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Section: Parasitology Manual	Subject Title: Collection and Laboratory Procedures for Specimens Other Than Stool or Blood	
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Muscle Biopsy

PRINCIPLE

The presumptive diagnosis of trichinosis is based on patient history since the original source of the infection is no longer available. Confirmation of trichinosis is provided by finding encapsulated larval *Trichinella spiralis* in a muscle biopsy specimen. The other source of requests for muscle biopsies comes from the suspicion of cestode larval stages (*Echinococcus granulosus*, *Tenia solium*, *Multiceps*, *Spirometra*, or *Diphyllobothrium*).

SPECIMEN

A muscle biopsy sample.

REAGENTS

Pepsin solution (5g pepsin (Sigma), 7mls HCl, make to 1L).

PROCEDURE

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

1. If trichinosis is suspected, the specimen can be examined by squeezing it between two glass plates before proceeding to the next step.
2. Mince tissue and place in 20 volumes of pepsin solution Incubate at 37°C for 12 to 24 hours in a shaker or with a magnetic stirrer.
3. Add 2 volumes of 37°C water (40 volumes of the original sample size).
4. Pour the mixture into a Baermann funnel and add tap water up to the screen.
5. Allow the mixture to settle for 2 hours and then remove the sediment at the bottom of the funnel.
6. Examine under 10X, if no larvae are seen then centrifuge 50mls and examine the sediment.

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QUALITY CONTROL

- Use only fresh Pepsin solution.
- Ensure that the microscope has been calibrated in the last year or any time the optics have been altered and that the results of the calibration are displayed on the microscope base.
- These organisms are not routinely detected therefore use reference material (Orheil and Asch—Tissue Parasites) to confirm the morphology.

REPORT

Any larva observed.

LIMITATIONS OF PROCEDURE

- The diagnosis is based on limited muscle tissue submitted for analysis.

AUTHOR

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REFERENCES

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Gillespie, S.H. and Hawkey, P.M. Medical Parasitology: A Practical Approach. IRL Press New York 1994 pp187-190