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THE TRUTH THAT'S HARD TO SWALLOW by Kate Bidanowitz

HOW much did you have to drink last night?

Two glasses of wine? Or perhaps it was three? What about last week? It can be easy to lose track, especially after you're had a couple. But according to experts, most of us significantly underestimate our alcohol consumption, either deliberately or unwittingly - and it could be putting our health at risk.

A self-poured dram of spirits at home is almost always a triple measure compared with a single in the pub, so you need only have a couple of these each night and you're clocking up 35 units a week.

"Most people underestimate the amount they drink," says Dr Sarah Jarvis, a GP and adviser for the

charity Alcohol Concern. "They assume a small glass of wine is one unit but it is more like two (and this is a measured glass - a self-poured glass is usually larger) while a large glass is three. They will often assume there are six units in a bottle of wine but there are nine and strong lagers contain four units, not two."

Current safe guidelines are three to four units daily for men with two alcohol free days and no more than 21 units a week.

Safe limits for women are considered to be two to three units a day, two alcohol-free days a week and no more than 14 units a week.

"As you see, these numbers don't add up," says Dr Jarvis. "But with 50 per cent of 16 to 24-year-olds cramming all their weekly alcohol intake into one to three days, it was felt that there was a need for daily, as well as weekly, limits." Men who drink more than four units a day (or three for a woman) are considered to be in the "increasing risk" category. More than eight units per day for a man and six for a woman, raises them into the "binge" category.

Long-term excessive alcohol consumption can cause inflammation and ulceration of the stomach lining. It increases the risk of cancers of the mouth, tongue and throat, especially if combined with smoking. Incidences of liver cancer, as well as hepatitis and cirrhosis, is higher among alcoholics.

How well you think you can "hold your drink" gives no indication of the impact on your long-term health either. We all respond differently to alcohol and the reason is found in our genes. The liver contains four enzymes responsible for breaking down alcohol and we possess different amounts, depending on our genetic make-up. Two men who drink the same number of pints will feel the effects of alcohol differently, depending on their height, weight and build, with the slighter male at greater risk of damage. Women are also affected to a greater extent than men, regardless of their tolerance or alcohol history. Ethnicity also plays a part. Although present in Caucasians, the enzyme acetaldehyde dehydrogenase II (ALDH2) is absent in 40 to 50 per cent of people of south east Asian descent. Lacking this enzyme means this group of people have an exaggerated response to alcohol and their faces tend to flush when they drink. They feel the

effects of alcohol quicker and get drunk more easily.

To illustrate how alcohol affects us in different ways, Your Health asked three volunteers to take a forensic test from hair samples which detect how much alcohol they have consumed over the past six months.

These were analysed by forensic scientist Jim Campbell. As hair grows, it absorbs chemicals from the body which remain in the hair shaft indefinitely. The presence of special markers called fatty acid derivatives in the hair are detected when there is alcohol in the bloodstream. The more alcohol present, the greater the levels of these markers. The test was developed by scientists at London-based Trimega Laboratories where it's used to provide evidence of alcohol misuse in court cases.

Polly Buchanan, a 25-year-old journalist from Balham, London, had 6cm of hair tested which provided a history of six months

VERDICT: "Polly's results show that she is 'a moderate, normal' drinker," says Jim. Her test showed very high levels of ethyl oleate, one of the markers produced during alcohol consumption

which means she can tolerate high levels of alcohol compared with many other people.

Polly says: "I've always been a social drinker but as a very sociable person - I'm out three or four times a week - I've found the alcohol units and their side-effects mounting up.

"After a night spent putting the world to rights over bottle after bottle of white wine, I feel sluggish as well as achey and exhausted. This has made me worry about the long-term effects that my constant quaffing is having on my liver, kidneys and other internal organs. My results showed that I'm consuming moderate to normal amounts, which really surprised me.

"Both my parents and my boyfriend have expressed concern at the amount I've been knocking back, so perhaps this test will put their minds at rest.

"The fact that I can tolerate greater levels of alcohol before feeling drunk might explain why I'm always the one insisting on an extra bottle.

"However, the results stressed that although I can handle more alcohol than others it will still be taking its toll on my health. The test made me

think seriously about the amount I drink and made me want to cut back on the units. I'll be sticking to spritzers from now on - for a little while at least."

Dr Jarvis says: "If you don't have any warning signs you are more likely to drink to excess as many people like the effects of alcohol. It will poison your body in exactly the same way regardless of your tolerance.

"Women have more body fat and less body water than men and as alcohol is distributed in the body water, women are more easily affected. If you compare a man and woman of the same size, women will suffer damage earlier and more seriously than men."

Andy Charlton, 29, an advertising manager from Wapping, east London, had 5.5cm of hair tested, giving a history of six months

VERDICT: Andy has "a significant alcohol intake" of around eight to nine units a day. It concluded that he "appears to drink quite a bit but possibly not daily".

Andy says: "When I first got the results I thought: 'I don't drink that much'. But then I did some calculations and realised that it sounds about right.

"I think the recommended 21 units a week is far too low. I could drink six to seven pints on a Friday after work, eight to 10 on a Saturday but I certainly don't do so every week.

"On Sundays I may have a couple of pints at lunch and then a couple on the way home. In the week, it depends on whether I've got work functions but I tend to have a glass of wine or two at home, one to three nights a week. I know I'm not dependent on alcohol and often have weeks where I don't drink at all.

"I take the doctor's comments into consideration but I have no plans to make any drastic changes to my lifestyle as I do think I'm healthy. I go to the gym three to four times a week, drink two litres of water a day and eat lots of fruit. The last time I had a medical check-up I was given a clean bill of health."

Dr Jarvis says: "If you drink 21 to 50 units a week, the body is at increased risk of liver

disease and cirrhosis. Drink more than 50 units a week and the body cannot cope. Liver disease can lead to inflammation of the stomach and pancreas, stroke, dementia, impotence and many other conditions. In fact, it's easier to say what you aren't at risk of.

"Andy needs to seriously consider stopping altogether. He might well have an enlarged liver although this wouldn't be irreparable if he changed his drinking patterns."

Rick Williams is a 29-year-old advertising sales representative from Holland Park, west London. Rick had a section of slower growing underarm hair analysed and this provided a 12-month history

VERDICT: Rick was shown to be "an infrequent drinker or possibly even a teetotaler" although this clashes with his claims of high alcohol intake. Jim says the results are indicative of someone with hypoglycaemia.

"The effects of alcohol on his blood sugar makes him feel he has drunk more than he has," he says.

"It probably also makes him feel hungry." Rick is half-Indonesian and his ethnicity may also play a

part. "It is likely that he is lacking the ALDH2 enzyme," adds Jim. "Again, this will mean he feels the effects of alcohol more than others and feels drunk sooner."

Rick says: "I tend to drink at the weekend so I suppose I'm a binge drinker. On Fridays and Saturdays I might drink five pints or five gin and tonics and I would say I drink up to 40 units a weekend with another 10 over the week.

"For the past two months I've felt my threshold for beer isn't as high as it was and I feel myself getting drunk more easily. It also makes me feel tired and I do get hungry when I drink which apparently is common for people in the hypoglycaemic range.

"I'm interested to learn about this as I believe there might be a history of it in my family. It has given me the incentive to go to my GP and get a full medical check-up as I've also got to the age where I think I should be taking more care of myself."

Dr Jarvis says: "Hypoglycaemia and fits are one of the results of binge drinking which is why we try to encourage people to stick to the daily limits

as well as weekly ones. It is no better for you to confine all your drinking to one to three days. More than 50 units a week is extremely dangerous."