

Occupational Health Group is a service offered to the business community of North Alabama by Huntsville Hospital and Decatur General Hospital Systems

## Pro's and Con's of Various Drug Testing Methods by R. Michael Lowery, M.D.

In last month's newsletter we discussed the indications and requirements of regulated versus non-regulated testing. If you have decided that non-regulated testing is appropriate for your situation, you have several options available to you.

There are several factors to consider in your decision as to which method is appropriate for your company. These factors include ease of collection, window of detection, cost and availability of laboratories which test your chosen method. Another factor to consider is the availability of technical and legal resources available from your testing laboratory in cases of legal challenge.

Some of the pros and cons of the various testing methods are listed below:

| Testing Method       | Window of Detection  | Pro's   | Con's   |
|----------------------|--|---|---|
| Urine                | Typically 1 to 5 days  | <ul style="list-style-type: none"> <li>• Highest assurance of reliable results</li> <li>• Least Expensive</li> <li>• Most flexibility in testing different methods including alcohol &amp; nicotine.</li> <li>• Most likely of all drug testing methods to withstand legal challenge.</li> </ul>  | <ul style="list-style-type: none"> <li>• Specimen can be adulterated, substituted, or diluted.</li> <li>• Limited window of detection</li> <li>• Test sometimes viewed as invasive or embarrassing.</li> <li>• Biological hazard for specimen handling and shipping to lab.</li> </ul>  |
| Hair                 | Depends of the length of hair in the sample. Hair grows about a 1/2 inch per month, so a 1-1/2 inch specimen would give a three (3) month history. | <ul style="list-style-type: none"> <li>• Longer window of detection</li> <li>• Greater stability, does not deteriorate</li> <li>• Can measure chronic drug use</li> <li>• Convenient shipping and storage, no need to refrigerate sample.</li> <li>• Collection procedure is not considered invasive or embarrassing.</li> <li>• More difficult to adulterate than urine</li> </ul> | <ul style="list-style-type: none"> <li>• More expensive</li> <li>• Testing limited to fewer drugs</li> <li>• Cannot detect alcohol use</li> <li>• Will not detect very recent drug use (e.g., from one to seven days prior to test).</li> </ul>   |
| Oral Fluids (Saliva) | Typically 10 to 24 hours   | <ul style="list-style-type: none"> <li>• Specimen is obtained under direct observation.</li> <li>• Minimal risk of tampering</li> <li>• Non-invasive</li> <li>• Samples can be collected easily in virtually any environment</li> <li>• Can detect alcohol use</li> <li>• Reflects recent drug use</li> </ul>   | <ul style="list-style-type: none"> <li>• Drug and drug metabolites do not remain in oral fluids as long as they do in urine.</li> <li>• Less efficient than other testing methods in detecting marijuana use.</li> <li>• Forensically, it is more difficult to defend. <i>It is recommended that employers who use this method confirm the test results with standard urine testing.</i></li> <li>• Very limited window of detection</li> </ul> |
| Sweat Patch          | Patch retains evidence of drug use for at least seven (7) days, and can detect even low levels of drugs 2 to 5 hours after last use.               | <ul style="list-style-type: none"> <li>• Non-invasive</li> <li>• Variable removal date, generally for seven days.</li> <li>• Quick application and removal</li> <li>• Longer window of detection than urine</li> <li>• No sample substitution possible</li> </ul>   | <ul style="list-style-type: none"> <li>• Limited number of labs able to process results.</li> <li>• People with skin eruptions, excessive hair or cuts and abrasions cannot wear the patch.</li> <li>• Passive exposure to drugs may contaminate patch and affect results.</li> </ul>   |

Of the drug testing methods available for "non-regulated" testing, urine and hair testing are the two primary methods used. Sweat and oral fluid testing are being used by the legal and correctional system, as well as some clinics engaged in outpatient drug abuse treatment and prevention. Legal challenges to these types of testing are now working their way through the court system.

Hair testing can detect long-term use of drugs, but cannot indicate whether the drug use occurred recently. Several court cases have questioned the use of hair testing for post-accident screening. Although the hair test may indicate use, it does not prove that the employee may have been under the influence at the time of the accident. For this reason, urine drug testing remains the "gold standard" for post accident testing.



### DECATUR

1615 Kathy Lane  
Decatur, AL 35603  
Phone: (256) 353-4325  
Fax: (256) 922-2531

### HUNTSVILLE

1963 Memorial Parkway  
Suite 24  
Huntsville, AL 35801  
Phone: (256) 265-7000  
Fax: (256) 265-7003

### MADISON

9238 Madison Boulevard  
Building 1, Ste. 200  
Madison, AL 35758  
Phone: (256) 774-7300  
Fax: (256) 922-2532

### WELLNESS

6767 Old Madison Pike  
Building 4, Ste. 400  
Huntsville, AL 35806  
Phone: (256) 922-6699  
Fax: (256) 922-6660

## Warm Weather Hazards

Summer is here, and outdoor workers will again be subjected to soaring temperatures and high humidity. These extremes can lead to heat stroke, a serious condition resulting from the body's failure to eliminate excessive internal heat. Sweating becomes inadequate or stops altogether and the body is unable to cool itself. The result is a dangerous, fast buildup of internal heat leading to organ dysfunction, damage, and death.

People have varying susceptibility to heat stroke. Increased age, deconditioning, alcoholism, obesity, and problems like hypertension, heart disease, or skin disease can all increase the risk.

Heat stroke can be rapid and fatal. Skin becomes hot and dry. Nausea, dizziness, rapid pulse, throbbing headache, mental confusion, loss of consciousness, and seizures can all result. Body temperature can reach 105 degrees or more.

Immediate first aid is required. The heat stroke victim must be cooled quickly. The individual should be immersed in a tub of cool water, placed in a cool shower, sprayed with cool water, or fanned vigorously. Swift transfer to the emergency room is necessary, where further cooling and lifesaving measures can follow.

The best defense against heat stroke is prevention. It is important to know the hazards, recognize the warning signs, be aware of first aid procedures, and practice crucial guidelines. These are:

- Gradually acclimatize to higher temperatures. On the first

day of work in hot environments, the body temperature, pulse rate, and general discomfort will be highest. But the body is remarkably adaptable. Over the course of several days to a week, changes occur. The sweat rate will increase and this will improve evaporative cooling. As the body adjusts, a worker will feel less strain and distress. However, this conditioning can be lost fairly rapidly. If a worker is away from the heat for even a week, the conditioning is usually lost and has to be regained. Workers should be exposed to heat for progressively longer periods, such as 20% exposure on day 1 with a 20% increase in length of exposure on each successive day.

- Replace fluids regularly. Fluid replacement is key in preventing heat stroke. Cool, 50-to-60 degree water should be available. Workers should be encouraged to drink small amounts frequently, such as one cup every 20 minutes. Thirst is not a sensitive indicator of true fluid needs. Workers should try to drink even when not thirsty. While commercial products containing salts are acceptable, most individuals get salt in their ordinary diets and do not require additional salt supplementation. Alcohol and caffeine contribute to dehydration and their use is discouraged.
- Wear light, loose fitting clothing to reflect the sun's heat, thus reducing heat load.
- Schedule work strategically. To reduce risks, pace the work schedule, use relief workers, take intermittent rest periods with water breaks, and perform the most strenuous work during the coolest periods of the day.

## Physician Spotlight: R. Michael Lowery, M.D., M.P.H



**Dr. R. Michael Lowery**, has been a physician with Occupational Health Group for eight years, practices in the clinics in Decatur and Madison, and is 1 of only 2 Board Certified Occupational Medicine physicians in Morgan County. He has an extensive occupational medicine background with 16 years experience in an industrial setting serving diverse industries and businesses. His primary areas of specialty are Ergonomics, Disability Evaluations, Impairment Ratings, and performance as a Medical Review Officer for workplace drug and alcohol testing services. In addition to his Board Certification in Occupational Medicine, he is also currently fully Board Certified in Family Practice Medicine.

Dr. Lowery received his undergraduate degree from the University of Alabama-Birmingham in 1974, a post-graduate degree from the University of Alabama-Huntsville in 1976, and his medical degree from the University of Alabama School of Medicine in 1980. After medical school, he completed a three-year residency in Family Practice at the University of Alabama-Huntsville.

After becoming Board Certified in Family Practice Medicine, Dr. Lowery went into Private Family Practice. In 1984, in addition to his Private Practice, he served as Medical Director at Saginaw of General Motors in Athens, Alabama, until 1996. During his tenure at Saginaw, he received a Masters Degree in Public Health from the University of Michigan in 1987.

### OHG Directory

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 Marketing and Business Development.....(256) 922-6677  
 Billing Department.....(256) 922-6673  
 OHG - Huntsville.....(256) 265-7000  
 OHG - Madison.....(256) 774-7300  
 OHG - Decatur.....(256) 353-4325  
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### Holiday Closings

*All OHG clinics will be closed in observance of the following holidays:*

|                         |                        |
|-------------------------|------------------------|
| <b>Memorial Day</b>     | May 29th               |
| <b>Independence Day</b> | July 4th               |
| <b>Labor Day</b>        | September 4th          |
| <b>Thanksgiving</b>     | November 23rd and 24th |
| <b>Christmas Day</b>    | December 25th          |
| <b>New Year's</b>       | January 1st            |



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