Mycobacteriology
Mycobacterium, *M. tuberculosis*, TB
(615) 262-6366

Introduction

The Tennessee Department of Health (TDH) Mycobacteriology Laboratory provides isolation and identification testing of all *Mycobacterium* species (including *M. tuberculosis* complex and non-tuberculosis Mycobacteria). Public and private health care providers may submit sputum and other clinical specimens and reference specimens.

Sputum and specimens from other sources are concentrated and stained with fluorochrome acid fast stain and are cultured for isolation and identification. Solid and liquid media are used for isolation. Species identification is accomplished by routine biochemical characterization, pigment characterization, growth studies, nucleic acid probe tests, high-pressure liquid chromatography (HPLC) or any combination of these methods.

Drug susceptibility tests are routinely performed on first time isolates of *M. tuberculosis complex*. Streptomycin, Isoniazid (INH), Rifampin, Ethambutol, and Pyrazinamide (PZA) are the antibiotics to which susceptibility is determined. Specimens for sensitivity testing on pathogenic Mycobacterium other than *M. tuberculosis* (MOTT) are referred to another laboratory upon special request.

The Tennessee Medical Laboratory Act requires laboratory directors to send isolates of any *Mycobacterium species* to the TDH Laboratory for surveillance purposes.

Specimen Collection

Clinical Specimens

Collect clinical specimens in a plastic 50 ml conical sputum tube.

Sputum: Collect a series of 3 to 5 single, early morning samples. A volume of 5 to 10 ml is adequate for each sample.

Induced (or nebulized) sputum: These specimens are usually very watery and should be labeled as "induced" so that they will not be mistaken for saliva. Saliva is an unsatisfactory specimen.

Bronchial washings: Collect up to 40 ml.

Gastric lavage specimens: Collect early in the morning or 8 hours after eating or drug therapy. Buffer immediately with 100 mg of sodium carbonate (Na_2CO_3) or other alkaline buffer. Deliver to the laboratory as soon as possible.

Tissue: Aseptically collect and transport to the laboratory at once without preservative.

Urine: A series of single, mid-stream specimens, voided in the early morning, should be submitted (rather than a 24-hour pooled specimen) without preservative and on ice packs.

Feces: Only fecal specimens from confirmed or suspected AIDS or other immunocompromised patients will be accepted. Collect a minimum of 1 gram of feces.

Blood: Collect 10 ml of blood in a sterile tube containing heparin, sodium polyanethole sodium (SPS), or citrate.

Other specimens: Collect aseptically following the proper procedure for the type of specimen. Other specimens may include pleural fluid, pus, joint fluid, laryngeal or wound swab, and spinal fluid. DO NOT use any transport medium. Phone the TDH Mycobacteriology Laboratory before submitting if any questions arise.

Reference Specimens

Only pure cultures will be accepted. You can submit either the isolate on the original (primary) medium or a subculture on an appropriate medium after growth is visible. Laboratories electing to submit original cultures should make sure visible growth is evident before mailing and should hold a subculture in their laboratory. Subcultures are to have visible growth upon submission.

Specimen Identification

1. Complete **all** the provider and patient information areas on the "Tuberculosis Only" Form PH-1577. Include pertinent clinical information with each specimen.

2. Using indelible ink, label each specimen with the date of collection and the patient's first and last name. Attach the control number on the tear strip to the specimen, and secure it with transparent tape. Unlabeled specimens or specimens where the patient identifier on the specimen does not exactly match the identifier on the form will not be tested.

Specimen Shipment

1. Pack the specimen in a double-walled shipping container or equivalent. Pack it with absorbent material to prevent breakage and to absorb the fluid if breakage or leakage should occur. Place the form in the outer container, not around the specimen or culture. Place the cap on securely. Follow the shipping guidelines currently in use by your preferred carrier.

2. Affix the MYCO mailing label, return address, and infectious substance (etiologic agent) or diagnostic specimen label to container. (Postage is not required when the MYCO label is used.)

3. Ship the specimen to the Tennessee Department of Health Laboratory in Nashville as soon after collection as possible.

Reporting and Interpretation of Results

Clinical specimens are tested for the presence or absence of *Mycobacterium* species by smear and culture methods. Initial specimens that are smear positive are tested by the *Mycobacterium tuberculosis* direct test (MTD) and reported. Negative cultures are incubated for 6 weeks before the specimen is reported as negative. Isolates from clinical specimens and reference cultures are identified to the genus and species level.

Smears: The provider is notified by telephone of a positive smear on a new patient on the day of receipt of the specimen. The turn around time of a positive smear on a patient who has a previous positive smear or on a negative smear is 1 working day after receipt. A hard copy is mailed to the provider.

Mycobacteriology (Continued)

Smear Reporting	
Smear Negative	AFB Not Found
Smear Positive	Less than 1 per high power field **or** 1-10 per high power field **or** 10+ per high power field (depending on the quantitation)

Mtd Testing

This test is performed on initial (new positive) smear positive specimens. Smear negatives are not routinely tested. However, a test can be ordered by contacting the Special Bacteriology Section at 615-262-6369. Positive results are phoned to the provider. Hard copies of both positive and negative results are forwarded to the provider by mail.

Article I. MTD Reporting	
MTD Positive	*M.tbc* rRNA detected. Preliminary result, final AFB culture pending. This test should not be the sole basis for diagnosing tuberculosis. Special precautions apply to testing of smear-negative specimens.
MTD Indeterminate	M.tbc rRNA indeterminate. Preliminary result, final AFB culture pending. Specimen may not contain *M. tuberculosis complex*.
MTD Negative	M.tbc rRNA not detected. Preliminary result, final AFB culture pending. Specimen may not contain *M. tuberculosis complex*.

<u>Cultures</u>

If growth occurs at any time during the 6-week incubation period, identification procedures begin. Turn around time is 1 to 2 weeks after growth for identification by probe or HPLC analysis and 3 to 4 weeks after growth for identification by biochemical methods. Another 2 weeks is required for drug susceptibility tests to be completed.

Culture Reporting	
Negative	No *Mycobacterium* found.
Positive for *M. tuberculosis complex*	*M. tuberculosis complex* by _____. The blank will be filled with the identification method, i.e. DNA Probe, HPLC, or biochemical..
Positive for other *Mycobacterium species*	*Mycobacterium* _____ (species) The identification method is also stated.

Susceptibility Testing

Drug susceptibility testing is performed only on *M. tuberculosis-complex* (M.tbc) isolates. Results are available within 2 weeks after the organism has been isolated and identified. Each new isolate automatically receives susceptibility testing. Susceptibility testing is also performed if M.tbc is still being cultured from the patient after 3 months. If resistance is shown to any of the drugs listed below, the organism is sent to the Centers for Disease Control and Prevention (CDC) for confirmation and additional drugs testing.

Susceptibility Reporting		
Drug (mcg/ml)	Result	*S = Susceptible or R = Resistant
Streptomycin (1.0)	*	
INH (0.1)	*	
Rifampin (1.0)	*	
Ethambutol (5.0)	*	
Pyrazinamide (100)	*	

Drug Susceptibility testing for organisms other than M.tbc must be requested (615-262-6369) and in many cases payment for testing must be arranged.

Mycobacteriology (Continued)

Test Reports

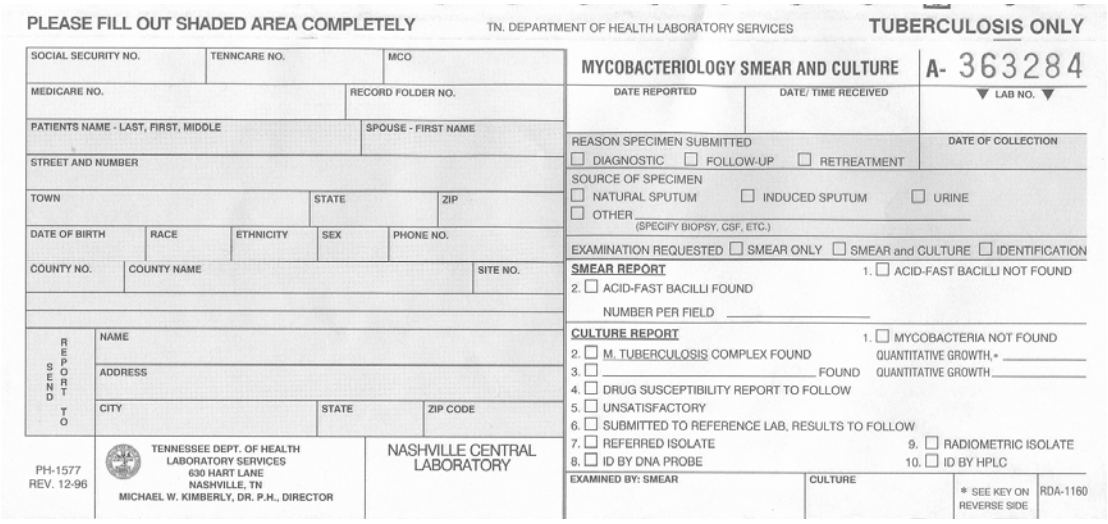
The results of all specimens are reported to the health care provider who submitted the specimen. In addition, positive results are reported to the regional office and to the health department in the county where the patient lives.

Examples of Unacceptable Specimens

1. The specimen was not properly identified with the patient's name and the tear strip control number.
2. The patient identifier on the specimen does not exactly match the identifier on the form.
3. The specimen was broken or leaked in transit.
4. The specimen was submitted in a non-regulation container.
5. The specimen was submitted in 5% formalin, Cary-Blair or other preservative.
6. There was no specimen in the bottle.
7. The patient information was not complete.
8. The specimen was received more than 10 days after collection.

"Tuberculosis Only" Form PH-1577

FRONT



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TN. DEPARTMENT OF HEALTH LABORATORY SERVICES

TUBERCULOSIS ONLY

SOCIAL SECURITY NO. | TENNCARE NO. | MCO

MEDICARE NO. | RECORD FOLDER NO.

PATIENTS NAME - LAST, FIRST, MIDDLE | SPOUSE - FIRST NAME

STREET AND NUMBER

TOWN | STATE | ZIP

DATE OF BIRTH | RACE | ETHNICITY | SEX | PHONE NO.

COUNTY NO. | COUNTY NAME | SITE NO.

SEND REPORT TO: NAME | ADDRESS | CITY | STATE | ZIP CODE

PH-1577
REV. 12-96

TENNESSEE DEPT. OF HEALTH
LABORATORY SERVICES
630 HART LANE
NASHVILLE, TN
MICHAEL W. KIMBERLY, DR. P.H., DIRECTOR

NASHVILLE CENTRAL LABORATORY

MYCOBACTERIOLOGY SMEAR AND CULTURE | A- 363284

DATE REPORTED | DATE/ TIME RECEIVED | LAB NO.

REASON SPECIMEN SUBMITTED: ☐ DIAGNOSTIC ☐ FOLLOW-UP ☐ RETREATMENT | DATE OF COLLECTION

SOURCE OF SPECIMEN: ☐ NATURAL SPUTUM ☐ INDUCED SPUTUM ☐ URINE ☐ OTHER (SPECIFY BIOPSY, CSF, ETC.)

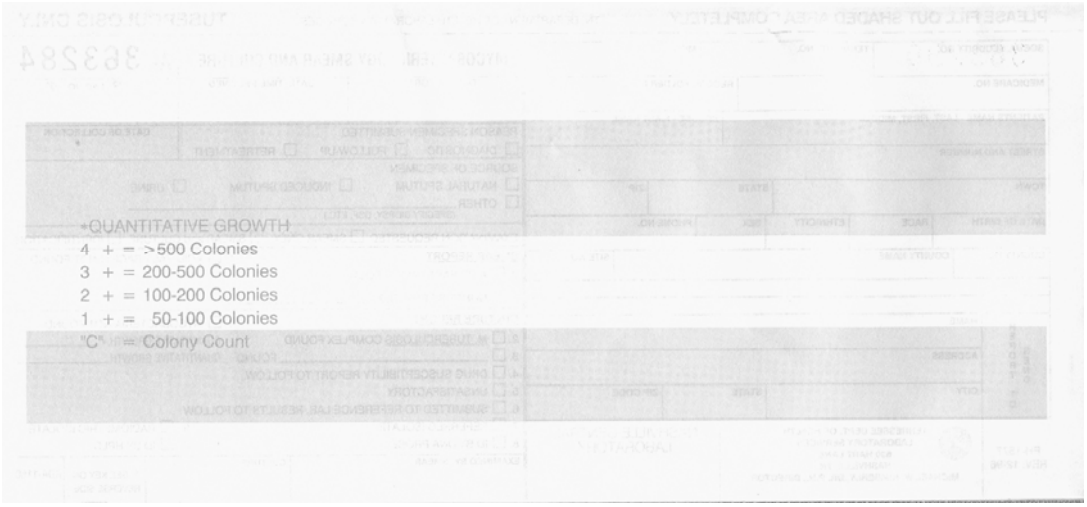
EXAMINATION REQUESTED: ☐ SMEAR ONLY ☐ SMEAR and CULTURE ☐ IDENTIFICATION

SMEAR REPORT
1. ☐ ACID-FAST BACILLI NOT FOUND
2. ☐ ACID-FAST BACILLI FOUND
NUMBER PER FIELD

CULTURE REPORT
1. ☐ MYCOBACTERIA NOT FOUND
2. ☐ M. TUBERCULOSIS COMPLEX FOUND QUANTITATIVE GROWTH,*
3. ☐ FOUND QUANTITATIVE GROWTH
4. ☐ DRUG SUSCEPTIBILITY REPORT TO FOLLOW
5. ☐ UNSATISFACTORY
6. ☐ SUBMITTED TO REFERENCE LAB, RESULTS TO FOLLOW
7. ☐ REFERRED ISOLATE
8. ☐ ID BY DNA PROBE
9. ☐ RADIOMETRIC ISOLATE
10. ☐ ID BY HPLC

EXAMINED BY: SMEAR | CULTURE | * SEE KEY ON REVERSE SIDE | RDA-1160

Back



*QUANTITATIVE GROWTH
4 + = >500 Colonies
3 + = 200-500 Colonies
2 + = 100-200 Colonies
1 + = 50-100 Colonies
"C" = Colony Count

Mycology

(615) 262-6369

Introduction

Until relatively recent times mycology cultures were performed only in a few cases. It was sufficient to determine that a person had a pathogenic fungus and to identify that pathogen. Most other mycology cultures were reported as "No pathogenic fungi isolated." Other fungi, even if identified, were designated as saprophytes.

Today many patients are immunocompromised or immunosuppressed. Patients with diabetes who have become ketonic, cancer patients who are receiving chemotherapy, transplant recipients who must take immunosuppressive drugs, and persons who have developed AIDS are likely at some time to develop a fungal disease.

With any of these patients, mycoses can develop rapidly. Along with diseases caused by the common pathogens, it has become increasingly evident that many organisms formerly considered to be saprophytes are causing serious and in some cases life-threatening disease processes in these immunocompromised individuals.

Specimens to be tested for agents of superficial or cutaneous mycoses are accepted from public and private health care providers. Other clinical material is not routinely accepted (contact the Mycology Section if testing of other sources is desired). Reference cultures of medically important isolates are also accepted for the identification of yeast and cutaneous, subcutaneous, and systemic fungi.

Yeasts are identified on characteristic microscopic morphology on selected media and by their assimilation of carbohydrates in the API 20 C kit. Fungi are identified by their growth rate, the size and color of the hyphae, and by the arrangement and origin of the conidia they produce. Biochemical tests are used if appropriate.

The Mycology Section identifies aerobic actinomycetes and fungus-like bacteria. They are identified primarily by biochemical tests and HPLC analysis.

Histoplasma capsulatum and *Blastomyces dermatitidis* are identified by the Gen-Probe, a nucleic acid hybridization test.

Serology tests may be useful for the identification of fungal diseases. For information, refer to INFECTIOUS DISEASE SEROLOGY, Section V.

Antimicrobial testing of fungi is not performed in this laboratory.

Specimen Collection

- **Clinical specimens** – The following specimens can be submitted for isolation of dermatophyte fungi:
  - **Hair**: Clip hair from infected area. Pluck hairs in ringworm infections. Place the hair in a sterile screw-capped container.
  - **Nail**: Swab the nail with gauze soaked in 70% alcohol. Allow the nail to dry and scrape the infected nail with a sterile scalpel. Place the scrapings in a sterile screw-capped container.
  - **Skin**: Swab the infected skin with gauze soaked in 70% alcohol. Allow the skin to dry and scrape the lesion with a sterile scalpel. In ringworm

infections of smooth skin, collect the specimen from the active border of the lesion. Place in a sterile screw-capped container.

- **Reference cultures** - Only pure cultures are accepted. An isolate can be submitted on the original culture media or a subculture with visible growth is also acceptable. Fungal and yeast cultures may be shipped in screw-capped tubes of Sabouraud's agar or other appropriate media. Seal tightly with parafilm or waterproof tape. Plates are acceptable only if they are sealed, placed in a plastic bag and hand-delivered to the laboratory (never mail plates).

Specimen Identification

1. Complete **all** the provider and patient information areas of "Miscellaneous Exam" Form PH-1573. Include pertinent clinical information with each specimen and testing requested.

2. Using indelible ink, label each specimen with the date of collection and the patient's first and last name. Attach the control number on the tear strip to the specimen, and secure it with transparent tape. Unlabeled specimens or specimens where the patient identifier on the specimen does not exactly match the identifier on the form will not be tested.

Specimen Shipment

1. Pack the specimen in a double-walled shipping container or equivalent. Pack it with absorbent material to prevent breakage and absorb the fluid if breakage or leakage should occur. Place the form in the outer container. Follow the shipping guidelines currently in use by your carrier or preferred method of shipment.

2. Affix the mailing label (PH-0838), return address, and infectious substance (etiologic agent) or diagnostic specimen label to the outer container.

3. Ship the specimen to the Tennessee Department of Health Laboratory in Nashville.

4. Use first-class postage on US mail.

5. Telephone the Mycology Section before mailing clinical material or cultures of possible *Coccidioides immitis*.

Reporting and Interpretation of Results

Clinical specimens are reported within 4 to 6 weeks.
Molds are reported within 4 weeks of receipt.
Yeasts are reported within 1 week of receipt.
Aerobic actinomycetes and fungus-like bacteria are reported within 6 weeks.
Histoplasma capsulatum and *Blastomyces dermatitidis* are reported within 2 weeks.
Organisms are reported using the genus and species designations consistent with descriptions in the American Society for Microbiology's *Manual of Clinical Microbiology* and Davise Larone's

Mycology (Continued)

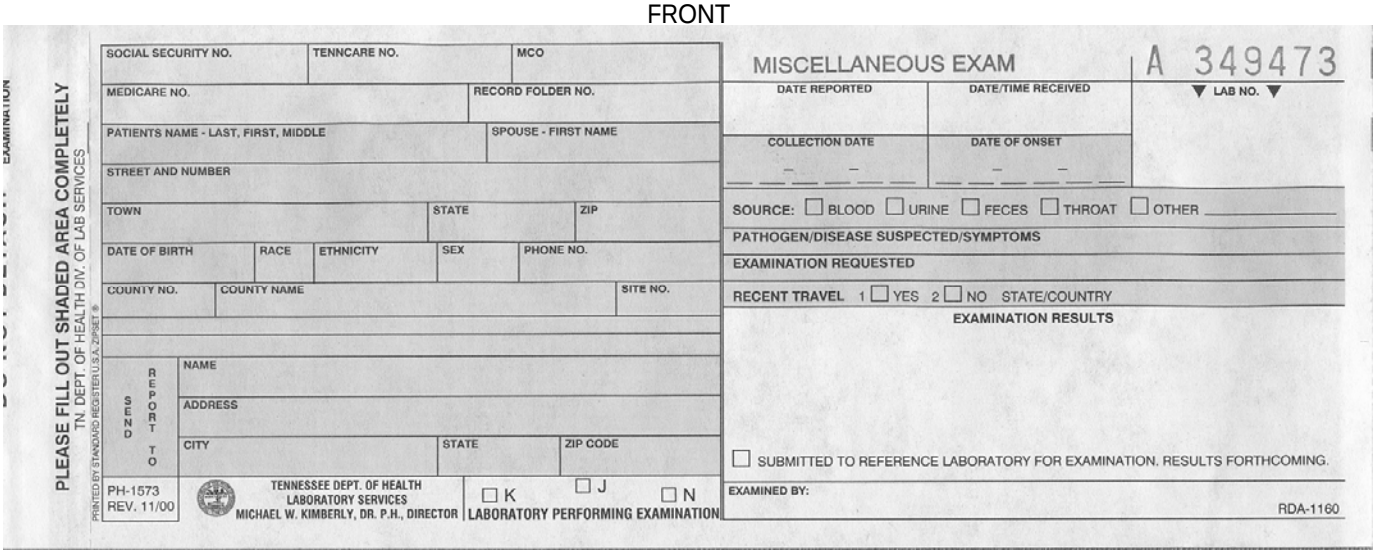
Medically Important Fungi: A Guide to Identification. If the organism is identified by Gen-Probe, this will be indicated on the report. For molds, if no conidia are formed after 4 weeks and sporulation cannot be induced, the culture is reported as "non-sporulating fungus, unable to identify."

Examples of Unacceptable Specimens

1. The specimen was not properly identified with the patient's name and the tear strip control number.
2. The patient identifier on the specimen does not exactly match the identifier on the form.
3. The specimen was broken in transit.
4. The specimen was submitted in formalin, Cary-Blair or other preservative.
5. Clinical specimen was received greater than 3 days after collection.
6. Reference specimen was non-viable.
7. Mixed reference specimen was submitted or received.

Article II. "Miscellaneous Exam" Form PH-1573

FRONT



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SOCIAL SECURITY NO. | TENNCARE NO. | MCO
MEDICARE NO. | RECORD FOLDER NO.
PATIENTS NAME - LAST, FIRST, MIDDLE | SPOUSE - FIRST NAME
STREET AND NUMBER
TOWN | STATE | ZIP
DATE OF BIRTH | RACE | ETHNICITY | SEX | PHONE NO.
COUNTY NO. | COUNTY NAME | SITE NO.
SEND REPORT TO: NAME | ADDRESS | CITY | STATE | ZIP CODE

PH-1573
REV. 11/00

TENNESSEE DEPT. OF HEALTH
LABORATORY SERVICES
MICHAEL W. KIMBERLY, DR. P.H., DIRECTOR

☐ K ☐ J ☐ N
LABORATORY PERFORMING EXAMINATION

MISCELLANEOUS EXAM | A 349473
DATE REPORTED | DATE/TIME RECEIVED | ▼ LAB NO. ▼
COLLECTION DATE | DATE OF ONSET
SOURCE: ☐ BLOOD ☐ URINE ☐ FECES ☐ THROAT ☐ OTHER
PATHOGEN/DISEASE SUSPECTED/SYMPTOMS
EXAMINATION REQUESTED
RECENT TRAVEL 1 ☐ YES 2 ☐ NO STATE/COUNTRY
EXAMINATION RESULTS
☐ SUBMITTED TO REFERENCE LABORATORY FOR EXAMINATION. RESULTS FORTHCOMING.
EXAMINED BY:
RDA-1160

BACK

TIGHTEN CAPS SECURELY
SUBMIT IN DOUBLE MAILING CONTAINER

STOOL CULTURES FOR SALMONELLA, SHIGELLA , CAMPYLOBACTER, AND E. COLI 0157
Place two (2) cotton tipped swabs dipped into feces or other specimens and insert into Amies, Stuarts, or Cary-Blair transport medium. Submit the transport medium refrigerated within two (2) days of collection.

INTESTINAL PARASITES: Place amount of feces equal to volume of formalin in container designed for intestinal parasites (5% Formalin)

CULTURE FOR IDENTIFICATION - Submit pure cultures on non-selective media such as trypticase soy agar slants or enriched slants (Blood or Chocolate) when required.

ANAEROBIC ORGANISMS - Submit in semi-solid media such as thioglycollate, overlayed with sterile vaspar to prevent exposing culture to oxygen.

TESTING LABORATORY LOCATION CODES
J = JACKSON BRANCH LAB, 295 SUMMAR DRIVE, P.O.BOX 849, JACKSON, TN 38302-0849 - DR MICHAEL W. KIMBERLY, DIRECTOR
K = KNOXVILLE BRANCH LAB, 1522 CHEROKEE TRAIL, P.O.BOX 59019, 37950-9019, KNOXVILLE, TN- DR MICHAEL W. KIMBERLY, DIRECTOR
N = NASHVILLE REFERENCE LAB, 630 HART LANE, NASHVILLE, TN 37247-0801 - DR MICHAEL W. KIMBERLY, DIRECTOR

Parasitology

(615) 262-6367

Introduction

Accurate clinical diagnosis of blood and intestinal parasitic diseases is difficult and requires laboratory confirmation. Demonstration of the diagnostic stages of invading parasites by direct microscopic examination of specimens is the most reliable method of establishing a diagnosis of most parasitic infections.

Diagnostic specimens for examination of the presence of human parasites and reference specimens are accepted from public and private health care providers. Routine screening of asymptomatic individuals is not recommended.

The Tennessee Medical Laboratory Act requires laboratory directors to submit specimens of suspected or confirmed *Plasmodium species* (malaria) to the Tennessee Department of Health Laboratory for confirmation and surveillance.

Sources Examined

Fecal material is examined for amoebic cysts, intestinal flagellates, and the ova of round worms, tapeworms, hookworms, and flukes. Stained and unstained slides are prepared and examined after a concentration procedure has been performed.

Fecal specimens for the identification of *Cryptosporidium* are tested by the direct immunofluorescent test and by microscopic examination.

Gross specimens (whole worms or proglottids) such as tapeworms and roundworms that cause disease in man are identified by microscopic examination.

Blood slides are examined for the presence of blood parasites. Submit Giemsa-stained thick and thin film slides and a vial of EDTA whole blood. Specimens positive for blood parasites are forwarded to CDC for speciation and confirmation.

Perianal slides are examined for *Enterobius vermicularis* (pinworm) infection.

Sputum and stool specimens are examined in suspected cases of paragonimiasis (*Paragonimus*).

Duodenal drainage is used for the diagnosis of *Strongyloides stercoralis* and *Giardia lamblia*.

Urine is examined for *Schistosoma haematobium*.

Indirect (serologic) methods are performed at the Centers for Disease Control and Prevention (CDC) for a few diseases in which the organism is not readily demonstrated. These include trichinosis, echinococcosis, extra-intestinal amebiasis, Chagas' disease, African trypanosomiasis, filariasis, and chronic schistosomiasis. Other methods are also utilized for identification of Leishmaniasis. Contact the Parasitology Section for information about this testing.

Specimen Collection

Fecal material

1. Patients infected with parasites pass the parasites intermittently. Multiple specimens should be submitted, collected from three separate bowel movements, preferably at three-day intervals.

2. Collect stool specimen in a clean, dry container. Do not mix with urine, water, dirt or paper.

3. Immediately place a nickel-sized amount of feces (approximately equal to the volume of formalin in an intestinal parasite container provided by TDH. Do not allow feces to contaminate the outside of the container.

4. Place the cap on securely. Mix the feces well with the formalin by shaking the bottle for 1 minute.

Cellulose tape for pinworms: Performed via the cellulose tape method. Refer to Figure III-1. Directions also provided in each kit.

Blood parasites:

1. Utilize proper technique in collection of whole blood into EDTA tube.

2. Make at least 1 thick and 1 thin smear and stain.

3. Fix and stain with Geimsa stain.

Gross Specimens (whole worms or proglottids): Preserve whole worms in 5 to 10% formalin. Proglottids may be preserved in formalin or placed in saline.

Sputum specimens

1. Collect in 50ml conical tube.

2. Add equal amount of formalin.

3. Tightly seal container and mix well.

Duodenal drainage

1. Collect according to facility's established procedure.

2. Place equal amounts of formalin and specimen in 50ml conical tube.

3. Tightly seal container and mix well.

Urine: Mid-day, sterile collection without preservative requested. 3 specimens suggested. Ship on ice packs.

Parasitology (Continued)

Specimen Identification

1. Complete **all** the provider and patient information areas on the "Miscellaneous Exam" Form PH-1573. Include pertinent clinical information with each specimen and testing requested.

2. Using indelible ink, label each specimen with the date of collection and the patient's first and last name. Attach the control number on the tear strip to the specimen, and secure it with transparent tape. Unlabeled specimens or specimens where the patient identifier on the specimen does not exactly match the identifier on the form **will not be examined**.

Shipment of Specimens

1. Pack the specimen in a double-walled shipping container or the equivalent. Pack with absorbent material to prevent breakage and absorb the fluid if breakage or leakage should occur. Place the form in the outer container.

2. Place slides in a slide mailing-container before packing them in the shipping container.

3. Affix the mailing label (PH-0838), return address, and infectious substance (etiologic agent) or diagnostic specimen label to the container.

4. Ship to the Tennessee Department of Health Laboratory in Nashville.

5. Use first-class postage on US mail.

6. Telephone the Parasitology Section when an outbreak is suspected.

Reporting and Interpretation of Results

Specimens are reported within 1 to 3 working days of receipt. If large numbers of specimens are submitted, reporting may be delayed. If the specimen is sent to the Centers for Disease Control and Prevention, final identification may take more than 1 to 3 days.

Most parasites found, both pathogenic and non-pathogenic species, will be reported by their scientific names. Hookworm eggs are reported as "hookworm eggs." The diagnostic stage seen, cyst or ova, will be included in the report. Genus and species designations are consistent with the American Society for Microbiology's *Manual of Clinical Microbiology* and the *Atlas of Human Parasitology*.

Fecal Specimen Reporting
Parasites found: All parasites found, pathogenic and non-pathogenic, are reported. The diagnostic stage seen, cyst or ova, is reported.
No parasites found: No ova or cysts found by the formalin concentration method.

Pinworm Specimen Reporting
Positive: Positive for *Enterobius vermicularis* eggs.
Negative: No pinworms found by the cellulose-tape technique.

Blood Parasite Specimens Reporting
Positive: The specimen is reported as "Blood Parasite Seen"
All positive are sent to CDC for speciation and confirmation. Preliminary results are phoned to the provider.
Negative: No blood parasites seen.

***Cryptosporidium* Reporting**
Positive: Positive for *Cryptosporidium oocysts* using the direct immunofluorescent test.
Negative: Negative for *Cryptosporidium oocysts* using the direct immunofluorescent test.

The results of all specimens are reported to the health care provider who submitted the specimen. In addition, positive results are reported to the health department in the county where the patient lives.

Parasitology (Continued)

Examples of Unacceptable Specimens

All specimens

1. The specimen was not properly identified with the patient's name and the tear strip control number.
2. The patient identifier on the specimen does not exactly match the identifier on the form.
3. The specimen or slide was broken in transit.
4. The specimen leaked in transit.

Fecal specimens including *Cryptosporidium*

1. The specimen was not submitted in 5 to 10% formalin.
2. The specimen was submitted in a non-regulation container or other non-regulation specimen kit.
3. The specimen contains interfering substances such as barium, bismuth, gall-bladder dye, urine, or water.

Pinworm cellulose tape

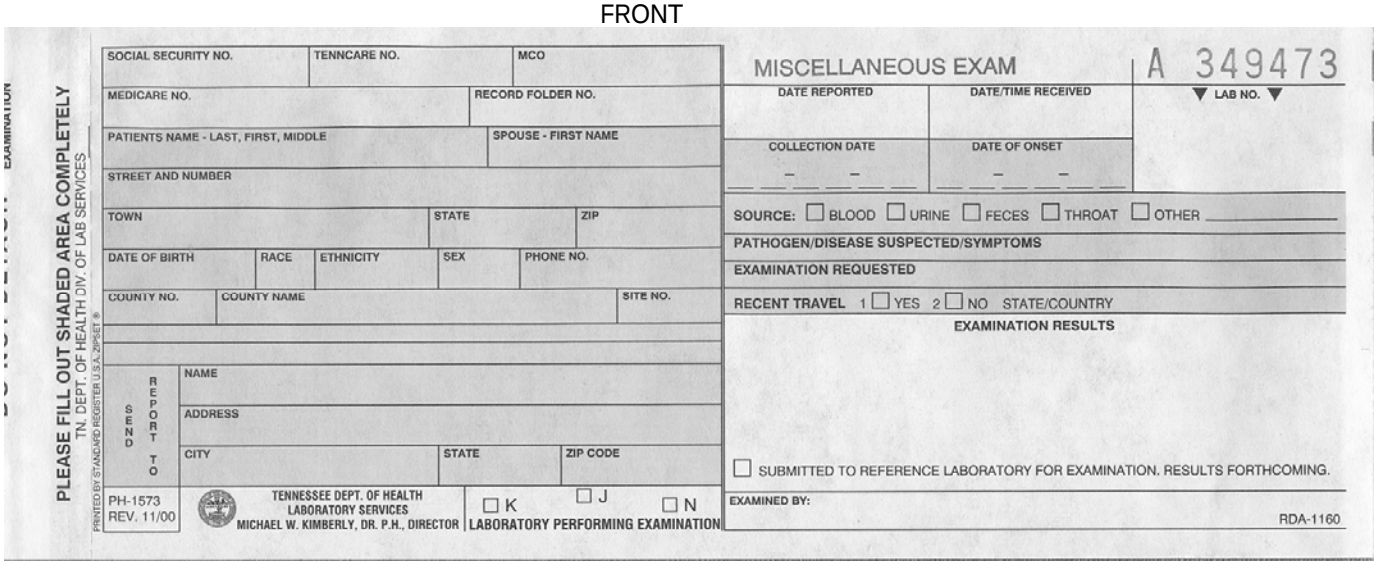
1. The cellulose tape was contaminated with fecal material or talcum powder.
2. The collection procedure was not followed.

Blood parasites

1. The blood smear was too thick (blood flaking off slide).
2. The blood smear was too thin and not feathered at the end.

"Miscellaneous Exam" Form PH-1573

FRONT



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STREET AND NUMBER
TOWN | STATE | ZIP
DATE OF BIRTH | RACE | ETHNICITY | SEX | PHONE NO.
COUNTY NO. | COUNTY NAME | SITE NO.

SEND REPORT TO
NAME
ADDRESS
CITY | STATE | ZIP CODE

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LABORATORY PERFORMING EXAMINATION

MISCELLANEOUS EXAM
A 349473
▼ LAB NO. ▼

DATE REPORTED | DATE/TIME RECEIVED
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EXAMINED BY:
RDA-1160

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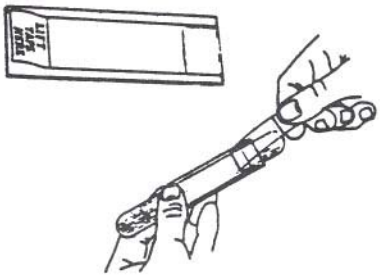
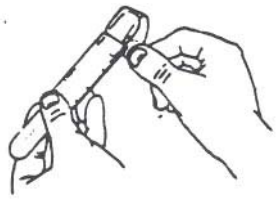
Parasitology (Continued)

Figure III - 1
Use of Cellulose Tape Slide Preparation for Diagnosis of Pin Worm Infections

1. Clear cellulose tape about 2 inches long and ¾ inch wide is used. (Do not use frosted or "magic" tape as it is not transparent and cannot be examined readily with the microscope.) Hold the slide against a tongue depressor one-inch from the end and lift the long portion of the tape from the slide.



2. p the tape over the end of the depressor to expose the sticky surface. Hold the tape and slide against the tongue depressor.



. Spread the patient's buttocks to expose the anus. (Preferably take the specimen a few hours after the person has retired or immediately after waking. Do not clean the anal area before taking the specimen.) Press the sticky side of tape gently to anus two or three times.

. Lay the tape smoothly on a clean glass slide, sticky side down. Press gently to the slide with a piece of tissue or gauze.