

# Stool Cultures Rarely Useful in Managing Diarrhea

BY JANE SALODOF MACNEIL  
Southwest Bureau

ASPEN, COLO. — Stool cultures cost millions of dollars annually, but rarely turn up meaningful information for physicians managing diarrhea in the United States, according to Ann-Christine Nyquist, M.D.

Cultures should be ordered only when the results would affect treatment or if they suspect an infectious disease outbreak, she advised at an annual conference on pediatric infectious diseases sponsored by Children's Hospital, Denver.

"Is it going to make a difference in what you are going to do with that patient—whether you treat or not? You are probably going to treat symptomatically," said Dr. Nyquist, the hospital's medical director of infection.

She cited a review of 598 cultures done in pediatric hospital patients—only 18 (3%) were positive (Arch. Pediatr. Adolesc. Med. 1997;151:142-5). Extrapolating the \$26,084 cost of these negative tests against 1990 census data for hospitalized children, ages 14 and under, Dr. Nyquist estimated that more than \$45 million a year was being thrown away on negative stool tests for this population.

More useful information can be gotten from patient history, she said, urging physicians to be thorough in their questioning. "You really want to get to the nitty-gritty of what did the poop look like..." she said. "Eighty percent of the story can be gotten by looking at the history."

Specific questions about stool characteristics should focus on such features as "watery, bloody, mucous, purulent, greasy, etc.," she said. Be sure to ask about dysenteric symptoms (fever, tenesmus, blood and/or pus in the stool), symptoms of volume depletion, and associated symptoms, such as "nausea, vomiting, abdominal pain, cramps, headache, myalgia, altered sensorium."

Review of clinical and epidemiologic features should include whether the illness had an abrupt or gradual onset, duration of symptoms, frequency of bowel movements, and relative quantity of stool produced, according to Dr. Nyquist, also of the University of Colorado.

Focusing on epidemiological risk factors in children, she suggested questions about travel outside the United States; day care attendance; exposure to pets, petting zoos, or unsafe foods; swimming in or drinking fresh untreated surface water; knowing other ill individuals; medication use; and underlying medical conditions. Ask about contact with reptiles as well, she advised.

Recent travel abroad is one of four criteria in an evidence- and consensus-based guideline cited by Dr. Nyquist for ordering a stool culture. The others are "history of blood with or without mucus in stool, [being] systematically unwell, severe or prolonged diarrhea, [and] a history suggestive of food poisoning" (Arch. Dis. Child. 2001;85:132).

Tests should be ordered selectively, starting with the most likely pathogens, she said. About 80% of traveller's diarrhea is caused by a bacterial agent, according to Dr. Nyquist. It can occur in the U.S. without travel to a developing country.

The parasitic agents *Giardia lamblia* and *cryptosporidium* also are common causes for which new tests are available. Among the viral causes of diarrhea, she identified rotavirus as the leader with 3.5 million episodes occurring annually each year in the United States. Not detectable by routine viral cultures, it requires more expensive tests.

Dr. Nyquist urged caution with empiric use of antimicrobial agents, and warned that most experts advise against using an-

tibiotics in patients with bloody stool.

Antibiotics might induce disease-producing phage in some cases, she said; they may worsen the risk of postdiarrheal hemolytic uremic syndrome (HUS) in patients with shiga toxin *Escherichia coli* infections.

Treatment options discussed by Dr. Nyquist included rifaximin for simple traveller's diarrhea (but not in complex cases with bloody stool); tinidazole, a new agent for parasitic diseases; and Alinia (active ingredient nitazoxanide), which is approved

for pediatric diarrhea caused by *cryptosporidium* or *Giardia intestinalis*.

Hand hygiene among health care providers is also very important, according to Dr. Nyquist. Rotavirus can survive for days on hospital surfaces (which must be cleaned with a bleach solution), and hand-washing gels are not effective against *Clostridium difficile*.

In all cases, no matter what the cause, she added, "If your hands are visibly soiled, you need to use soap and water." ■

## What blood-borne virus infects 4 times more Americans than HIV?

### HEPATITIS C

#### 2 out of 3 people with Hep C are undiagnosed

- Don't rely on liver enzyme tests alone: 1 out of 3 people with Hep C has normal ALTs
- Ask all of your patients about their risk for Hep C, because patients treated early may respond better
- Consider offering a Hep C test whenever you test for HIV or HBV

STOP IT SOONER THAN LATER. SCREEN.

For more information, log on to [www.diagnosehepc.com](http://www.diagnosehepc.com) or call 1-888-HEPC-055.

This information is intended only to supplement your efforts as a healthcare professional. It is not a substitute for your medical judgment or expertise.

 Pharmaceuticals

© 2004 by Hoffmann-La Roche Inc. All rights reserved.