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Section: Parasitology Manual	Subject Title: Laboratory Procedures for Stool Examination	
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Kato Thick Smear For Egg Count

PRINCIPLE

Most organisms release eggs sporadically and therefore there is no correlation between burden and the number of organisms seen in a stool sample. Schistosome eggs can be released at a steady rate therefore it is desirable to get an accurate measure of the number of eggs in a given amount of sample so that worm burden can be inferred. The Kato thick smear method accomplishes this by depositing a reproducible amount of material on the slide.

SPECIMEN

Any fresh stool sample that has not been refrigerated

SAFETY

Treat fresh stool sample as a biohazard.

REAGENT

Cellophane solution
100mls glycerin
100ml distilled water
3% aqueous malachite green

PROCEDURE

This is considered to be a non-routine procedure therefore it should only be performed by experienced personnel.

- 1) Take approximately 5 g of faeces and sieve it through fine wire mesh.
- 2) Scrape the stool off the underside of the mesh using a tongue depressor.

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- 3) Place a metal plate with a hole at one end over a microscope slide. Fill the hole with the finely sieved faecal material. This calibrated hole holds 0.05g of stool. Remove the metal plate.
- 4) Place a special cellophane strip (cut as a 22x40 mm coverslip) over the feces spread out the sample using an applicator stick. Keep for one hour at room temperature to allow the eggs to clear. The cellophane “coverslips” should be soaked for 24 hours before using.
- 5) Examine this slide for the presence of eggs.

CALCULATION

- Count the number of each type of egg present and multiple by 20 to determine the number of eggs per gram of stool.

QUALITY CONTROL

- Egg counts are subject to errors therefore multiple egg counts on the same specimen should be performed
- Ensure that the microscope has been calibrated in the last year and that the results of the calibration are displayed on the microscope base.
- As it is not possible to have a positive control specimen to use with this procedure, the technologist should review the appearance and size of the organisms present to ensure that they match reference material (i.e. *Bench Aids for the Diagnosis of Intestinal Parasites* (WHO)).

REPORT

- If no eggs found report “No ova found per gram of stool”
- If eggs are found report for example “20 schistosoma ova found per gram of stool”.

LIMITATIONS OF PROCEDURE

- Adult schistosomes settle in the host’s blood system and therefore it can take weeks to months for the eggs to be passed. A negative result may indicate that adults are present but that eggs are not being passed.

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REFERENCES

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WHO Technical Report Series, No. 728 The Control of Schistosomiasis. World Health Organization, Geneva 1985