



Specimen collection

Role of the Nurse

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Nurses often assume the responsibility of specimen collection

- ▶ Specimens consist
 - Urine
 - Stool
 - Sputum
 - Wound drainage
 - Blood



What about the client?

- ▶ Comfort
- ▶ Privacy
- ▶ Questions
- ▶ Clear, concise directions
 - NPO

STANDARD PRECAUTIONS AND PPE



The Nurse

- ▶ Check physician orders
- ▶ Keep it Simple directions to client
- ▶ Standard precautions
- ▶ Label specimen
- ▶ Timely
- ▶ C&S to lab ASAP or refrigerated
- ▶ Documentation



Urine Specimen

- ▶ Random
- ▶ Clean
- ▶ Female ? Menses (make note)
- ▶ Tested for:
 - ▢ Specific gravity
 - ▢ pH
 - ▢ Albumin
 - ▢ Glucose
 - ▢ Microscopic exam

Urine for C&S

- ▶ Culture = ? Bacteria growing
- ▶ Sensitivity = which antibiotics are effective
- ▶ Readings after 24; 48; 72 hrs.

Midstream Urine

Sterile Catheter Specimen

(never from bag)



Why a urine specimen for C&S

- ▶ ? Urinary Tract Infection (UTI)
 - Frequency
 - Urgency
 - Dysuria
 - Hematuria
 - Flank pain
 - Fever
 - Cloudy, malodorous urine

Obtaining specimen

- ▶ Wash hands
 - ▶ Clean meatus, female front to back
 - ▶ Start stream, then stop, collect specimen
 - ▶ Aseptic technique
 - ▶ Bedpan/mexican hat
 - ▶ To lab 15-20min post collection
- 

Children

- ▶ Pediatric bags (u Bag)
- ▶ Never squeeze diaper



Characteristics of Urine

- ▶ Color
 - ▶ Clarity
 - ▶ Odor
- 

Specimen Collection

1. Random Specimens

- Clean-not sterile
- Ordered for
 - Urinalysis testing
 - Measurement of specific gravity
 - pH
 - Glucose levels

Urine specimen collection

2. Midstream Specimen

- ❖ Clean voided
- ❖ C&S
- ❖ 30-60 mls urine

3. Sterile Specimen

- ❖ Indwelling catheter
- ❖ Drainage bag

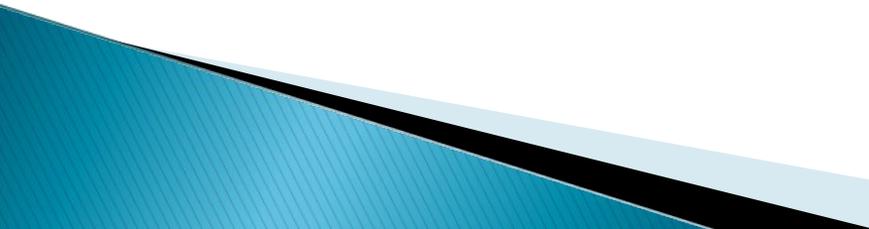
Urine collection

4. Timed urine specimens
 - ❖ 2-72 hr intervals (24hr most common)
 - ❖ Begin after urinating
 - ❖ Note start time on container & requisition
 - ❖ Collect all urine in timed period

Post Reminder Signs



Indwelling Catheter

- ▶ Strict aseptic technique
 - ▶ Only from Bag if Brand new
 - ▶ Sampling Port?
 - ▶ Clamp 30 min. prior
 - ▶ Wash hands – Glove
 - ▶ Cleanse port with alcohol swab
 - ▶ Sterile needle
 - ▶ To lab 30 min (may refridge 2hrs)
- 

Common Urine Lab Tests

- ▶ Routine Urinalysis
 - Examine within 2hrs
 - 1st voided specimen in AM
 - Reagent strip
- ▶ Specific Gravity
 - Concentration
 - 1.010-1.025
- ▶ Urine glucose
 - Diabetics
 - Reagent strips
 - Double void

Measuring chemical properties of urine=Urinalysis

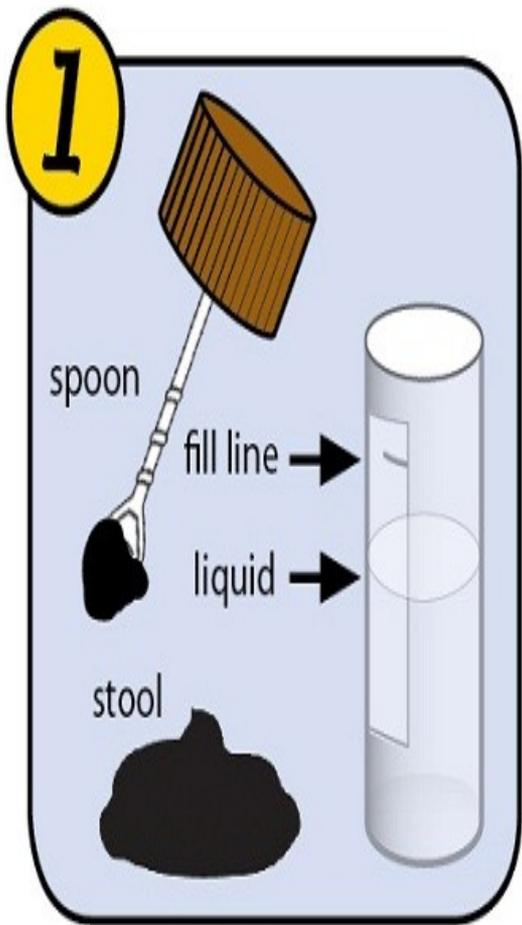
- ▶ Glucose
 - ▶ Ketones
 - ▶ Protein
 - ▶ Blood- hematuria
 - ▶ pH
 - ▶ Specific gravity
 - ▶ Microscopic examination
- 

Stool Specimen

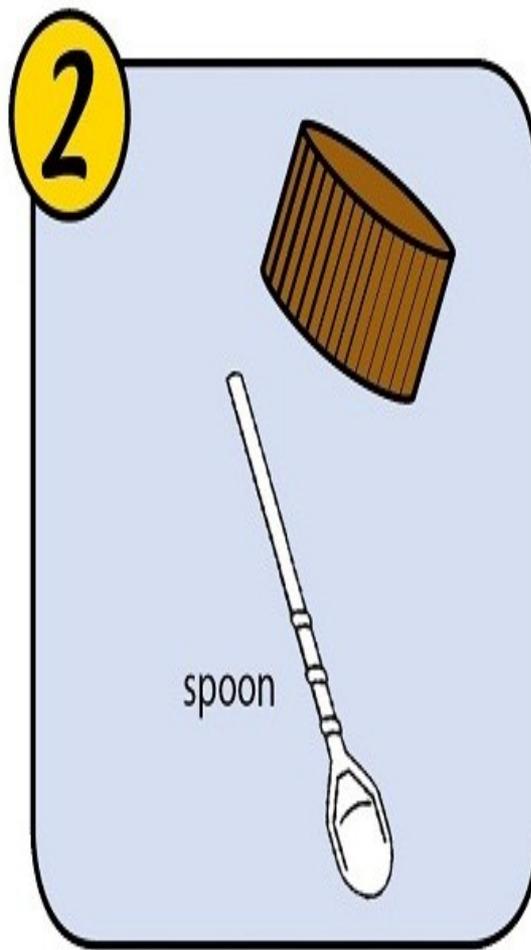
Analysis of fecal material can detect pathological conditions ie: tumors, hemorrhage, infection

▶ Tests

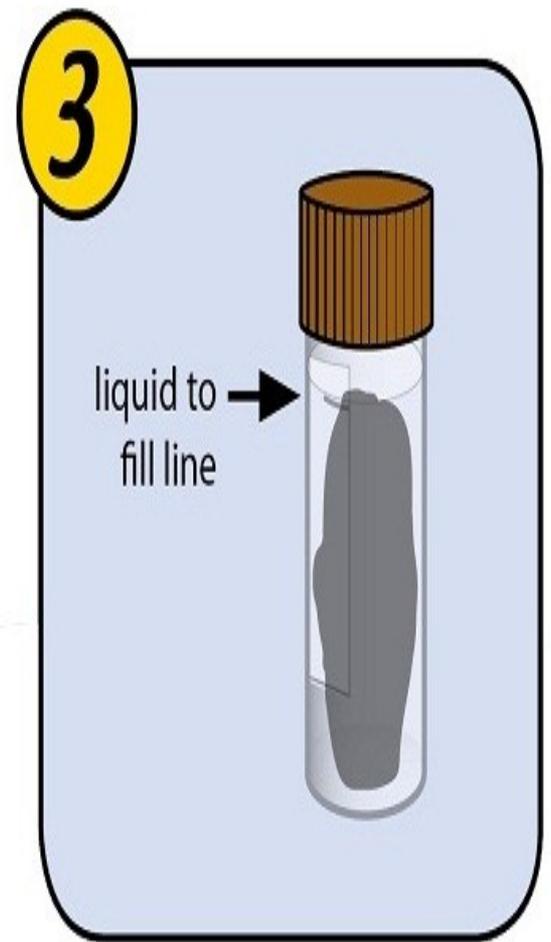
- OB
- Pus
- Ova & Parasites



Collect on plastic wrap and transfer to vial until liquid reaches fill line.



Remove spoon from lid and discard.



Replace cap on vial tightly and shake for a minute. Place vial in refrigerator until ready to ship.

Fecal specimens

- ▶ ? Chemical preservatives
- ▶ Medical aseptic technique
- ▶ To lab on time
- ▶ Labelling
- ▶ Documentation

Guaiac Test

Colorectal cancer screening test

FOBT

Hemoccult slide test

Fecal Characteristics

- ▶ Color
 - melena
 - ▶ Odor
 - ▶ Consistency
 - ▶ Frequency
 - ▶ Amount
 - ▶ Shape
 - ▶ Constituents
- 

Guaiac Test

- ▶ Single positive test result does not confirm bleeding or colorectal cancer.
 - ▶ Repeat test 3X
 - ▶ Meat free, high residue diet
- 

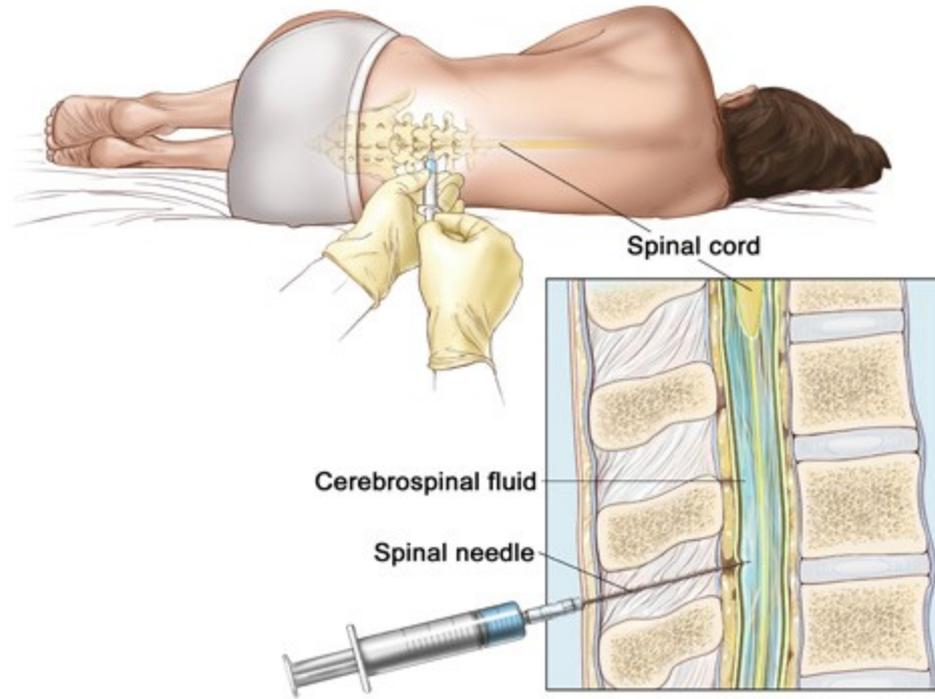
Vaginal or Urethral Discharge Specimens

- ▶ Normally thin, nonpurulent, whitish or clear, small in amount
 - ▶ S&S STD's, UTI
 - ▶ Not Delegated
 - ▶ Assess external genitalia
 - ▶ If STD record sexual history
 - ▶ Physician's order- vaginal/urethral
- 

Blood Specimens

- ▶ Lab techs
- ▶ ABG's
- ▶ Blood Glucose

CSF



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Respiratory Tract

- ▶ Tests to determine abnormal cells or infection
 - Throat cultures
 - Sputum specimens
 - Skin testing
 - Thoracentesis

Nose, Throat Specimens

- ▶ Upper respiratory/ throat infections
- ▶ Should Not be delegated
- ▶ Throat swabs
 - ac meal or 1 hr pc meal
 - Wash hands, glove
 - Tilt head backward
 - “ah” (if pharynx not visualized, tongue depressor, anterior 1/3 of tongue)
 - Don't contaminate

Throat cultures

- ▶ Oropharynx & tonsillar
 - ▶ Sterile swab
 - ▶ Culture determines pathogenic microorganisms
 - ▶ Sensitivity determines the antibiotics to which the microorganisms are sensitive or resistant
- 

Method for throat culture

- ▶ Insert swab into pharyngeal region
- ▶ Reddened areas/ exudate
- ▶ Gag reflex if client sitting and leaning forward slightly
- ▶ Inform client re procedure ↓

Nose culture

- ▶ Blow nose, check nostril patency
 - ▶ Rotate Swab inflamed mucosa or exudate
 - ▶ Swab must advance into nasopharynx to ensure culture properly obtained
- 

Sputum specimens (3 major types)

Ordered to identify organisms growing in sputum

➤ ***C&S***

➤ ***AFB***

➤ *3 consecutive, early am*

➤ ***Cytology***

➤ *Abnormal lung cancer by cell type*

➤ *3 early am*

Sputum collection

- ▶ May be delegated
- ▶ Cough effectively
- ▶ Mucus from bronchus
- ▶ **Not Saliva**
- ▶ Record
 - Color
 - Consistency
 - Amount
 - Odor
 - Document date & time sent to lab.

Sputum collection

- ▶ No mouthwash/toothpaste-
viability of microorganisms and alter culture
results
- 

Skin testing

- ▶ Determines pulmonary diseases
 - Bacterial
 - Fungal
 - Viral

Antigen injected intradermally

Injection site circled

Instructions not to wash site

Reading skin test

- ▶ Induration – palpable, elevated, hardened area around site. Edema and inflammation from antigen –antibiotic reaction. Measured in millimeters
- ▶ Reddened flat areas are neg.

The elderly freq. display false neg. or false positive TB skin test

If positive TB test

- ▶ Complete history risk factors →
- ▶ Symptoms
 - Weight loss
 - Night sweats
 - Hemoptysis
 - Fatigue

Early am sputum for AFB

Chest xray

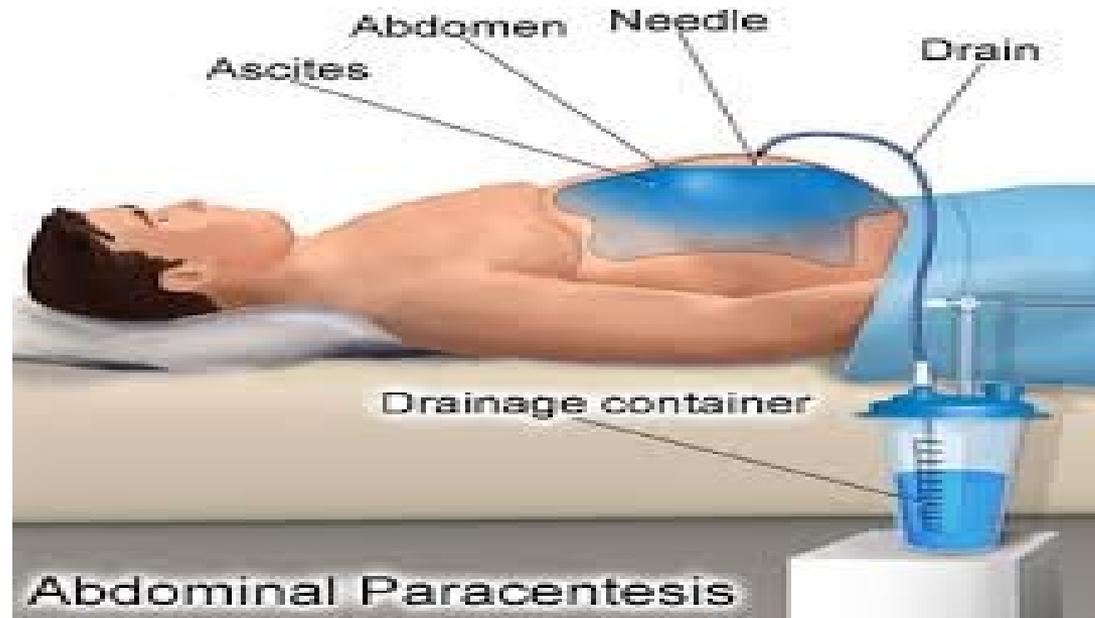
Thoracentesis

Insert needle through chest wall into pleural space

Aspirate fluid

- Diagnostic
- Therapeutic
- Biopsy

ASCITIC FLUID



Gastric Secretions

- ▶ NG tube

Cultures

- ▶ Culturette/swab
- ▶ Wet/dry method
- ▶ Nose, throat, wound

Review procedure manual & fill in requisitions.

Nursing Functions for Specimen Collection

1. Explain procedure, gain client's participation
2. Collect right amt. of specimen at the right time
3. Place specimen in correct container
4. Label container accurately
(addressograph), plastic bag

Nursing Functions for specimen collection

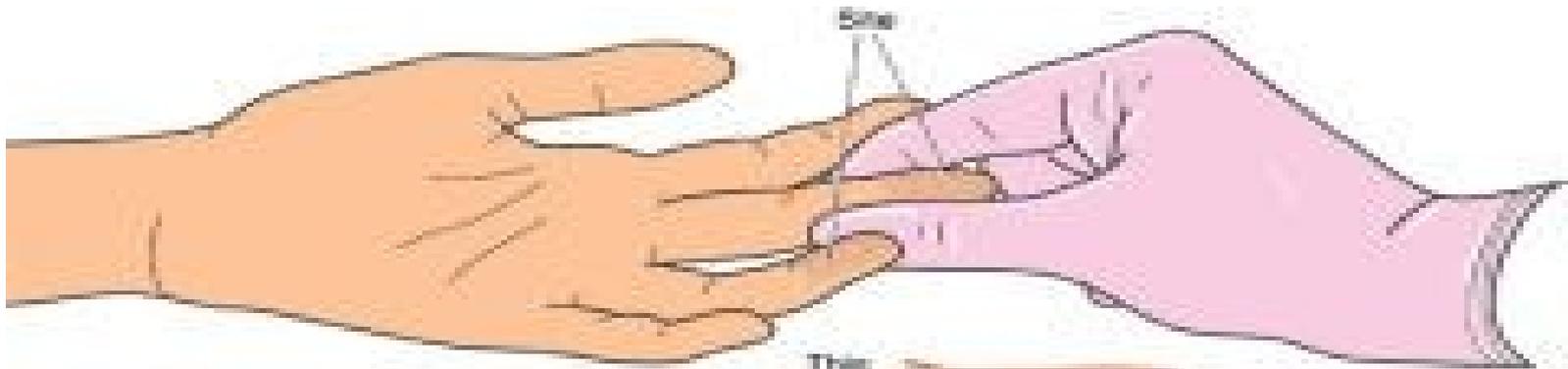
5. Complete lab. Req.
 6. Place the specimen in the appropriate place for pick up.
 7. Document/record specimen sent and anything unusual about the appearance of specimen
- 

Blood glucose levels

- ▶ Capillary Puncture
 - ▶ Reduces Venipunctures
 - ▶ Clients can perform
 - ▶ Glucometers
 - ▶ Chemical reagent strip
 - ▶ Delegated to those instructed in skill if client's condition stable
- 

Glucose monitoring

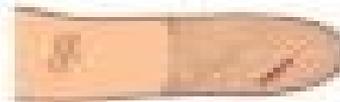
- ▶ Ordered ac, pc, hs, fasting, before insulin (sliding scale)
- ▶ ? Risks for skin puncture
- ▶ Assess area of skin
 - Sides of fingers, toes, heels
- ▶ Client's ability
- ▶ Normal fasting Bld. Sugar
70-120 mg/100ml



Thin

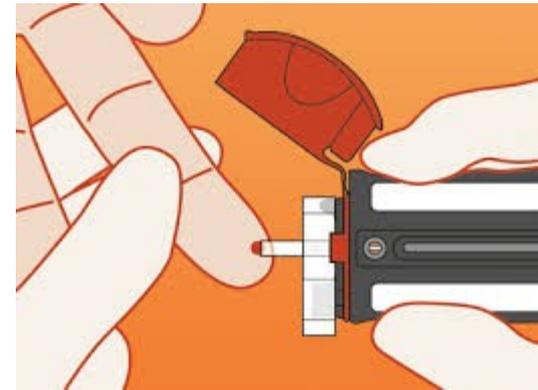


Not thin



Glucose Monitoring

- ▶ Wash hands, glove
- ▶ Client wash hands, warm water
- ▶ Follow instructions on meter
- ▶ Massage /milk finger or puncture site
- ▶ Antiseptic swab (allow to dry completely)
 - ▶ Wipe away first droplet of blood with tissue/cotton ball



Glucose Monitoring

- ▶ Dispose of lancet in sharps container
- ▶ Wash hands
- ▶ Check puncture site
 - Can share reading with client
- ▶ Record results
- ▶ Proceed as indicated by results

The Value of Measurement

3 benefits to measuring progress and results

- ✓ Shows where we are now
 - ✓ Tells if we are heading toward our goal
 - ✓ Allows us to make improvements along the way
- 

What we measure gets improved.

- ▶ Heightens our awareness
 - ▶ Helps us focus on what we value and where we are going
 - ▶ Keeps us on track
 - ▶ Gives info what is happening along the way and enables us to continue or change depending on desired results
- 

▶ THANK YOU