

Testing Multiple Stool Samples Increases the Detection of Intestinal Parasites in Internationally Adopted Children

Sheena Mukkada, Amy Cassedy PhD, Michol Holloway MPH, Mary Allen Staat MD MPH

Cincinnati Children's Hospital Medical Center, Division of Infectious Diseases and University of Cincinnati, Department of Pediatrics

Background: The American Academy of Pediatrics recommends screening internationally adopted children (IAC) for intestinal parasites within a few weeks of their arrival to the United States. The literature is unclear as to how many stool specimens should be obtained for optimal recovery of intestinal parasites. At the International Adoption Center at Cincinnati Children's Hospital Medical Center, families are asked to submit 3 stool specimens, collected 24-36 hours apart. Some institutions only test a single specimen in order to decrease costs. In some studies, this approach has yielded sufficiently high sensitivity, however the sensitivity of obtaining a single specimen for intestinal parasite screening in internationally adopted children has not been reported.

Objectives: To determine the overall prevalence of intestinal parasites in internationally adopted children and to determine whether testing multiple stool samples significantly improves detection of intestinal parasites.

Design/Methods: We performed a retrospective review of all ova and parasite tests from children seen at the International Adoption Center between November 1999 and May 2006. We analyzed the distribution of diagnoses according to age, birth country and institution status. For children who submitted more than one specimen, we compared diagnostic results between tests to determine differences in detection rates.

Results: Overall, 891 IAC from 33 countries were available for analysis. Overall 27% of children had a pathogenic intestinal parasite. *Giardia lamblia* was most frequently recovered (18%) followed by *Blastocystis hominis* (10%) and *Dientamoeba fragilis* (6%). In the analysis of children with three stool specimens submitted (n=672), in those with *Giardia lamblia*, only 58% would have been identified with a single stool specimen. A second and third stool sample identified 11% and 30%, respectively. Similar findings were seen with other pathogens.

Conclusions: Internationally adopted children are at high risk for intestinal parasites. Screening with three ova and parasite tests significantly increases the identification of the pathogens most commonly seen. Three ova and parasite tests should be recommended for all internationally adopted children for routine screening upon arrival to the United States.