



Fecal Flotation Procedures

Flotation solution must have a higher specific gravity than parasite egg or oocysts.

- ◆ Specific gravity refers to weight of object compared to equal volume of water.
- ◆ Specific gravity of water is 1.000 and most parasite eggs are 1.05 - 1.24
- ◆ Flotation solutions should be ≥ 1.24

Specific Gravity of Common Parasite

Eggs - dogs and cats

- | | |
|---|--------|
| ◆ <i>Physaloptera sp.</i> (stomach worm) | 1.2376 |
| ◆ <i>Taenia</i> (tapeworm) | 1.2251 |
| ◆ <i>Trichuris vulpis</i> (whipworm) | 1.1453 |
| ◆ <i>Toxocara cati</i> (roundworm-ascarid) | 1.1005 |
| ◆ <i>Toxocara canis</i> (roundworm-ascarid) | 1.0900 |
| ◆ <i>Ancylostoma sp.</i> (hookworm) | 1.0559 |

Fecal Flotation Techniques

1. Swinging Head Centrifuge

Standard Qualitative Fecal:

1. Weigh out (estimate) 2 or 5 grams of feces.
2. Mix with 10ml of sugar solution.
3. Pour through tea strainer into a beaker/fecal cup.
4. Pour solution from beaker/fecal cup into 12ml or 15ml centrifuge tube. (depending on the size the centrifuges uses).
5. Place tube into the centrifuge.
6. Fill tube with sugar solution to a slight positive meniscus and cover with a coverslip. There should be a small bubble under the coverslip if correct amount of flotation solution was added.
7. Centrifuge at 1200rpm for 5 minutes. Make sure the centrifuge is balanced.
8. Let stand for 10 minutes.
9. Remove coverslip from tube and place on slide labeled with the animal name or number.
10. Examine entire coverslip at 10X. Use 40X to identify parasites or eggs.
11. Record results.

Indications: Most parasite eggs, oocysts, and cysts.

Limitations: Fluke eggs and acanthocephalan eggs are too heavy to float. Flotation medium will distort larvae and rupture protozoa trophs.

2. Fixed Head Centrifuge

Standard Qualitative Fecal:

1. Weigh out (estimate) 2 or 5 grams of feces.
2. Mix with 10ml of sugar solution.
3. Pour through tea strainer into a beaker/fecal cup.
4. Pour solution from beaker/fecal cup into 12ml or 15ml centrifuge tube. (depending on the size the centrifuges uses).
5. Place tube into the centrifuge.
6. Fill tube with sugar solution about 1 inch from the top of the tube. **DO NOT** place a coverslip on the tube.
7. Centrifuge at 1200rpm for 5 minutes. Make sure the centrifuge is balanced.
8. Remove the test tube from the centrifuge and fill to the top with sugar solution.
9. Place a coverslip on the tube. There should be a small bubble under the coverslip if the correct amount of flotation solution was added.
10. Let Stand for 10 minutes.

11. Remove coverslip from tube and place on slide labeled with the animal name or number.
12. Examine entire coverslip at 10X. Use 40X to identify parasites or eggs.
13. Record results.

Indications: Most parasite eggs, oocysts, and cysts.

Limitations: Fluke eggs and acanthocephalan eggs are too heavy to float. Flotation medium will distort larvae and rupture protozoa trophs.

Note that this same “fixed head procedure” can be used in a swing head centrifuge.

3. **Swinging Head Centrifuge – for Giardia**

Standard Qualitative Fecal w/Zinc Sulfate:

1. Weigh out (estimate) 2 or 5 grams of feces.
2. Mix with 10ml of Zinc Sulfate solution.
3. Pour through tea strainer into a beaker/fecal cup.
4. Pour solution from beaker/fecal cup into 12ml or 15ml centrifuge tube. (depending on the size the centrifuges uses).
5. Place tube into the centrifuge.
6. Fill tube with Zinc Sulfate solution to a slight positive meniscus and cover with a coverslip. There should be a small bubble under the coverslip if correct amount of flotation solution was added.
7. Centrifuge at 1200rpm for 5 minutes. Make sure the centrifuge is balanced.
8. Let stand for 10 minutes.
9. Place 1-2 small drops of lugol’s iodine solution on slide.
10. Remove coverslip from tube and place on slide labeled with the animal name or number.
11. Examine entire coverslip at 10X. Use 40X to identify parasites or eggs.
12. Record results.

Indications: Most parasite eggs, oocysts, and cysts. **Great procedure for identifying Giardia cysts.**

Limitations: Fluke eggs and acanthocephalan eggs are too heavy to float. May not float tapeworms eggs. Flotation medium will distort larvae and rupture protozoa trophs.

This fecal protocol was provided by:

Dr. Michael Dryden, DVM, MS, PhD, DACVM

Professor of Veterinary Parasitology at Kansas State University