

Tikrit University

College of Nursing

Basic Nursing Sciences



Second Year - 2023-2024

Microbiology

Parasitology

Floatation

By: assistant lecturer

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2- Flootation

Flootation procedure Permits the separation of protozoa cysts & oocysts, and certain helminthes eggs & larvae through the use of a liquid with a high specific gravity. Parasites are recovered in the surface film, and the debris remains in the bottom of the tube.

Disadvantages:

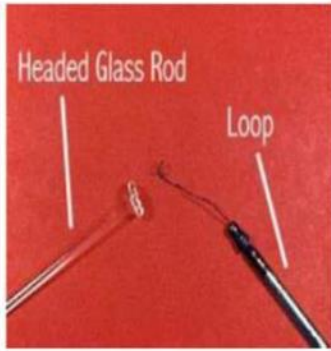
- Some helminthes eggs (operculated eggs and/or very dense eggs such as unfertilized Ascaris eggs) do not concentrate well with the flootation method.
- Protozoan cysts become distorted and difficult to identify

Flootation Method

1. Emulsify 2 to 3 grams of feces (a size of a grape) into 5 ml of ZnSO₄ solution in a dish.
2. Push the emulsion through the strainer into a 15 ml centrifuge tube then fill the tube with zinc sulfate solution.
3. Centrifuge for 2 min at 1500 - 2000 rpm.
4. Using a headed-rod or loop, remove a sample from solution surface & place on a microscope slide.
5. Add a drop of iodine to stain cysts & ova and don the examination.

Zinc Sulfate Flootation Method



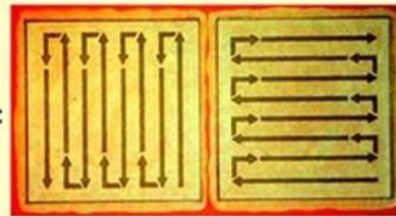


Step 10:



If there is a thick and thin area, the cysts and ova will generally be found in the thick portion of the mount.

Step 11:



- Scan the entire coverslip systematically as illustrated using the 10X objective.
- If you suspect cysts or trophozoites, use higher magnification.
- 1/3 of the slide should be scanned using a higher magnification.

Preparation of Flotation Solutions

Mix salt in distilled water using a heat block and magnetic stirrer until no more salt will dissolve. Allow to cool and any remaining undissolved salt to sediment in the bottle prior to use. For Sheather's sucrose, formaldehyde or phenol can be added to a concentration of 1.5% for preservation.

Solution	Zinc Sulfate (ZNSO ₄)	Sodium Nitrate (NaNO ₃)	Saturated Salt (NaCl)	Sheather's Sucrose (C ₁₂ H ₂₂ O ₁₁)
Volume in 1L H ₂ O	330 g	315 g	350 g	1,278 g
Specific Gravity	1.2	1.2	1.2	1.27

Table: Volume of flotation salt solution required for the preparation of specific flotation solutions. The flotation solution a laboratory chooses to use should be informed by the relative sensitivity of that solution in detecting the parasitic pathogens sought.

Quality Control

Use a hydrometer to test the specific gravity of solutions.

Perform this QC once weekly or whenever a new batch of flotation solution is prepared.

Fecal flotation

