

Taking you to the root of the problem



AVI LASAROW discusses the emergence of hair tests to identify drug and alcohol misuse

Long-term substance misuse, i.e. drugs and alcohol, is not a new problem in the UK, but it is an escalating one. Recent figures estimate that over half a million people have a serious drug problem and, conservatively, over 1.8 million adults consume alcohol at a harmful rate (i.e. more than 50 units a week for men and 35 for women). Furthermore, alcohol and drug misuse contributes to 25 per cent of workplace accidents and 14 million working days lost every year with Alcohol Concern claiming that almost two-thirds of employers (60 per cent) are now experiencing problems as a result of staff drinking.

What is a unit?

The alcohol content of a drink is measured in units. One unit of alcohol is 10ml (1cl) by volume, or 8g by weight, of pure alcohol. For example, a pint of typical-strength bitter contains just over two units, while a glass of wine can contain anything from around 1.5 to over three, depending on the size and strength.

The main reason why the problem is so hard to tackle is the reluctance of people to recognise it in the first place. In a study conducted last year, we found that over half of heavy drinkers underestimate, or lie about, their consumption of alcohol. We collected and analysed hair samples from 200 adults to assess the donors' true drinking habits over a six-month period. These amounts were then compared to estimates of how much they said they had drunk. Only 19 per cent admitted they thought their drinking was above the

alcohol misuse limit but in reality 43 per cent of samples tested positive.

Similarly, accurate historical detection is another obstacle. It has long been acknowledged by the medical profession that a reliable test to detect alcohol and drug consumption is required. A number of traditional tests exist (e.g. blood, liver function test) but each one has severe limitations – e.g. even when accurate, they only relate to recent consumption.

Hair testing: how it works

Although relatively new, hair testing – or tricho-testing as you might hear some people refer to it – is fast-becoming the preferred method of determining someone's alcohol and drug consumption. Whilst it is not intended to replace 'under the influence' type tests taken at the time of an accident, its real value is in differentiating between social and excessive drinkers – or recreational and habitual drug users. Samples can be collected non-invasively and will provide an accurate record of any alcohol or drugs dependency over a three to 12 month period. From a practical point of view, hair is much easier to handle in the 'chain of custody' than blood or urine as it does not need to be stored under any special conditions. It also avoids the embarrassment of chaperones 'observing' urine collection. Plus, if a urine sample is in any doubt, it is always possible to take a fresh, identical hair sample and eliminate any false positives or false negatives.

Since hair growth is fed by the bloodstream, the ingestion of drugs or excess alcohol in the blood is revealed by analysing chemical markers absorbed by the hair. As the hair grows, it absorbs these markers into its structure, which remain in

the hair indefinitely. These markers are only produced when there is alcohol or drugs in the bloodstream. The more markers there are, the more has been consumed. A tuft of hair about the diameter of a pencil is required and the industry standard is to test a length of 1.5 inches, which provides a 90-day history. If no head hair is available, body hair can be used instead. Bleaches, shampoos and external contaminants have no known impact on the results. Hair samples must be taken by a trained collector or by a national nursing service authorised to collect samples on behalf of clients. Results are generally available in seven to ten working days from receipt of the sample and can be provided in a standard 'Section 9' legal statement. This is accepted, if required, by all UK courts – although in some cases it may be necessary to also provide 'expert witness evidence' to support the results.

Practical applications

To date, hair tests have largely been requested by Social Services for the parents of children whose welfare is being considered, and by Family Courts for deciding child custody in circumstances such as divorce proceedings. However, because the results obtained have proved so reliable and are now much more commercially viable – the practice is rapidly being adopted in corporate situations, even those not governed by legal requirements of the Transport & Works Act 1992.

Some forward-thinking safety-centric organisations with alcohol & drugs policies now conduct screening tests for misuse, either on a random basis for all staff, as part of recruitment or if there is a reason to suspect a particular individual may have a

