

Guidelines for the Collection and Testing for Ova and Parasites in Symptomatic Patients

1. Background

The following laboratory guidelines are intended to provide community physicians with information on routine ova and parasite testing on stool samples. Guidelines are, by their nature, general in focus and cannot apply in every clinical situation. Sound clinical judgement is an important part of good patient care and it is not intended to be replaced by laboratory practice guidelines. It is hoped that this guideline will assist the clinician in the appropriate utilization of diagnostic parasitology services.

Historically, it has been customary to request a series of three stool specimens in the investigation for intestinal parasites. This is no longer always necessary and one specimen only should be collected with a few exceptions (see 3. Limitations). With improved techniques, 90% of intestinal parasites will be recovered from one appropriately collected, properly preserved specimen, if it is examined for a sufficient length of time, by a competent technologist who is well trained and experienced in diagnostic parasitology. Additional samples will only yield 8% in the second and 2% in the third.¹ As in all diagnostic medicine fields, stringent attention to quality control

and continuous quality improvement standards are essential in parasitology.

2. Indications

Stool samples for ova and parasites are useful for the diagnosis of a parasitic infection in a targeted population including:

- ?? patients with signs and symptoms consistent with an enteric parasitic infection
- ?? returning symptomatic travellers with diarrhea or other intestinal and/or extra-intestinal complaints
- ?? symptomatic patients with high risk exposure (daycare, outbreaks, wilderness campers, certain sexual risk exposures)
- ?? persons who have resided in areas of the world where enteric parasites are endemic
- ?? symptomatic patients with compromised immunological systems due to medical conditions or therapeutic interventions

3. Limitations

Although the most common intestinal parasites can be identified by examination of

preserved stools, some infections may require the collection of other types of specimens such as peri-rectal/anal swabs (pinworm paddles), duodenal aspirates, or tissue biopsies.

Special laboratory techniques may be performed only if sufficient relevant clinical information is provided. Some specialized reference laboratories may also perform serology, parasite culture or molecular techniques for certain specific infections.

One negative sample does not exclude a parasitic infection and further samples should be requested, if the clinical situation warrants.

4. Recommendations

- ?? Testing for Ova and Parasites should only be ordered when clinically indicated.
- ?? The patient must be instructed on the proper collection of the specimen.
- ?? One specimen only, properly collected and preserved, should be submitted initially.
- ?? The clinical status of the patient should be reviewed by the physician with the results of the initial test before further tests are ordered.
- ?? Subsequent testing should be requested if clinically indicated and the results of the first test are negative or if positive results do not match the clinical situation.
- ?? The laboratory diagnostic procedures should meet the standards of excellence expected for good clinical care.
- ?? Laboratory reports should clearly indicate the pathogenic status of all

protozoan parasites identified based on current scientific knowledge.

Footnotes

¹Senay, H. & MacPherson, D. Parasitology: Diagnostic Yield of Stool Examination. Can Med Assoc J, 1989 June 1, 140:11, 1329-31.

5. References

Yang, J., Scholten, Th., 1977. A Fixative for Intestinal Parasites Permitting the Use of Concentration and Permanent Staining Procedures. American Journal of Clinical Pathology.

Wood, D.E., Palmer, J., et al., 1994. Proficiency Testing in Parasitology - An Educational Tool to Improve Laboratory Performance. American Journal of Clinical Pathology, Vol 102 No.4, P490 - 494.

Brennan, MK, MacPherson, D., Palmer, J., and Keystone, J. Cyclosporiasis: A New Cause of Diarrhea. Canadian Medical Association Journal. 1996; 155: 1293-1296.

Fleming, C., Palmer, J., et al. 1995. Access to Diagnostic Parasitology Services in Ontario. Canadian Association for Clinical Microbiology and Infectious Diseases.

Garcia, L.S. et al. 1993. Medical Parasitology: Update on Diagnostic Techniques and Laboratory Safety. Lab. Med. 24(2): 81-88.

Garcia, L.S. 1994. Diagnostic Medical Parasitology: An update. Clin. Microbiol. Newsl. 16(14): 105-110.

Members of the Guideline Panel

Kent Gerred, MD
Toronto, Ontario

Kevin Kain, MD, FRCPC
Director, Centre for Travel and Tropical
Medicine
The Toronto Hospital
Toronto, Ontario

Douglas MacPherson, MD, MSc(CTM),
FRCPC
St Joseph's Hospital
Hamilton, Ontario

Jo Palmer
Parasitology Consultant,
MDS Laboratories
Wasaga Beach, Ontario

Ted Scholten, Ph.D.
Parasitology Laboratory
Ministry of Health
Etobicoke, Ontario

Members of the Professional Advisory Group

Andrew Baines, MD, Ph.D., FRCP(C)
Vice-Dean, Education
Faculty of Medicine
University of Toronto

John M. Doucet, MD, LMCC, FRCP
Director of Laboratories
Chief of Pathology
York Central Hospital
Richmond Hill, Ontario

The OAML gratefully acknowledges contributions from the members of the Guideline Panel and others who have provided their expertise, advice and technical support to the development and review of these guidelines.

This document has been reviewed by, and comments have been received from, members of the OAML's Professional Advisory Group, and representatives of the Laboratory Proficiency Testing Program of the OMA and Laboratory Medicine, Gastroenterology and General & Family Practice sections of the OMA.

The Ontario Association of Medical Laboratories

The Ontario Association of Medical Laboratories (OAML) represents the community-based laboratory sector in Ontario.

Its mission is to promote excellence in the provision of laboratory services and, as an essential component of the health care system, to contribute to shaping the future of health care in Ontario.

The OAML encourages the highest level of professional and ethical integrity and technical excellence among laboratory owners, operators and staff in the provision of laboratory services for the benefit of the people of Ontario.

Guidelines for Clinical Laboratory Practice

The OAML, through its Quality Assurance and Clinical Laboratory Practice Committee, co-ordinates the development and dissemination, implementation and evaluation of Guidelines for Clinical Laboratory Practice.

A **proposed Guideline** is developed by a working group of the Committee with the participation of outside experts. The proposed guideline is then submitted to the Committee as a whole and to a Professional Advisory Group who provide an overall review of the document. The comments of the Committee and the Professional Advisory Group are incorporated into a revision of the guideline and this draft is submitted to laboratory Medical Directors, professional associations and other representatives of end users for additional comment. The document is revised in light of these comments and submitted to the OAML Board of Directors for approval.

Approved guidelines are distributed to Community-based Laboratories and by them to their client physicians.

There may be additional educational materials produced, if it is thought that they might be useful, and these are distributed with the guideline.

The comments of end users are essential to the development of guidelines and will encourage adherence. You are strongly encouraged to submit your comments on this or on any other OAML Guideline to:

Chair
Quality Assurance and Clinical Laboratory Practice Committee
Ontario Association of Medical Laboratories
5160 Yonge Street, Suite 710
North York, Ontario
M2N 6L9

Tel: (416) 250-8555
Fax: (416) 250-8464
E-mail: oaml@oaml.com
Internet: <http://www.oaml.com>