



North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
1902 Mail Service Center • Raleigh, North Carolina 27699-1902
Tel 919-733-3421 • Fax 919-733-0195

Beverly Eaves Perdue, Governor
Lanier Cansler, Secretary

Jeffrey P. Engel, MD
State Health Director

October 25, 2011

To: All North Carolina Health Care Providers
From: Megan Davies, MD, State Epidemiologist
Re: **Identification, management and reporting of *E. coli* O157 infections**

Public health officials are investigating a cluster of *E. coli* O157 infections and hemolytic uremic syndrome (HUS) cases that have been identified among Wake County residents during the past two weeks. Investigations are ongoing to determine the source (or sources) of infection.

This memo is intended to enhance your awareness and to encourage reporting of suspected *E. coli* O157 infections among patients in your practices. It is also intended to remind you of the recent literature on nephroprotection to prevent hemolytic uremic syndrome (HUS) in susceptible individuals¹.

Clinical Issues

- **Early recognition and IV hydration may help prevent renal failure.**
- Consider *E. coli* O157 infection in any individual presenting with acute onset of severe or bloody diarrhea. Fever might be present but is not a prominent sign. HUS is most likely to develop in young children and the elderly several days after the onset of gastrointestinal symptoms.
- Young children with severe diarrhea may appear euvoletic or “puffy” when in fact they may be severely dehydrated. This puffiness or edema results from the severe protein loss from diarrhea.
- Have a low threshold for admitting young children or the elderly for IV hydration if they have presented with severe diarrhea. Careful monitoring is needed during IV hydration.
- Antimicrobial therapy is not indicated in the treatment of gastroenteritis due to *E. coli* O157:H7.

Laboratory Issues

- Use your usual clinical lab resource to send stool for culture. Specifically order testing for *E. coli* O157:H7.
- Clinical labs should send all isolates (or broth from shiga toxin positive samples if culture was not performed) to the State Lab of Public Health for additional testing, which may include pulsed-field gel electrophoresis (PFGE) or “DNA fingerprinting” to look for related isolates.

Public Health Issues

- By law, all suspected shiga toxin-producing *E. coli* infections and HUS cases must be reported within 24 hours to your local health department.
- Report all suspect cases. **Do not wait for laboratory confirmation.**

To report suspected cases, please contact your local health department or contact the epidemiologist on call at 919-733-3419.

1. Ake JA et al. Relative Nephroprotection During Escherichia coli O157:H7 Infections: Association with Intravenous Volume Expansion. Pediatrics. 2006;115:e673–680.



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