

## Alcohol abuse tests processed at MUSC lab

**BY HOLLY AUER**

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It's a test that offers a look back in time, revealing almost for certain if someone has been drinking dangerous amounts of alcohol during the past few weeks.

It's been in use for decades in Europe, where drunk drivers often must pass the test before getting their license back.

Now American doctors are beginning to lean more heavily on the Carbohydrate Deficient Transferrin (CDT) blood test to identify and treat alcoholism.

Two years after its approval by the U. S. Food and Drug Administration, the CDT test is being put to work in other health care disciplines, such as trauma units, and in the Charleston-area family court system. Experts who have studied the test say it also could be used in criminal court or to save money by identifying heavy alcohol use when treating chronic health problems associated with alcohol, such as high blood pressure or diabetes.

The Medical University of South Carolina runs one of fewer than a dozen labs in the nation that process CDT tests, which check for a specific protein produced in the liver after weeks of heavy drinking. A positive result gives doctors a chance to engage patients in a talk about drinking habits.

'It's not confrontation where we say, 'Ha ha, we've caught you,' 'said Dr. Jeffrey Cluver, director of the substance abuse and treatment clinic at the Charleston Veterans Administration Hospital.

Unlike Breathalyzer or urine tests, which only test for alcohol circulating in the body at the time of the test, CDT tests detect heavy alcohol use - defined as four to six drinks a day - in the past two weeks or so. If a patient tests positive, whether he's just arrived at the hospital from a car accident or is being evaluated for substance abuse, a red flag goes up.

'That's what we consider to be problematic drinking, the kind that's more likely to lead to health problems, accidents, dementia,' and other conditions, Cluver said. When the CDT test returns a positive result, doctors can be about 95 percent sure it's due to drinking. The other 5 percent of positive results likely are due to rare genetic problems. The test is considered far more reliable than older liver enzyme tests, which can turn up positive for a variety of reasons.

But the CDT test isn't without flaws: About 30 percent of heavy drinkers won't show a positive result, so physicians still are urged to collect complete patient histories and gather information from family and friends when performing substance abuse evaluations.

At the VA, CDT testing is now a routine part of initial substance abuse workups and monitoring for patients undergoing treatment. Even if they're used to bluffing their way out of questionable liver enzyme test results, patients who turn up with a positive CDT result find it hard to argue with science. 'The thing amazing to me is how frequently, when presented with the physical evidence, people cave or give in,' said Dr. Raymond Anton, who runs MUSC's Center for Drug and Alcohol Programs and has studied the role of CDT screening in primary care settings. 'With the evidence, it's not worth hiding anymore.' That doesn't always stop people from trying, especially when they've been tested under duress. Robert Bennett, who holds a PhD in pharmacy and performs tests and provides testimony for family courts in the tri-county area, recalls people who have claimed NyQuil, Geritol tonic or mouthwash triggered their positive test results.

'They'll go to the Internet and look for other factors that could cause it,' Bennett said. 'These people are about to lose their kids, and they have strong incentives to put on their cleverness.' Diverse situations, both medical and legal, increasingly call for more-sensitive alcohol tests, experts say. One new protocol, Anton said, can test for any alcohol use in recent days - even an amount as slight as the rum in a cake - but has yet to be approved by the FDA. That type of test likely would be most useful in professional monitoring programs, like those used to track doctors or police officers with substance abuse problems. Another test is designed to check for episodes of binge drinking, which Bennett said could be helpful in family court to determine, say, whether a parent had been drinking heavily during a weekend visit with his or her children. In a clinical setting, experts say the

CDT test appears to have the greatest utility. It's considered particularly useful for detecting relapses early, Cluver said. One population in which he hopes to see a big impact: Homeless veterans. Of the 200,000 or so home-less vets living in the United States, it's estimated about half have substance abuse problems, according to the National Coalition for Homeless Veterans.

Charleston's transitional housing program for veterans requires sobriety, but in the past, without adequate screening, people often entered housing while they were still drinking, or fell off the wagon while they were there and went back to the streets. But by running CDT tests routinely as substance abusers recover, Cluver said treatment could be tailored to keep patients in line.

'It may help prevent people from becoming homeless again,' he said.

The nation's top hospital trauma units - those that treat patients involved in car wrecks, shootings, stabbings, near- drownings and bar brawls - soon will be asked by the American Trauma Society to test all patients for heavy alcohol use. Nationwide, it's estimated that about 40 percent of people entering trauma units have been drinking, and studies show that heavy drinkers are more apt to die or have longer, more complicated hospital stays. MUSC's trauma service is in the midst of a three-month study that will examine how positive CDT results following traumas are tied to patient outcomes.

Among the possible benefits: Identifying hospitalized patients who may experience alcohol withdrawal, which can mimic other problems and lead to expensive testing and treatment, and offering them a chance to get help before they head home.

'We want to be more proactive, instead of reactive,' said Cathy Worrall, clinical pharmacy specialist for the hospital's trauma service. 'We're trying to get these people help so they don't cause these accidents in the future.'

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