

MedLink

Detection of shiga toxin-producing *E. coli* from stool specimens

As illustrated by several recent, large food-borne outbreaks, shiga toxin-producing *E. coli* (STEC) is a prominent and frequent cause of diarrhea and complications. STEC may cause mild non-bloody diarrhea, severe bloody diarrhea (hemorrhagic colitis), and hemolytic uremic syndrome (HUS). Although sorbitol-negative O157:H7 STEC is considered to cause the majority of cases in North America, there are more than 150 non-O157 STEC serotypes of *E. coli* that have been isolated from patients with diarrhea or HUS.

In the Microbiology Laboratories of the Fairview Health System, we use special culture plates (sorbitol MacConkey agar) to screen for these sorbitol-negative *E. coli*. However, at the time of presentation with illness, many patients (particularly those with HUS) may be shedding so few organisms in feces that it is difficult to detect the organism. Also, some non-O157 STEC are sorbitol fermenters, confounding the detection of the bacteria, and leading to false-negative culture results.

For the past five years, public health laboratories and CDC in the United States have recommended tests to detect the two shiga-like toxins (SLT1 and SLT2), as well as traditional stool culture techniques for STEC.

Effective Sept. 8, we will introduce a shiga toxin immunoassay for testing all stool specimens sent for enteric pathogens. Testing will be done from special broth enrichment cultures of stool specimens. Results will be reported as negative or positive for SLT1 and/or SLT2. In addition, we will continue the traditional culture techniques for sorbitol negative O157 and non-O157 *E. coli*.

This approach is recommended in order to provide relatively rapid results for health care professionals, and to optimize isolation of the STEC sent to the Minnesota Department of Health for precise serological confirmation and for epidemiological purposes. Determination of the subtype of O157 STEC and the serotype of non-O157 STEC bacterial isolates is valuable for investigation of outbreaks of diarrhea and/or HUS and for surveillance purposes.

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Standardization of iron binding capacity reporting

Effective Sept. 1, the University of Minnesota Medical Center Laboratory will convert to Ortho Clinical Diagnostics' reflectance spectrophotometric methodology for measuring iron binding capacity (IBC) and iron saturation index to be consistent in methodology and reporting throughout the Fairview system.

IBC testing will be performed in both Riverside and University Acute Care Laboratories. Measuring transferrin nephelometrically will no longer be included when we receive an order for iron binding capacity or transferrin saturation. If a quantitative transferrin measurement is desired

(e.g., for nutritional assessment) it will need to be ordered separately. Samples having individual orders for transferrin measurement from throughout the Fairview system will continue to be tested in the Protein/Endocrine Laboratory at the medical center.

Specimen requirements are: 1 mL blood (0.5 mL minimum) collected in red or gold (gel) tube.

The reference ranges for total IBC and iron saturation index will change to reflect the different methodology. The range was validated with 106 normal subjects and includes two SD of the values in the study.

Test	Reference range
Iron binding capacity	240 – 430 ug/dL
Iron saturation index, calculated	15-46 %

The table below reflects changes in reporting format and reference range.

Testing Effective 9/1/2009	Reference Range	Former UMMC Testing	Reference Range
Iron	35-180 ug/dL	Iron	35-180 ug/dL
Iron binding capacity	240-430 ug/dL	Transferrin-IBC	315-540 ug/dL
Iron saturation index, calculated	15-46%	% Saturation	20-55%
Transferrin	must be ordered separately	Transferrin	210-360 mg/dL

If you have questions contact [John Eckfeldt](#), 612-626-3176.

Labs open collection sites at Target Clinics

Fairview Diagnostic Laboratories now have three new [laboratory collection sites](#) at Target Clinics at the Edina Super Target, Burnsville Super Target and Downtown Minneapolis Target on Nicollet Mall.

Prior authorization needed for some breast cancer tests

Medica now requires prior authorization for certain breast cancer tests. This includes genetic testing for large rearrangements in BRCA 1 and BRCA 2 genes (i.e., for the BRAC Analysis® Rearrangement Test, or BART), beginning Sept. 1. This test is intended for patients with a strong family history of breast and ovarian cancer. This applies to all Medica products, including government products, unless a particular health plan (commercial, Medicare or Medicaid) requires different coverage.

Medica updated its policy on genetic testing to clarify that any test not ordered by a physician is not eligible for coverage. This includes genetic tests obtained as a result of direct-to-consumer marketing via the Internet or other means. This change applies to all enrollees.

[Download](#) coverage policies or call the Medica Provider Literature Request Line for printed copies of documents: 952-992-2355 or toll-free at 1-800-458-5512, option 1, then option 5, ext. 2-2355.