

## Wine in Moderation round table with ISFAR and AIM Council members

In October, the Wine Information Council held its 6th webinar on Wine & Health. The session was in collaboration with International Scientific Forum on Alcohol Research (ISFAR) and Curt Ellison, MD, Dr Creina Stockley and Erik Skovenborg, MD took part in a virtual round table on the issue of whether moderate alcohol consumption can still be seen as an acceptable element of a balanced diet and lifestyle and if, based on recent research, the J shaped curve still exists for the association between moderate alcohol consumption and all cause mortality as well as for other specific diseases.

The following questions on alcohol and health posed to the panel:

**We are hearing more and more about mendelian randomisation in alcohol health research. Can you please provide a lay person friendly explanation of what MR is and how this area of research is impacting alcohol health research.**

Creina Stockley explained that mendelian research (MR) is a research method that uses an individual's genes to estimate their behaviour, rather than asking them to report their behaviour. Genes vary across a population and these variations can influence an individual's behaviour - This is known as a 'genetic proxy' for the behaviour. Genetic proxies are used to see if certain behaviours are linked to health outcomes, such as CVD and cancer. For example, the J-curve shows that moderate drinking is associated with a lower risk of CVD compared to non-drinking or heavy drinking. This evidence on its own, however, cannot show that the relationship is causal, and it may be that moderate drinkers are healthier than non-drinkers. By removing the influence of other confounding factors such as diet and lifestyle, MR can identify direct causation between a behaviour and a health outcome. Multiple gene variants affect the way individuals break down or metabolize alcohol in the body. Some of these gene variants lead to higher BAC and unpleasant symptoms, such as facial flushing, and are generally associated with a reduced consumption of alcoholic beverages. Researchers have exploited this effect as a "genetic proxy" for alcohol consumption, since individuals who experience unpleasant symptoms are less likely to drink, allowing comparison of health outcomes between individuals with and without these genes.

MR works best when the genetic proxy strongly and consistently predicts behaviour. If individuals with the gene don't always behave as predicted, or if the influence of the gene on behaviour is very small, then MR will be less able to determine if the behaviour is driving the results: this is known as "weak instrument bias".

ADH1B and ALDH2 gene variants may not be ideal genetic proxies for the behaviour of lifetime low level consumption of alcohol. This is because carriers of these gene variants have still been documented binge drinking and drinking heavily on a regular basis, even though carriers of either of these gene variants show lower average alcohol consumption.

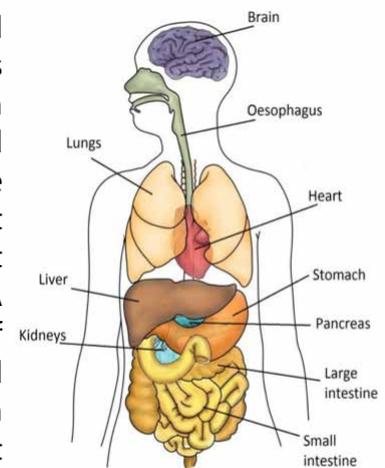
**What does the alcohol do to your body?**

Again, Creina Stockley explained that alcohol affects different people in different ways and may affect the same person in different ways on different occasions.

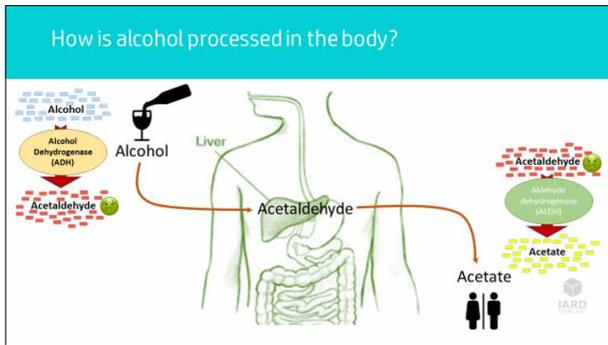
A standard amount of alcohol consumed will not result in a standard effect between any two consumers. Body size, food consumed, ethnicity, gender, health, other drugs consumed and emotional state will contribute to the difference in effects.

The organs and tissues can be affected by alcohol circulating in the blood stream. Once absorbed, alcohol continues to circulate in the blood until it is distributed into the tissues and fluids. A person's gender and body shape will affect this distribution. Alcohol is water-soluble and will distribute more rapidly from the blood of a person who has higher body water content. In contrast, it is relatively fat-insoluble and will distribute slower into and out of fat. This slower distribution is exacerbated by a limited blood supply in fat.

There are various stages in the breakdown of alcohol. It is toxic in the first stage of breakdown to acetaldehyde, mainly in the liver by an enzyme called ADH, before it is broken down further into

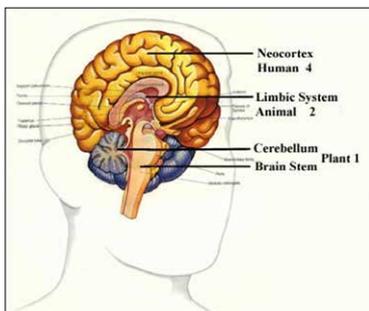


harmless acetate and then into water and carbon dioxide which are expelled through urine and breath.



Acetaldehyde is linked to an increase of risk of some cancers, especially if consumed in excess on a regular basis and without food, specifically in the liver, pancreas, rectum, breast, mouth, pharynx, larynx and oesophagus.

Alcohol reaches the brain rapidly via the blood brain barrier into the cerebrospinal fluid surrounding the brain. Alcohol is a depressant, that is it slows down our ability to think, react and our coordination. The more we drink, the more the molecules of alcohol disrupt brain activity affecting our sight, speech coordination and emotions. The level of alcohol in our blood is measured by blood alcohol content (BAC).



**Dr Creina Stockley, (PhD, MSc, MBA,)** is a clinical pharmacologist. For 28 years she was Manager of Health and Regulatory Information at The Australian Wine Research Institute; adjunct Senior Lecturer at The University of Adelaide; and Australian government delegate to the Organisation de la Vigne et du Vin (OIV) where she has held positions of Vice-President and acting President of the Nutrition and Wine expert group, an independent expert for a variety of national and international governmental health and safety forums in the areas of allergens and additives actively involved in research related to the effects of moderate wine consumption on human health (cardiovascular disease, colorectal cancer and dementia).

Creina has presented at over 110 conferences, published over 65 peer-reviewed papers, 85 non-peer-reviewed papers, 11 book chapters and was guest editor of three journals.

**Erik Skovenborg, MD** is a Danish physician with a special interest in the health benefits of moderate alcohol consumption. His published work includes *In Vino Sanitas*, 1990; *Lead in Wine throughout the Ages*, 1994; *Wine and Health – Myths and Facts*, 2000. Member of the Social, Scientific and Medical Council of AIM (Alcohol in Moderation) from 1992 and co-founder of the Scandinavian Medical Alcohol Board (SMAB) in 1994. Chairman of the 1996 Copenhagen “Health and Alcohol Symposium” and the 1998 Stockholm “Women and Alcohol Symposium”. For many years Erik Skovenborg has lectured extensively on alcohol and health to medical professionals and the general public and he is currently researching the effects of a moderate consumption of beer, wine and spirits.

**R. Curtis Ellison, MD,** has been Professor of Medicine and Public Health at Boston University School of Medicine since 1989, and is the former Chief of the Evans Section of Preventive Medicine and Epidemiology.

He holds degrees from Davidson College, the Medical University of South Carolina, and Harvard School of Public Health. With training in internal medicine, cardiology, and epidemiology, Dr Ellison serves as a senior investigator in The Framingham Study, and is the principal investigator of a number of research studies on the interaction of genetic and environmental factors in determining familial risk of hypertension and heart disease.

In July, 1994, Dr Ellison established and became the Director of the Institute on Lifestyle and Health at Boston University School of Medicine. The Institute focused research on various aspects of lifestyle, especially diet, exercise, and the moderate consumption of alcoholic beverages, habits that relate to the risk of heart disease, cancer, and other chronic diseases.

Dr Ellison is best known to the lay public for his research on what is known as the “French Paradox”. This refers to the fact that the French have a high-fat diet and other risk factors, yet have very low rates of coronary heart disease. Dr Ellison and Dr Serge Renaud of Lyon, France, were the key scientists who were a part of the programme on the “French Paradox” that appeared on the American television’s ‘60 Minutes’, in November, 1991. In the early 1990s Dr Ellison worked with the Oldways Foundation, Harvard School of Public Health, and the European office of the World Health Organization in the development of the “Mediterranean Diet Pyramid”, a set of dietary guidelines for Americans.

BAC	Changes in feelings and personality	Brain regions affected	Impaired activities (continuum)
0.01–0.05 %	Relaxation Sense of well being Loss of inhibition	Cerebral cortex	Alertness Judgment
0.06–0.10	Pleasure Numbness of feelings Nausea, Sleepiness Emotional arousal	Cerebral cortex forebrain	Coordination (especially fine motor skills)
0.11–0.20	Mood swings Anger Sadness Mania	Cerebral cortex forebrain cerebellum	Visual tracking  Reasoning and depth perception
0.21–0.30	Aggression Reduced sensations Depression Stupor	Cerebral cortex forebrain cerebellum brain stem	Inappropriate social behavior (e.g., obnoxiousness)
0.31–0.40	Unconsciousness Death possible Coma	Entire brain	Slurred speech Lack of balance Loss of temperature regulation Loss of bladder control Difficulty breathing Slowed heart rate
> 0.41	Death		



**Could the influence of alcohol on healthy aging be in anyway scientifically evaluated?**

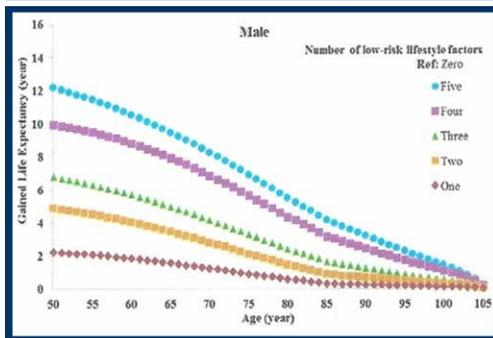
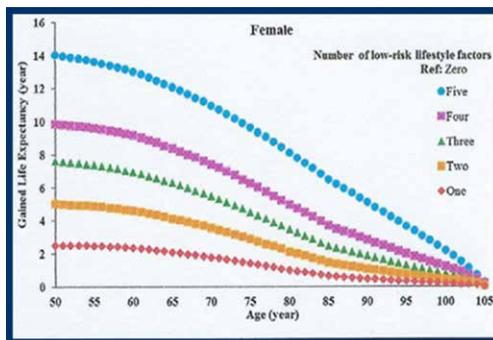
**By healthy aging I mean getting old without any apparent major disease.**

Professor Ellison answered this question, citing the research that shows consistently that adhering to the following five healthy lifestyle factors increases the likelihood of healthy ageing and reduces all cause mortality:

1. Eating a Mediterranean style diet low in red and processed meats, high in legumes and pulses
2. Drinking alcohol in moderation
3. Exercising regularly and moderately
4. Not smoking and
5. Maintaining a healthy BMI

We can add to this the pattern of drinking (little and often and avoiding binge drinking) and drinking with food. We also know that adequate folate in the diet helps mitigate breast cancer, for example.

This is true for men and women and the more 'healthy diet' elements we adhere to, the better our prospects. The effect is significant and consistent.



**Does beverage choice matter regarding the positive health effects of a moderate alcohol intake?**

Erik Skovenborg described the less favourable results of spirits drinking in most studies in comparison with beer or wine intake, believing that many are due to differences in drinking context and drinking pattern: preference of spirits has been associated with binge drinking and preference of wine with regular and moderate consumption with meals - however...

- Among Trinidadian men the protective effect of spirits (rum) was non-inferior to beer and wine. Int J Epidemiol 1990;19:923-30
- Among Yugoslav men the protective effect of spirit (rakia = fruit brandy) was non-inferior to beer and wine. Int J Epidemiol 1983;12:145-50.
- Among men and women from Bayern the protective effect of intake of beer was non-inferior to consumption of wine. Epidemiology 1997;8:150-56.

Other questions on a range of topics were covered in this round table, but this offers a selection of the most frequently asked by participants. If you have a question you would like to ask one of our 42 Professors, Medics and scientific experts, please do send via email to [info@alcoholinmoderation.com](mailto:info@alcoholinmoderation.com)

**Barriers to engaging with Alcohol Change UK's campaigns**

Alcohol Change UK will examine the barriers to particular groups taking part in the Dry January experience, and how these barriers can be overcome. Dry January continues to grow in popularity each year, but it is suggested that the campaign needs to be more inclusive. Registered participants are predominantly white, female, educated and from higher income groups and appear to be less likely to encompass the diverse communities that Alcohol Change UK aims to serve, especially those who are marginalised or less often heard. By commissioning a research project Alcohol Change UK hope to better understand the barriers to particular groups taking part in the Dry January experience and, more broadly, attempting to make positive changes to their drinking; and how these barriers can be overcome.

[alcoholchange.org.uk/blog/2021/exploring-the-barriers-to-engaging-with-alcohol-change-uks-behaviour-change-campaigns](http://alcoholchange.org.uk/blog/2021/exploring-the-barriers-to-engaging-with-alcohol-change-uks-behaviour-change-campaigns)

