
# The Scoop on Poop

## Basic Fecal Analysis

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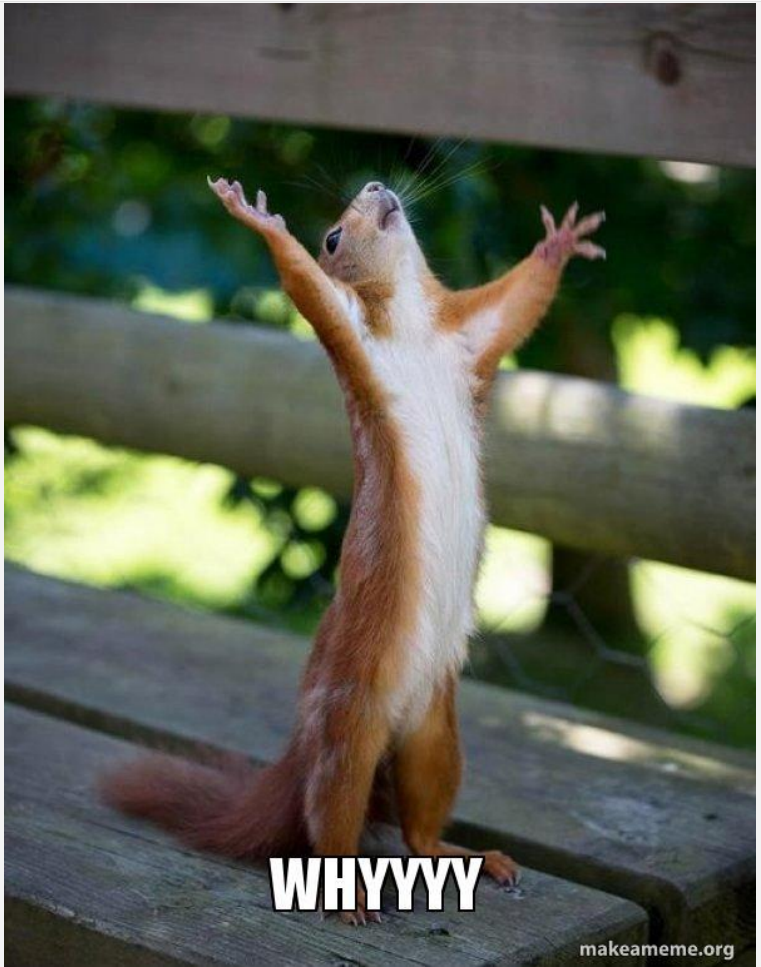
# Why do a fecal analysis?

- Identify internal parasites
- Treat only parasites that patient has without giving unneeded medication
- Help animal feel as good as it can be before being released.
- Detect underlying disease



# when should a fecal be done?

- When patient is admitted and stable
- Animal is thin, eating but not gaining weight, or anorexic
- Animal feces is abnormal color, consistence, or bloody

# Materials needed for examination

- Microscope
- Fecal float solution
- Distilled water
- Fecal tubes
- Microscope slides & cover slips
- Stir stick
- Gloves
- Other less common materials
- Fecal sample

# Your Friendly Neighborhood Microscope

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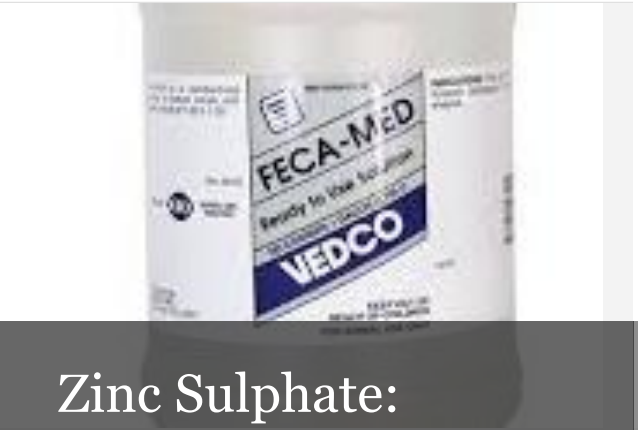
- Taking good care of your microscope is key
- Fecal exam routinely done with 10x objective
- Can go up to 40x for more detail of ova and protozoa
- Danger to 40x – getting dirty
- Iris closed and condenser down allow more shadows and make reading fecal slides easier




## Zinc Sulphate:

- Advantage- floats protozoal organisms, little distortion, doesn't form crystals
- Disadvantage- expense


## Sodium Nitrate:

- Advantage- very common
- Disadvantage- forms crystals and distorts eggs if left to sit


## Sugar solution:

- Advantage- inexpensive, doesn't crystalize or distort eggs. Long shelf life
- Disadvantage- sticky/ messy, attracts insects

- Use gloves during fecal exam
- Wash hands and work area when done
- Zoonotic potential

# Fecal sample collection

- Collect freshest sample possible
- If not able to exam within a few hours, refrigerate.
- Oocysts life cycle may be altered if allowed to sit making identification difficult
- Know your patient -What does normal look like, For Birds- know what part is feces


# Fecal sample collection

- Collect at least 1 teaspoon- Difficult in small patients
- Collect multiple samples- Not all samples will have parasites
- Good overall evaluation- Especially if multiple patients in one enclosure

# Fecal exam methods

- Gross Exam
- Direct Smears
- Fecal Flotation
- Centrifugal Flotation
- Staining

# Gross examination

- Consistency
- Color
- Parasites
- Blood
- Mucus

# Fecal Scoring System for Dogs

Purina

**SCORE 0** — *Very loose, no form, diarrhea, possibly blood*

**SCORE 25** — *Mixture of formed and unformed, mostly loose*

**SCORE 50** — *Formed Feces, but very soft*

**SCORE 75** — *Formed, drier, but not hard*

**SCORE 100** — *Formed, but very hard*



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Nestlé PURINA

# FECAL SCORE CHART

Fecal consistency is primarily a function of the amount of moisture in the stool and can be used to identify changes in colonic health and other problems. Ideally, in a healthy animal, stools should be firm but not hard, pliable and segmented, and easy to pick up (Score 2).

Score 1
Very hard and dry; requires much effort to expel from the body; no residue left on ground when picked up. Often expelled as individual pellets.

Score 2
Firm, but not hard; should be pliable; segmented in appearance; little or no residue left on ground when picked up.

Score 3
Log-like; little or no segmentation visible; moist surface; leaves residue; but holds form when picked up.

Score 4
Very moist (soggy); distinct log shape visible; leaves residue and loses form when picked up.

Score 5
Very moist but has distinct shape (piles rather than distinct logs); leaves residue and loses form when picked up.

Score 6
Has texture, but no defined shape; occurs as piles or no spots; leaves residue when picked up.

Score 7
Watery, no texture, flat; occurs as puddles; leaves residue.

# Direct smear fecal examination

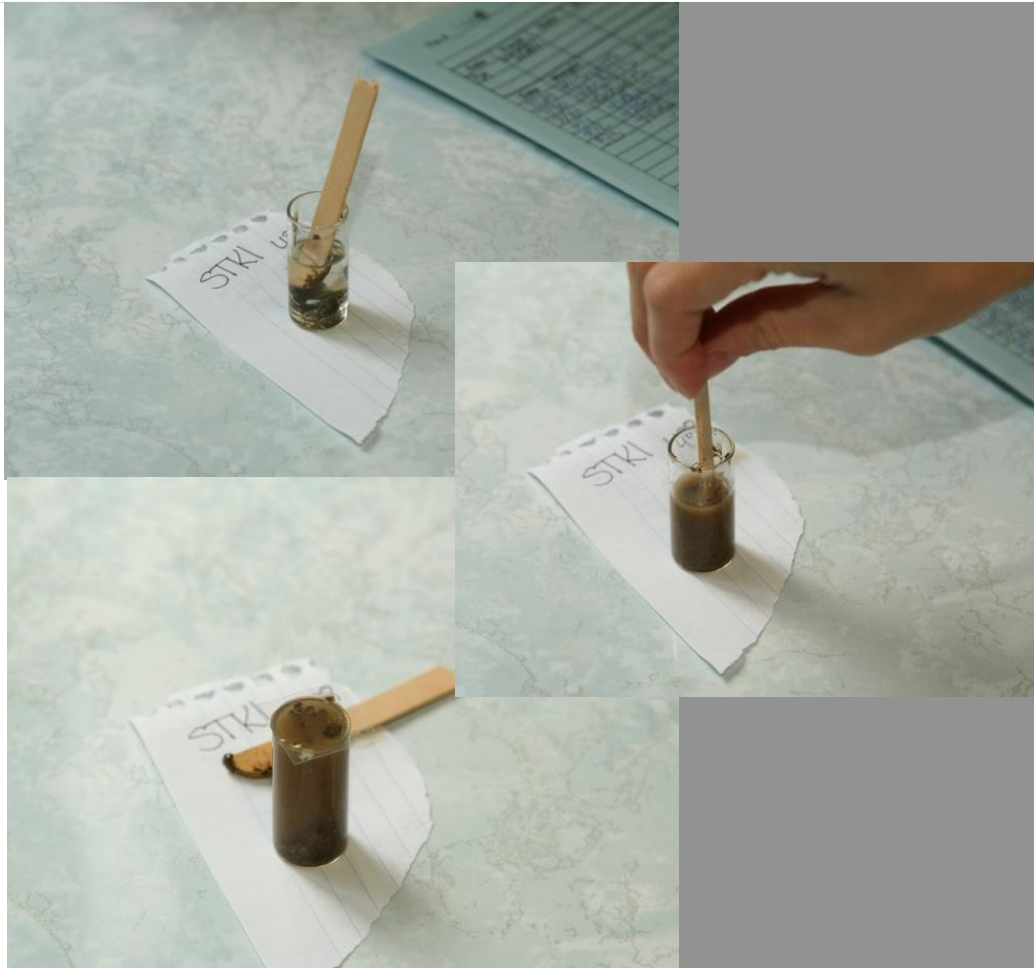
- Rapidly estimates parasite burden
- Short prep time and minimal equipment
- May not detect low parasite levels
- Useful for heavy organisms that may not bee seen on float
- Giardia is lysed by float solution
- Can see motile protozoan

# Direct smear fecal examination

- Place 1-2 drops of distilled water on slide
- Mix small amount of fecal matter with water until clumps dissolve
- Place cover slip on drop of water
- Mixed fecal matter should spread to the edge of cover slip

# Fecal flotation

- Place feces in vile/ tube
- Fill tube 1/2 full with flotation solution and mix
- Fill tube with solution so that a meniscus forms
- Gently place cover slip on top of tube
- Allow to sit for 10-20 min
- Remove cover slip and place on microscope slide



# Identification

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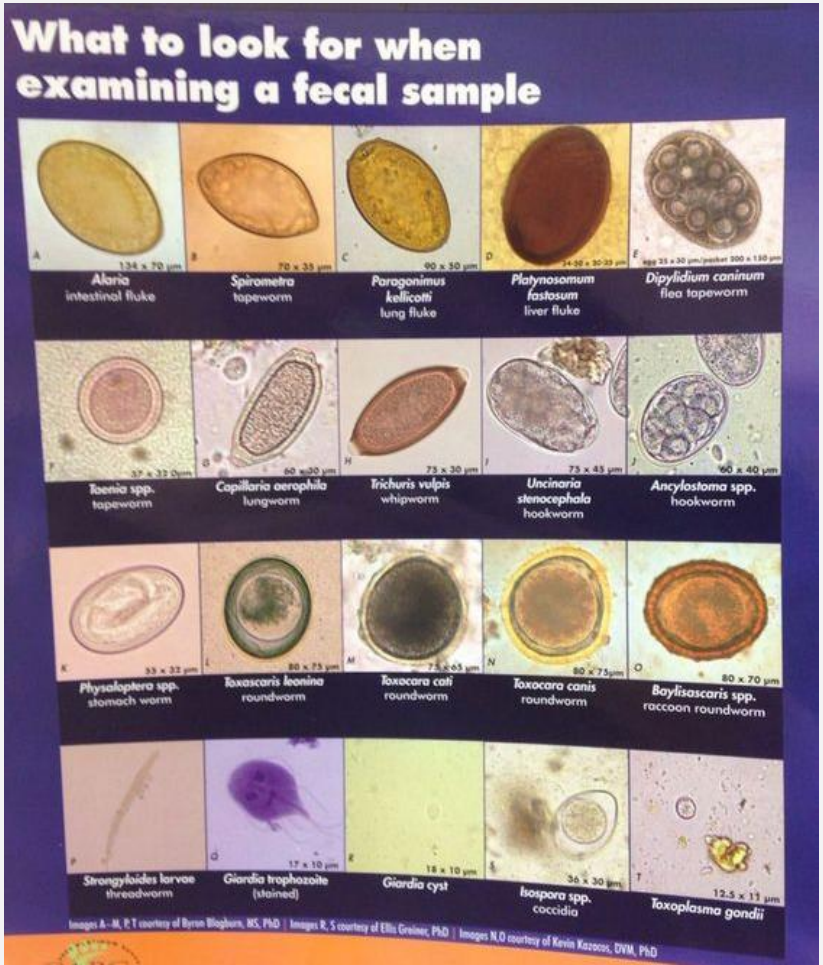


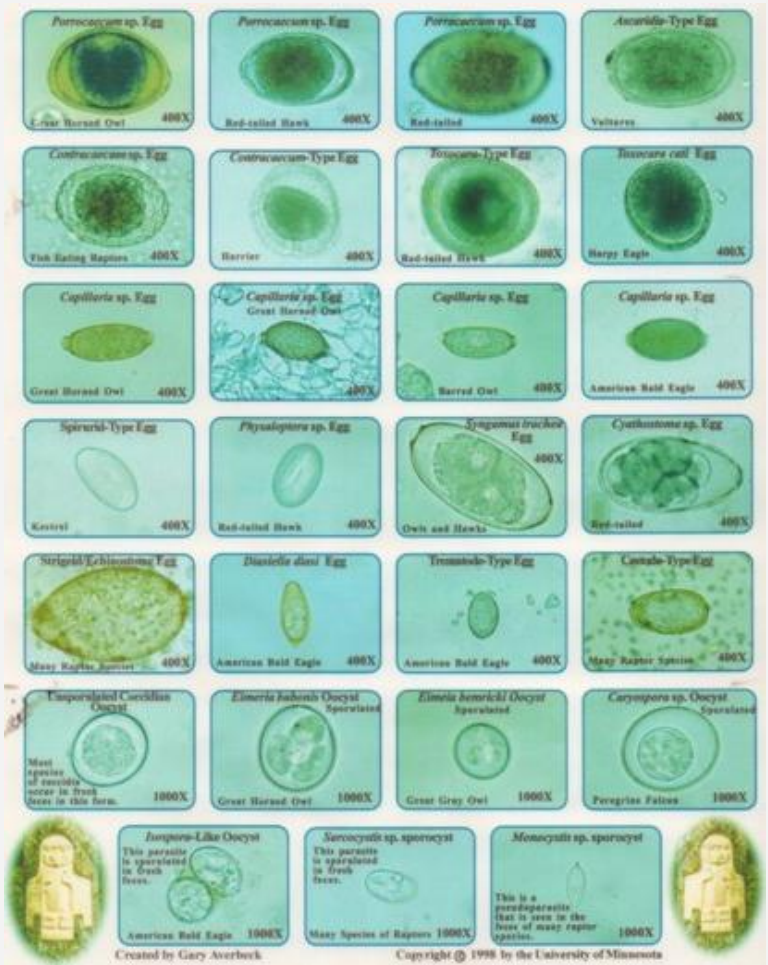

# Common internal parasites

- **Trematodes (flukes)**
- **Protozoa**
- Coccidia (Isospora or Eimeria)
- Trichomonas
- Giardia
- Cryptosporidium
- Toxoplasma

- **Nematodes**
- Roundworms (Ascaridia, Toxocara, Baylisascaris)
- Hookworms
- Whipworms
- Threadworms (Capillaria)
- Gapeworms
- Thorney headed worms
- **Cestodes (tapeworms)**

# Trematodes (flukes)

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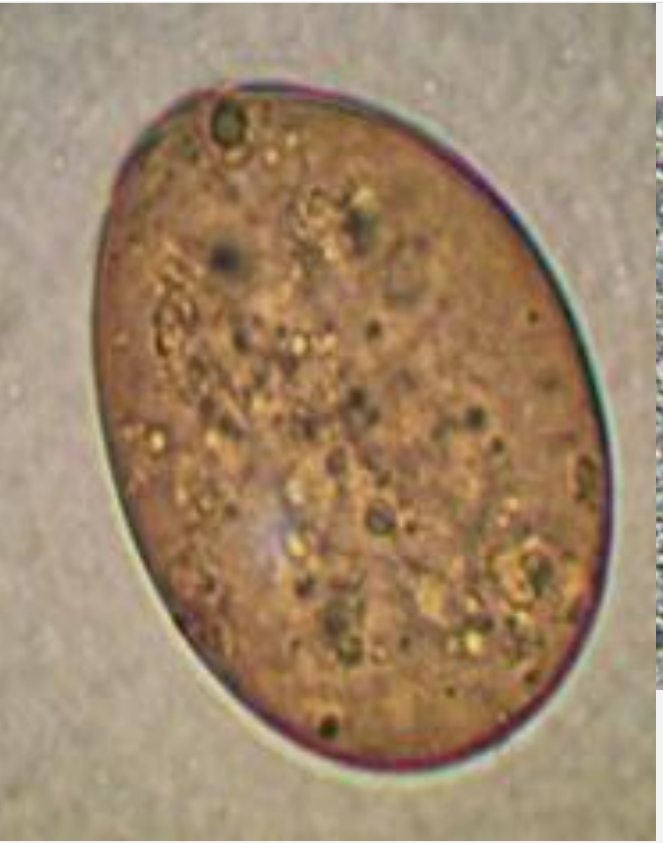
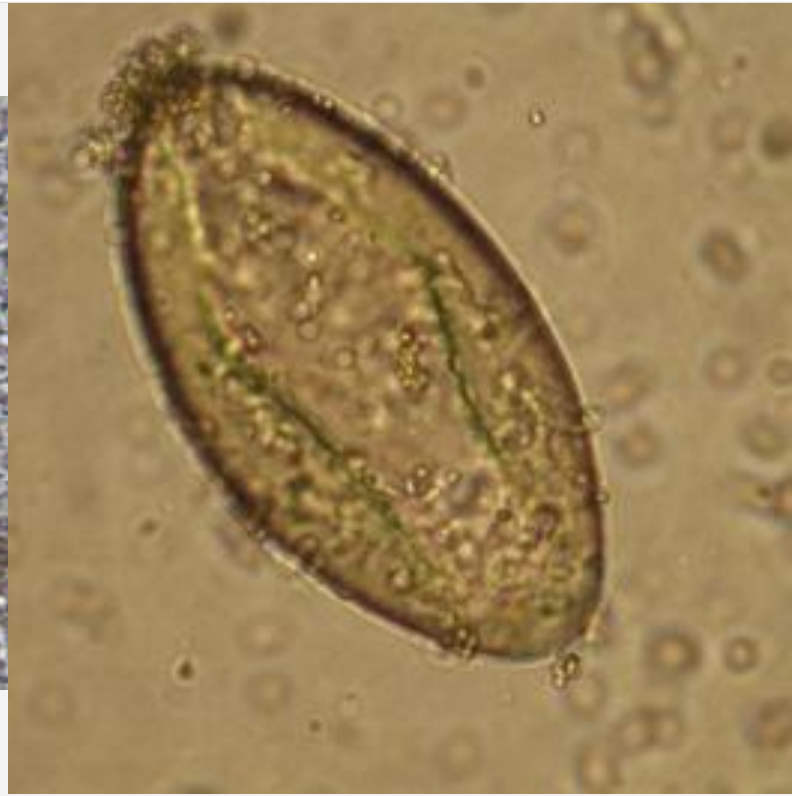
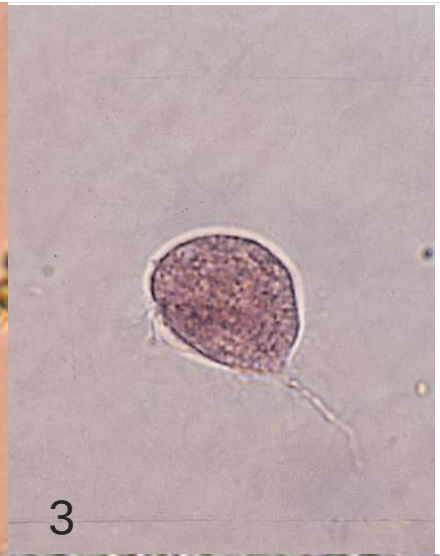




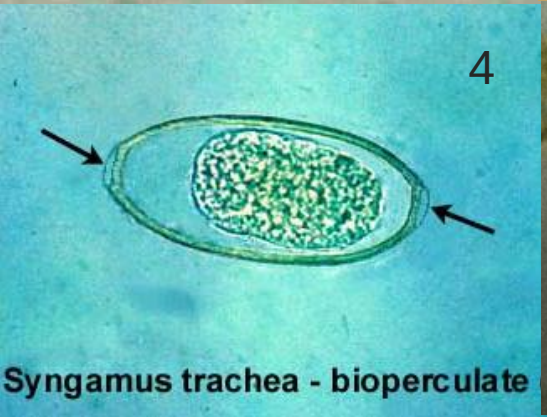






# Protozoa

- One celled organism
- Smaller than other parasites and can be easily overlooked
- Slightly fluoresce when focusing
- **1. Coccidia-** most common
- **2. Eimeria-** similar looking but more oval
- **3. Trichomonas-** motile and seen on wet mount, has flagella







# Nematodes

- **1. Roundworm:** round cell with rough pitted shell and dense grainy interior
- **2. S. nematode:** oval cell with smooth shell and larva like loop interior
- **3. Hookworm:** oval cell with smooth shell and litter grainy interior
- **4. Gapeworm:** looks like hookworm but has 2 operculum



# Nematodes- continued

- **1. Whipworms:** football shaped with 2 polar plugs.
- **2. Capillaria:** similar to whipworms but smaller and polar plugs may not be directly opposite one another

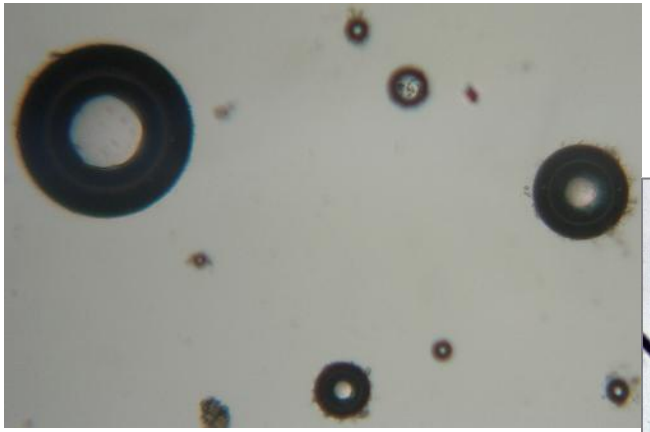
- **Cappillaria and Whipworms** maybe seen in some species and not others.

# Cestodes (tapeworms)

- Ribbon-like flatworms divided into long chain of segments (proglottids)
- Proglottids can be seen with naked eye and have muscles that allow them to move
- Eggs identified by “hooks”

# Other things you might see

- Air bubbles
- Mite eggs
- Live insects or parts of
- Pollen
- Fibers



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