

**Mustansiriyah University**  
**College of science**  
**Biology Dept.**  
**Zoology**  
**4<sup>th</sup> class**  
**Laboratory Technique LAB.**  
**(4)**

**NAME :**

# Urine Sample

## Urine sample collection rules:

1. Random.
2. Clean.
3. make notes for personal health ( male, female) or taking drugs.
4. Tested for:
  - **Chemical exam**
  - Specific gravity
  - pH
  - Albumin
  - Glucose
  - **Microscopic exam**

# Types of urine sample

Sample type	Sampling	Purpose
Random specimen	No specific time most common, taken anytime of day	Routine screening, chemical & FEME
Morning sample	First urine in the morning, most concentrated	Pregnancy test, microscopic test
Clean catch midstream	Discard first few ml, collect the rest	Culture
24 hours	All the urine passed during the day and night and next day 1 <sup>st</sup> sample is collected.	used for quantitative and qualitative analysis of substances
Postprandial	2 hours after meal	Determine glucose in diabetic monitoring
Supra-pubic aspired	Needle aspiration	Obtaining sterile urine

# Common tests done on urine

1. UA = urinalysis

2. Urine Culture

## 1. Urinalysis (normal values)

- pH (4.8-8.0) average 6.0
- Protein (none)
- Glucose (none)
- Ketones (none)
- Blood (up to 2 RBC'S)
- Specific gravity (1.010-1.025)
- Bacteria (none)



WBC'S (0-4)

Casts (none)

## **2. 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)**

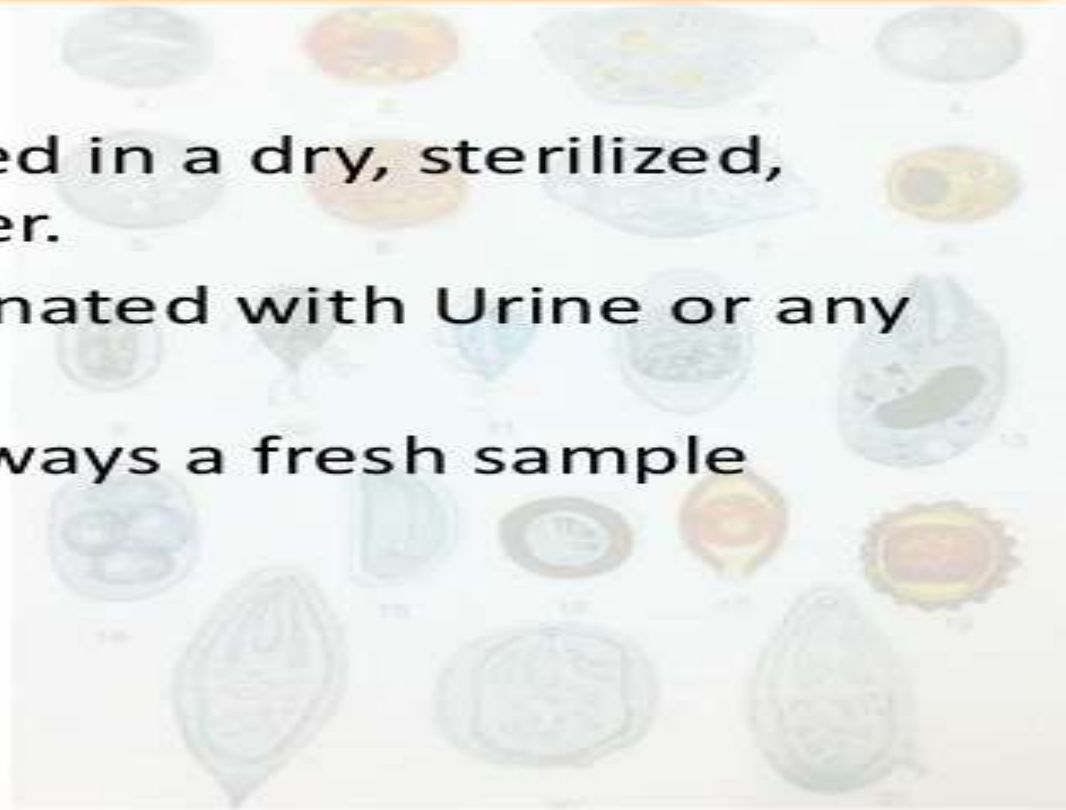


# Stool Specimen

Analysis of fecal material can detect pathological conditions for ex: tumors, hemorrhage, infection –  
.....Tests(Pus,Rbc, Ova & Parasites)

## COLLECTION

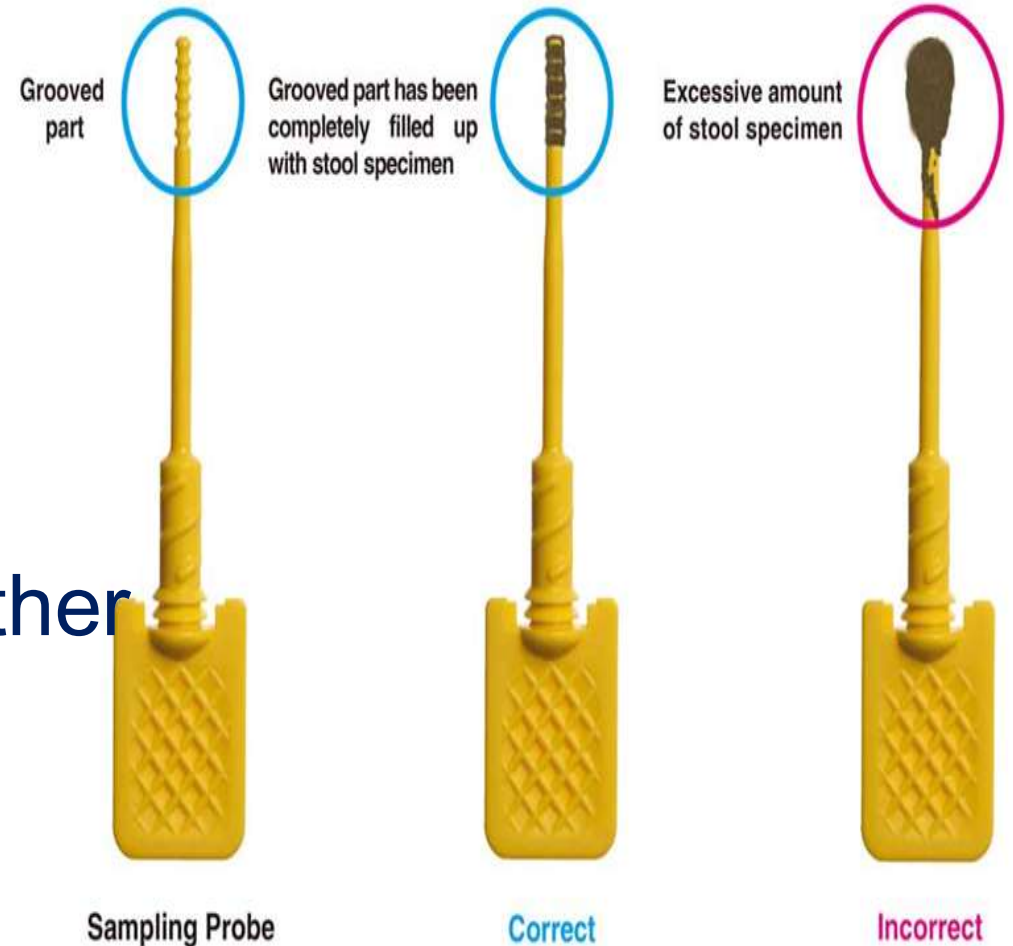
- Universal Precautions
- Stool should be collected in a dry, sterilized, wide mouthed container.
- It should be uncontaminated with Urine or any other body secretions.
- Properly named and always a fresh sample should be tested.



# Random Collection

1. Universal precaution
2. Collect stool in a dry, clean container
3. uncontaminated with urine or other body secretions, such as menstrual blood
4. Collect the stool with a clean tongue blade or similar object.

## Stool Specimen Collection



5. Deliver immediately after collection

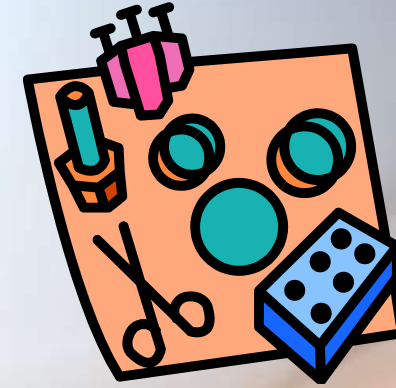
# Ova and parasites collection

1. Warm stools are best for detecting ova or parasites.  
Do not refrigerate specimen for ova or parasites.
2. If the stool should be collect in 10 % formalin or PVA fixative, storage temperature is not critical.
3. Because of the cyclic life cycle of parasites, three separate random stool specimens are recommended.



# Sputum Specimens

- Culture
- Cytology
- Tuberculosis



- **Collection:**

- **Teach to cough effectively..... Not Saliva**
- **Keep inside of container sterile**
- **Document: color, consistency, odor**
- **Early morning specimen**

# Sputum sampling

- **Specimen:** Sterile transparent plastic container with a screw cap.
- **Sampling:**
  - Sampling is always performed at supervision of a nurse or a doctor.
  - Patient washes the oral cavity and gurgles with water (decrease of oral bacteria contamination)
  - After that, the patient should deeply cough so that to press out the secretion from lower respiratory ways, not saliva or nasopharynx secretion.
  - So gained sputum is kept in a sterile container in volume of minimally 1ml.
- **Storage:** Maximum 24 h at room temperature
- **Transport:** Maximum 2 h at room temperature