURE

3.SITTING POSITION PATIENT SHOULD SIT ON THE TABLE WITH KNEES RESTING ON THE EDGE,LEGS HANGING OVER THE SIDE AND FEET SUPPORTED BY A STOOL BELOW



THREE PARTS:

1. HUB

2.CANNULA

3.STYLET

POINT OF THE CANNULA IS BEVELEDAND HAS A SHARP EDGE

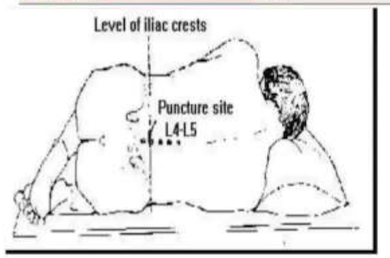
LUMEN SIZE:18G TO 30 G

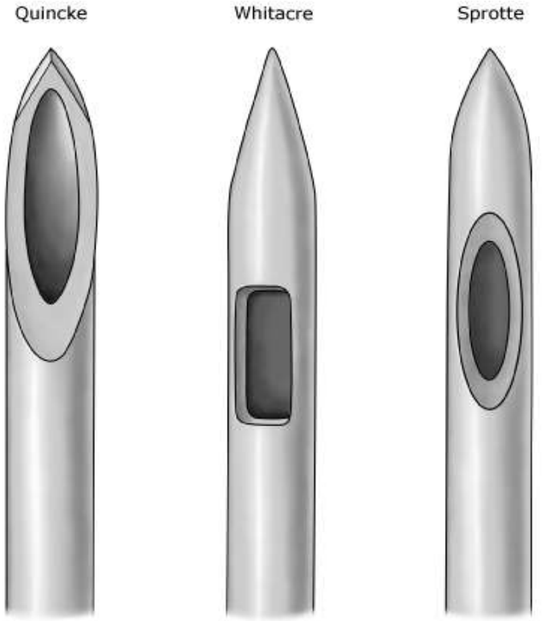
LENGTH:3.5 TO 4 INCHES

Lumbar Puncture Needle

TOACS IMM

GAUGE (mm)	COLOR CODE
16G (1.6 mm) SPINAL NEEDLE SIZES	White
18G (1.2 mm)	Pink
19G (1.1 mm)	Cream
20G (0.9 mm)	Yellow
21G (0.8mm)	Deep green
22G (0.7 mm)	Black
24G (0.6 mm)	Deep blue
25G (0.5 mm)	Orange
26G (0.45mm)	Brown
27G (0.4mm)	Gray





SYMPATHETIC PARALYSIS

SENSORY BLOCK

MOTOR NERVE BLOCKADE

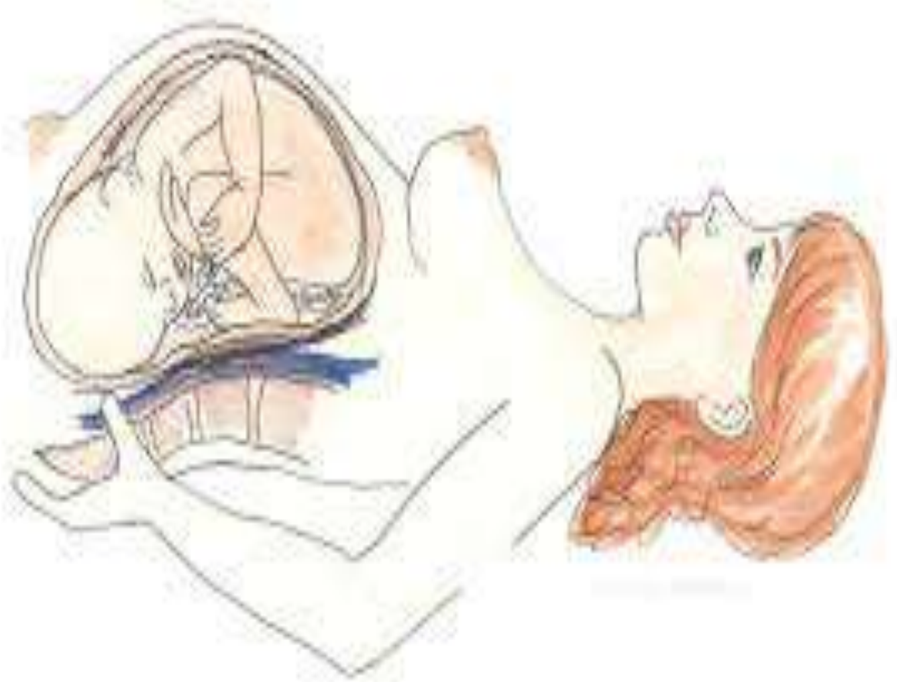
AORTOCCAVAL OCCULSION:

1.PRELOADING WITH IV FLUIDS

2.LEFT LATERAL POSITION

3.VASOPRESSORS

4.OXYGEN THERAPY

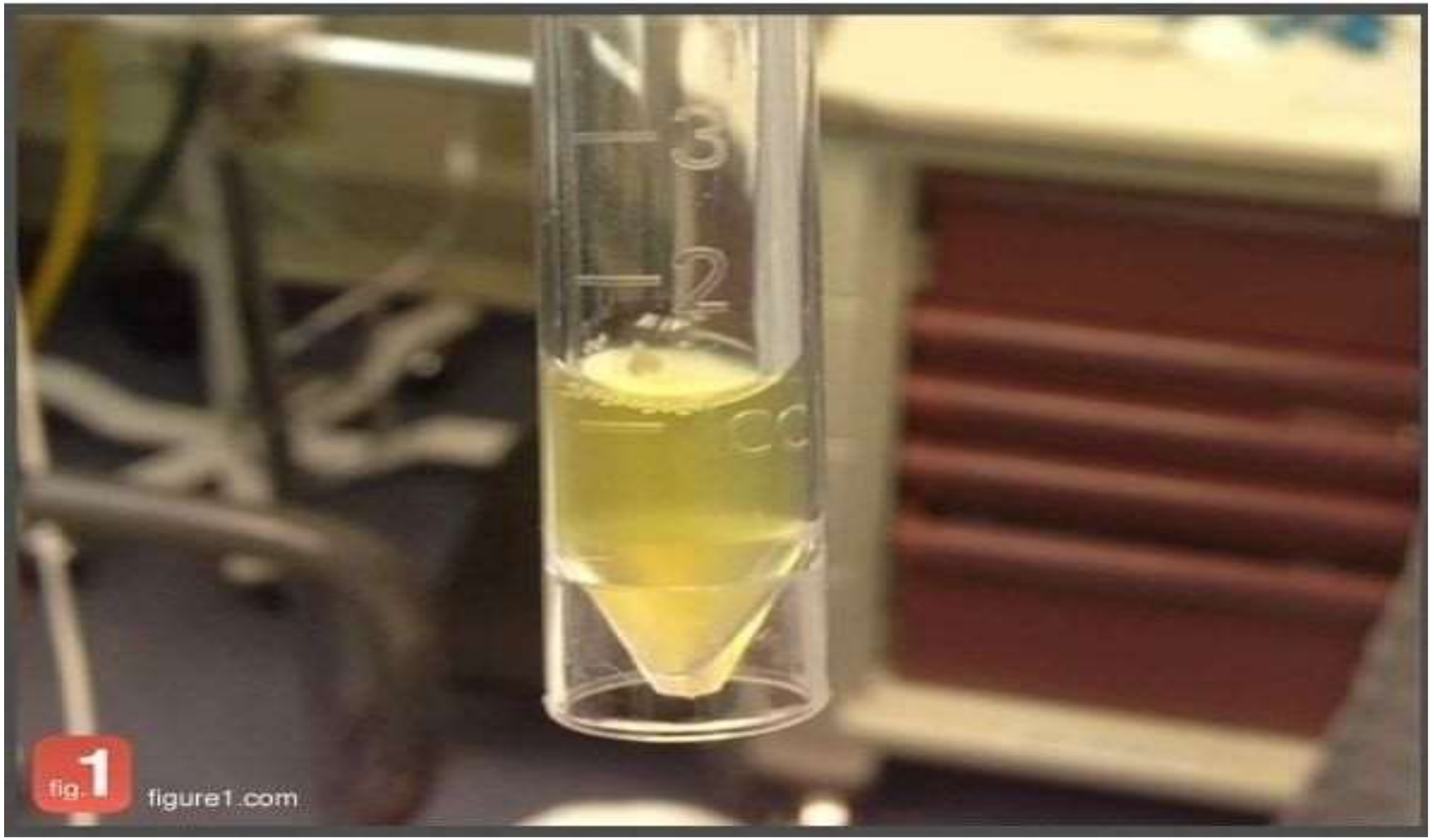


CSF:

A WATERY FLUID THAT IS CONTINOUSLY PRODUCED AND ABSORBED AND THE FLOWS IN THE VENTRICLES WITHIN THE BRAIN AND AROUND THE SURFACE OF THE SPINAL CORD

FUNCTIONS:

1. PHYSICAL SUPPORT OF NEURAL STRUCTURES
2.EXCRETION AND SINK ACTION
3.INTRACEREBRAL TRANSPORT
4.CONTROL OF THE ENVIRONMENT OF THE CENTRAL NERRVOUS SYSTEM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PDPH:

The international headache society defines PDPH as a headache occuring within 5 days of a lumbar puncture,because of CSF leakage through dural puncture

1.REMAIN LYING FLAT IN BED

2.THEY SHOULD BE ENCOURAGED TO DRINK FREELY OR IF NECESSARY BE GIVEN INTRAVENOUS FLUIDS TO MAINTAIN ADEQUATE HYDRATION

3.SIMPLE ANALGESICS(eg:PARACETAMOL)

4.CAFFEINE CONTAINING DRINKS(eg:TEA,COFFEE)

5.PROLONGEDD OR SEVERE HEADACHE MAY BE TREATED WITH EPIDURAL BLOOD PATCH.PATIENTS OWN BLOOD IS ASEPTICALLY INJECTED INTO THE EPIDURAL SPACE

THANK YOU