

# AIM FORUM REPORT

On March 8<sup>th</sup>, AIM held its third Forum at the International Wine and Spirit Centre in Bermondsey, kindly hosted by The Wine and Spirit Education Trust on 'Alcohol and Health – current issues and future trends'. AIM welcomed delegates from all sectors of the industry and its associations for a morning of interesting debate following a selection of in depth presentations. The aim of the forum was to give non specialists a better understanding of where the benefits of moderate drinking end and the risks begin. **'A good understanding of units, definitions of moderation, the key benefits of moderate drinking and the key harms associated with excess are, we would argue, fundamental'** commented Helena Conibear, having given an update on AIM's work and plans.



Presentation by Helena Conibear, Editorial Director of AIM

Helena presented some of the issues facing the alcohol research community; 'In terms of social research and drinking patterns, the lack of accurate statistics is still an issue, due to several factors; the lack of an international definition of a unit mean studies from around the world cannot be accurately compared and contrasted. A unit varies from 8g in Britain to 19.75g in Japan. Even definitions of light or moderate drinking vary between studies, making meaningful comparisons between data difficult'. Helena also drew on new research showing that nearly 58% of all alcohol-related research papers emanate from Canada and the United States, 30% from all of Western Europe, and 10% from Australia, New Zealand, or Japan. Yet, these regions suffer only 13% of the global burden of disease due to alcohol; ie the rest of the world contributed only 8% of the total research whilst suffering from 87% of the disease burden. The estimated annual expenditure on alcohol-related research in 2001 was \$730 million (Ref.: Rajendram R et al, Worldwide Alcohol-Related Research and the Disease Burden, Alcohol and Alcoholism, Vol 41, 1, 2006)

With the new EU members from Eastern Europe, AIM considers addressing the alcohol misuse in Eastern Europe a particular priority. Recent papers on cancer and causes were discussed in the light of AIM's goal of achieving

\* A recognition by the academic community that alcohol in moderation in most cases is not harmful and indeed more protective than abstinence

\* A recognition that lifestyle and patterns of drinking are as important as daily guidelines on responsible drinking

\* The importance of culture – in developed countries where the risk of heart disease is higher (higher BMI, diabetes etc. ), the benefit of moderate drinking is greater. In countries where alcohol consumption is not historic, or where there is greater poverty, unemployment and poor diet the levels of alcohol misuse are higher

\* A recognition of alcohols harm in balance with benefits and enjoyment

AIM influences the above by;

\* Translating complex science into understandable language, in context with other research

\* Encouraging Informed debate – scientifically and academically based with the gravitas of a social, scientific and medical Council offering an International perspective

\* Increasing the knowledge base amongst the broader beverage alcohol industry and the scientific and policy making community

\* Reaching out to the consumer directly within government guidelines

\* Working in partner programmes with companies, associations and publishers

\* By recognising and stressing alcohol's harms – particularly under age drinking, binge drinking. The rise in women's drinking, the anti social behaviour linked to excessive drinking – balanced with the fact that the overwhelming majority of adults enjoy alcohol in moderation.

AIM has always believed if this is to be done effectively it must operate as a non profit organisation and it should adhere to two fundamentals – maintaining a non industry board and not to lobby.





Presentation by R. Curtis Ellison, MD Professor of Medicine & Public Health, at Boston University School of Medicine and founder member of AIM's Social Scientific and Medical Council

Curtis presented on the advances in alcohol and health in general and the heart in particular. The key to Curt's address was that if you adhere to the 5 components of a healthy lifestyle, that is not smoking, eating moderate amounts of fat and lots of fruits and vegetables each day, taking exercise, avoiding obesity, and drinking in moderation, your risk of cardiovascular disease decreases by 80% and late onset diabetes by 92%.

'For years, we have been seeing very large differences among countries in reported rates of death from CHD. The highest rates have recently been in Scotland, Northern Ireland, Finland and Eastern Europe. The lowest, with only one-fifth the number of heart disease deaths as Northern Europe, is Japan, due primarily to the very low amounts of fat in the traditional Japanese diet. We have always explained the lower rates of heart disease in Italy, Spain and Greece from the lower fat diet and other features of what is known as the Mediterranean diet. But France has even lower rates of coronary heart disease than Italy or Greece. Why do the French have such low rates of heart disease? We do not know. Their diet is higher in fat, their hypertension rates are the same, their blood cholesterol worse than the UK and most other European countries. Further, genes studied so far seem to be about the same as in countries with much higher rates of heart disease.

The suggested explanations of the low rates in France include more intake of fruits and vegetables containing high levels of anti-oxidant vitamins, and a lower percentage of fat intake from red meat, as the meat in France is very low in fat and smaller portions are generally served than in the US. But the theory that has received the most scientific support is that the French consume alcohol, on a regular basis, and particularly in the form of wine.

This is not a new story, as we know from paper by St Leger et al back in 1979, that of all the lifestyle factors related to CHD in different countries, the strongest relation was with the average wine consumption in the country. Since then there have been a large number of studies on alcohol consumption among individuals and their risk of CHD, and the results have been remarkably consistent: individuals who consume alcohol moderately have fewer heart attacks'

## How does alcohol produce this protective effect?

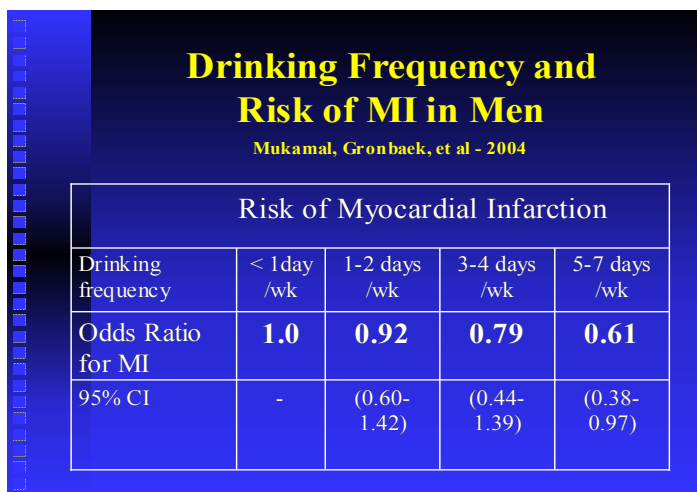
We know many of the reasons why alcohol reduces the risk of CHD, as we have identified many of the biologic, physiologic effects of alcohol. Alcohol in any form affects the blood lipids. Alcohol will increase HDL-cholesterol, the so-called good cholesterol that lowers the risk of heart disease.

Alcohol also tends to decrease slightly the LDL or bad cholesterol 'which increases the risk of CHD. But alcohol, and red wine in particular, also favourably affect the coagulation of blood within the arteries. For example, it decreases platelet aggregation, and it also has favourable effects on fibrinogen and fibrinolysis, factors related to blood clotting and the removal of clots within the arteries. The effects of alcohol on blood clotting may be just as important as the effects on the HDL-cholesterol.

The effects on coagulation are short-term effects, lasting for a day or so. The short-term beneficial effects were well-demonstrated by Jackson et al. These investigators compared the risk of heart attack and cardiac death among regular drinkers and found that if a regular drinker had had one or more drinks in the preceding 24 hours, his or her risk was reduced (to about 75% for men and 61% for women) when compared with drinkers who had not had anything to drink in the preceding 24 hours.

These results suggest that you should consume alcohol on a regular basis, perhaps daily. Unfortunately, many do not have good drinking patterns, and tend to drink nothing all week, then drink heavily at weekends, which is a very unhealthy way to consume alcohol -it is not so much the amount that you drink, but how frequently you drink that is important in preventing CHD. It takes only about one drink per day, or even every other day, to get most of the benefit in terms of reducing coronary heart disease (CHD). It should also be emphasized that the protective effects are relevant to Men over 40 and post menopausal women, the time when the risk of coronary heart disease and stroke begin to increase.

We all realise that even moderate drinking can have adverse effects if someone quickly consumes several drinks then takes their car on the road. So I always refer to moderate and responsible drinking. But in terms of diseases, most are related to heavy drinking, namely cancers of the oral cavity, pharynx, larynx, oesophagus, liver, colon, rectum. The only condition that may relate to even light to moderate drinking is breast cancer in women, which it is being increasingly shown can be mitigated by adequate folate intake.



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A number of research reports suggest that a small increase in the risk of breast cancer begins to appear among women who normally consume only one or two drinks per day. This is not found consistently in all studies. At our Institute at Boston University we have carried out a study of wine, beer and spirits as they relate to breast cancer, using data from the Framingham Study that has been following more than 5,000 women for 25 to 45 years. We found that women who have consumed wine or other alcoholic beverages moderately over a lifetime do not have increased rates of breast cancer in fact, they tend to have slightly lower rates.

Let's turn to the total mortality rates. In other words, are you more likely, or less likely, to die of any cause during a specified period if you drink or if you do not drink? In essentially every prospective study carried out, the net effect on total mortality of consuming one or two drinks per day is a lower death rate. As long as the alcohol intake is light to moderate, up to a couple of drinks per day, the risk of most diseases is lower, and the risk of dying of any cause is reduced.

Data from the Copenhagen Heart Study, that followed over 13,000 men and women for over 10 years, illustrate how reducing moderate drinking might increase mortality. The results from the Copenhagen Heart Study show the typical J-shaped relationship between the relative risk of death from any cause and alcohol consumption. Drinkers who stated that they averaged one to six drinks per week had about 40% lower death rates than non-drinkers; heavy drinkers had higher death rates.

## Should we encourage non-drinkers to start drinking moderately?

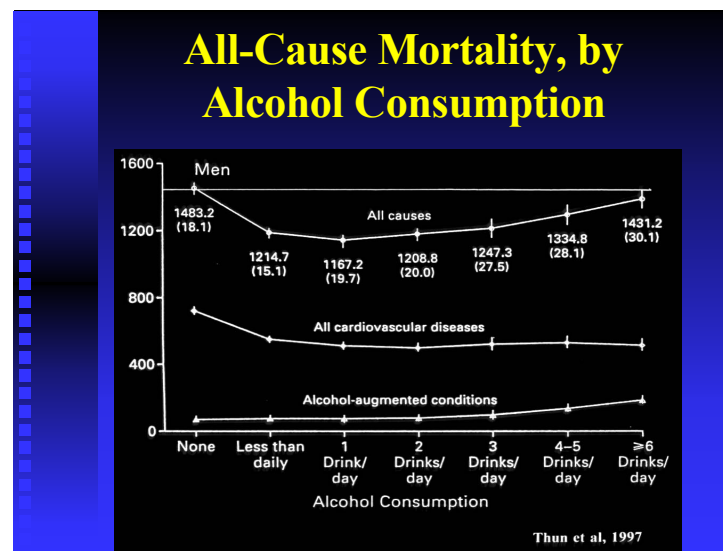
We know that there is always the possibility that a patient will not follow his or her doctors suggestions and begin to drink very heavily. Taking all these risks into our consideration, data suggest that for all women from age 55 and for all men aged 45-75, individuals who began to drink would be expected to have lower mortality rates. The results indicate that a non-drinking patient would actually have a reduced risk of dying over the next 10 years if he begins to drink moderately, even if 5% of such subjects became alcohol abusers. As an example, for a 65 year old non-drinking man in the US, government statistics show that 278 will die over the next 10 years; if these men all became moderate drinkers, only 251 would die, a reduction of about 10%. Our data are based on the consumption of any type of beverage.

In addition to cardiovascular effects (much lower coronary disease and ischemic stroke for moderate drinkers), there is reliable and reproducible data showing that moderate drinkers have much lower risk of developing diabetes. The current estimate is a 30% lower risk of diabetes among moderate drinkers in comparison with non-drinkers. And for someone who already had diabetes, the risk of dying of cardiovascular disease is reduced dramatically, by 50% in many studies.

One other effect of moderate drinking that is gaining scientific support relates to the risk of cognitive decline

with age, or even of the development of alzheimer's disease. Numerous prospective studies now show reduced risk of cognitive decline or the diagnosis of dementia (usually in the range of 20%) for moderate drinkers.

Taking all of the current scientific data into consideration, it is now quite clear that moderate, regular consumption of an alcoholic beverage, without binge drinking, is associated with longer life and fewer of the typical diseases of aging. Data are increasing that if moderate drinking is in the form of wine with meals, there may be even more benefits. For individuals without contraindications to the use of alcohol (such as religious prohibitions, a history of abuse, or a few medical conditions), we can now say that moderate drinking can well be included as part of a "healthy lifestyle."



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**Presentation by Marsha Morgan F.R.C.P. Reader in Medicine and Honorary Consultant Physician at The UCL Institute of Hepatology, Hampstead Campus, The Royal Free and University College Medical School, London and Editor of the Journal Alcohol Research.**

Marsha Morgan is working with individuals with alcohol-related problems many of whom have significant liver disease. Her presentation began with a definition of the steps involved in the development of alcohol-related liver injury, namely fatty change, alcoholic hepatitis, alcoholic cirrhosis and hepatocellular carcinoma (HCC).

Deaths from cirrhosis are increasing in Great Britain, especially in Scotland, whilst they are declining in Western Europe. Individuals with cirrhosis usually present between the ages of 35 and 65, in a ratio of three men for each woman, crossing every social and economic divide. Of particular concern is the fact that 20% of individuals presenting with alcohol-related cirrhosis are under the age of 30. Worryingly alcohol related liver injury is essentially 'silent', remaining undetectable in many individuals until they present with significantly impaired liver function.

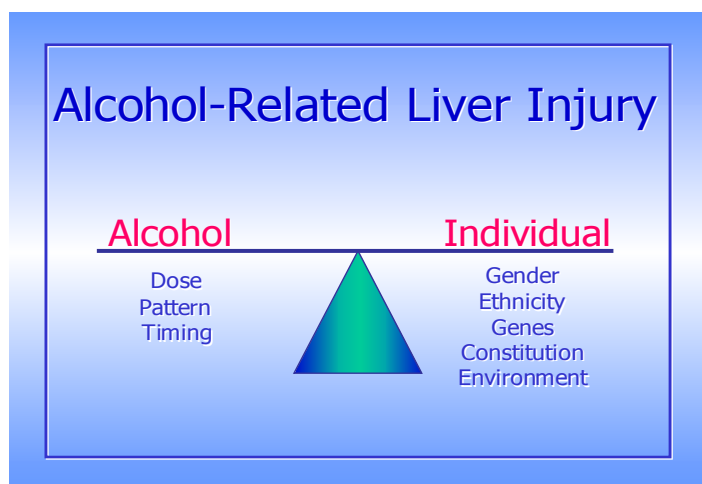
One of the most interesting problems facing researchers today is why ONLY 20% of individuals who misuse alcohol develop cirrhosis. Clearly the amount, timing and pattern of alcohol usage are important but the factors which determine individual susceptibility are less clear. However, gender, ethnicity, genotype, and various constitutional and environmental factors are known to play a role.

The generally agreed thresholds at which the risk of developing alcohol-related liver injury begins is low at 20g

drinking advice, regular daily drinking causes more harm to the liver than weekend drinking, which gives the liver time to regenerate between drinking episodes. There is some evidence that the risk may vary in relation to the type of beverage consumed but no consensus opinion.

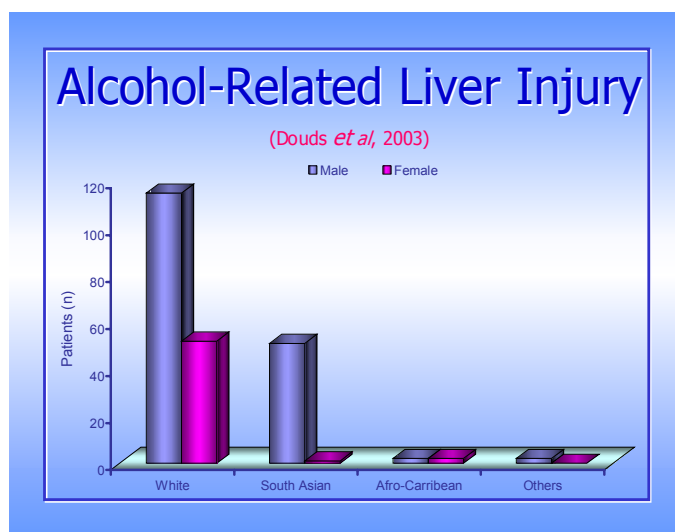
The risk of developing alcohol-related liver injury is the same for men and women although there is evidence that women may develop significant liver injury after a shorter drinking history. This is because women have a smaller body water compartment than men and so attain higher blood alcohol levels than their male counterparts after ingestion of similar weighted doses of alcohol. Thus, if a woman drinks a double gin then a man of the same weight would need to drink a triple gin to achieve the same blood alcohol level.

There is gathering evidence that the propensity to develop alcohol-related liver injury may vary with ethnicity. Douds et al 2003, shows a significantly higher incidence of cirrhosis among non-Muslim South Asian males in Birmingham, UK than reflected in the population, with a high proportion of them being under 40 years old. However Afro-Caribbeans were significantly underrepresented in the same survey.



a day, or 2.5 UK units for women, and 40g or 4.5 units for men. Risk increases in a permissive fashion according to dose, with a sharp increase of risk for men and women at levels of consumption of up to 60g of alcohol a day but thereafter the risk levels out (Kamper Jorgensen et al 2004).

The risk of developing alcoholic liver damage increases if you drink outside of meal times and unlike most sensible



Considerable research effort has been expended to see if genetic variance plays a role in determining individual susceptibility to develop alcohol-related cirrhosis. Candidate genes have been sort amongst those controlling the alcohol metabolising enzymes and the factors responsible for the genesis of alcohol-related liver injury, for example, those involved in oxidative stress, encoding cytokines and influencing immune responses. However, only 20% of the variance in susceptibility to alcoholic cirrhosis can be explained by genetic variance at least within the factors that have been explored to date.

Factors such as obesity, 'toxins' for example, prescribed medicines, OTC preparations, herbal medicines, dietary supplements, illegal drugs, and industrial chemical, and the Hepatitis C virus (HCV) are all associated with the development of liver disease in their own right. There is now clear evidence that alcohol accelerates the liver injury caused by these other agents. For example patients infected

HCV who also drink, and the intake need not be at misuse levels, increase their risk of developing HCV-related cirrhosis by a factor of 31, increase their risk of developing HCC and have a much poorer response to anti-viral agents. In many instances the liver injury in these individuals is wrongly attributed to alcohol. Indeed as many as 20% of individuals who misuse alcohol may have another cause for their liver injury.

Because the factors determining individual susceptibility to alcohol related cirrhosis are largely unknown, there are predictive markers to indicate which individuals will be affected.

Finally Marsha called for a more detailed break down of sensible drinking guidelines by age, making it clear that the beneficial effects of moderate drinking do not apply to individuals under the age of 45, where the risk of accident and injury associated with alcohol are significant and where risk of CHD is low. She also called for unification of the 'standard' drink pointing out that currently this can contain anything from 8 to 19 grams of alcohol by country. This makes international epidemiological comparisons very difficult. The simplest measure would be to express content in grams of absolute alcohol. In a later debate it was suggested that millilitres of absolute alcohol could be considered as a more understandable benchmark (8 g absolute alcohol is equivalent to 10 ml absolute alcohol).

## Alcohol-Related Liver Injury

- Only 20% of individuals misusing alcohol will develop cirrhosis
- Of these 20% will be <30 years old
- Only 20% of the variance in susceptibility can be explained by genetic predisposition
- About 20% of individuals misusing alcohol will have non-alcoholic liver disease



**Presentation by Alan Crozier PhD, Professor of Plant Biochemistry and Human Nutrition at the University of Glasgow**

Alan Crozier is a specialist in polyphenols and has studied wines from all over the world as well as other dietary sources of antioxidants. His findings are that there is a 30% reduction in CHD for those on a high antioxidant diet (sources include apples, onions, green and black tea, chocolate, berries and red wine).

A number of scientists have shown that red wine contains, in addition to alcohol, phenolic antioxidants include a whole range of compounds who share the ability to quench or eliminate potentially damaging free radicals in the body. Evidence continues to appear suggesting that wines polyphenolic antioxidants may help to prevent and counter cancers. Phenolics might protect against cancer by:

- ~ Shielding DNA from oxidative damage (perhaps the oxidation is sometimes promoted by acetaldehyde);
- ~ Inducing enzymes that protect against malignant mutation;
- ~ Modulating carcinogenic inflammatory reactions;
- ~ Promoting normal cellular differentiation and maturation;
- ~ Inhibiting growth of cancer cells;
- ~ Enhancing the effects of chemotherapy.

We are in the early days of understanding these mechanisms.

Phenolic compounds tend to reduce blood clotting, and have other effects that should reduce heart disease risk. For example, we have data from the US showing that moderate amounts of red wine will prevent blood platelets from clumping together to form a blood clot which may lead to a heart attack. It has been established that the consumption of two 100ml glasses of red wine a day increases the phenolic content of the average diet by 40%, but only a weak correlation exists between polyphenolic content and antioxidant activity.

Antioxidants, which protect against the sun's UV are found in fruits with a high density of skin to flesh and coming from a warm climate - hence a cherry tomato from Spain contains many more antioxidants than a beef tomato from Jersey for example, similarly small compact wine grapes are much richer sources than table grapes.

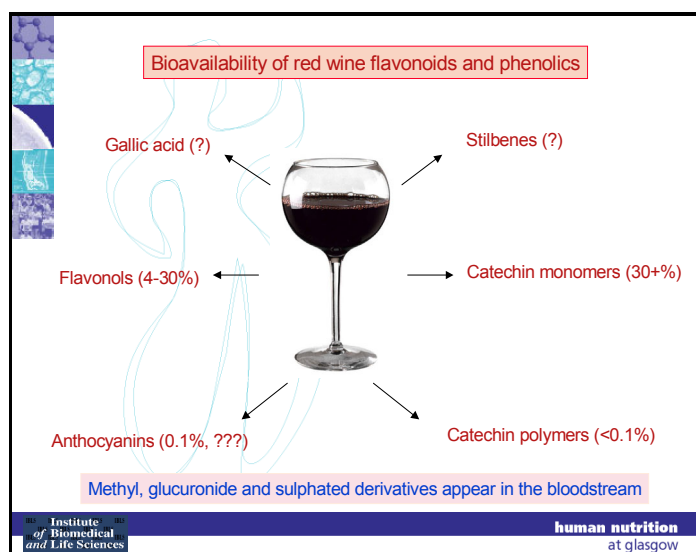
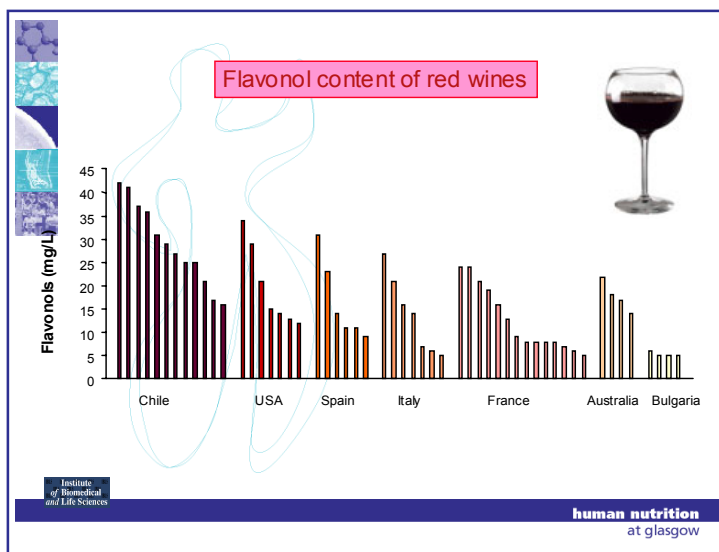
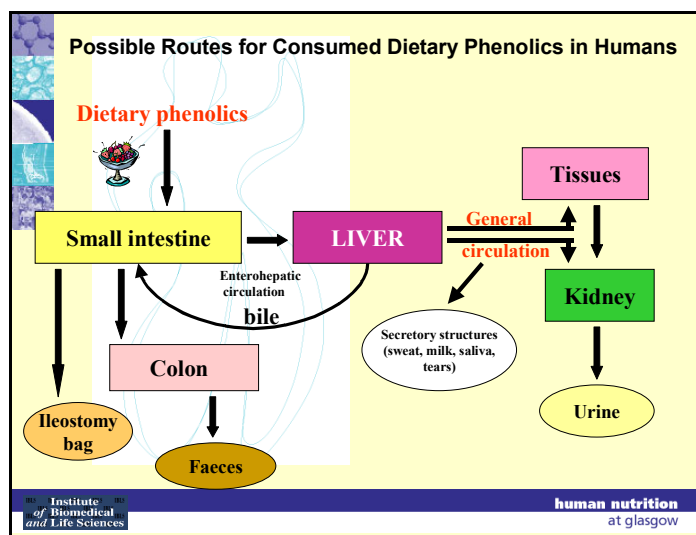
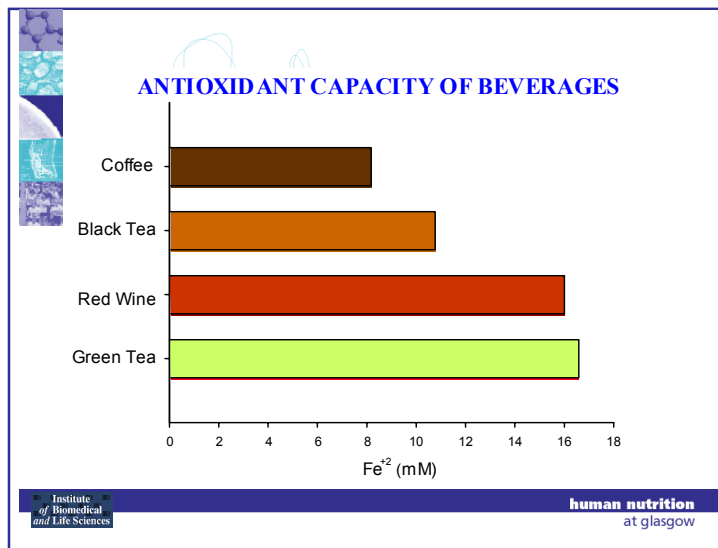
Research presented by Dr Alan Crozier from Glasgow University highlighted which grape varieties are the highest in antioxidants. Levels depend on country of origin, size and variety of grape, climate that year maturity, altitude and production methods. The research also established that antioxidant activity in unfermented grape juice is lower than in the finished wine - antioxidant activity increases during fermentation and maturation.

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What is also coming to light in Professor Crozier's research is that quantity may not be the most relevant issue - more important may be the size and absorbability or the bioavailability of the various antioxidants present in wine, beer and cider. Although this has not been completely established, it would be expected that the larger bulky antioxidants are likely to stay in the gut rather than to get absorbed. The types and levels of antioxidants in cider are fairly similar to wine whereas beer is very different (being cereal rather than fruit). Beer tends to have the smaller antioxidants in a higher proportion such as catechin, epicatechin, and ferulic acid - but it also has bulky complex antioxidants originating from the hops and roasted cereals. Taking resveratrol as an example, recent research suggests that its bioavailability could be low, ranging from 20-40%. This contrasts with reports on the bioavailability of ferulic acid from an alcoholic beverage of nearer 100% (this time from beer).

Furthermore, research suggests that once absorbed, antioxidants are often metabolised into other forms - forms which may have different biological activity. For example, much of the resveratrol is modified in the liver by coupling to glucuronic acid. Therefore establishing the absorption and further metabolism of antioxidants is a key factor in establishing their biological effects. We have also learnt that ethanol has a pro-oxidative effect on plasma lipids.

Hence the usefulness or bioavailability of the antioxidants available in alcoholic beverages is not yet fully established. However the importance of antioxidants themselves in vasodilation, fighting cancer and dementia are established and further research as to absorption by the human body is needed.



**Barry Sutton, Chairman of the Wine and Spirit Trade Association** spoke on balancing moderate drinking with social and responsibility issues. He began 'It must be stressed, stressed, and stressed again and again that the trade has no commercial interest at all either in having senseless customers or pictures of legless drunks in newspapers or TV. On the contrary, the commercial interest of the trade as a whole is for alcohol consumers to drink regularly but moderately into a very long old age. A George Best is far less profitable than my great aunt Rose who drank a couple of glasses of tonic wine a day and a teaspoon of whisky in her tea and lived to 107! If anyone in the trade believes that encouraging maximum drinking per session is more profitable than the 'lifetime profitability' of sensible customers they are simply not commercially literate.

However, we are not seen in that light by the media and this is something that we have to live with whilst doing our best to encourage moderation.

### *It's a Balancing Act*

What we have to as a trade is to make it as easy and as painless as possible for the average sensible adult to access the widest possible range of alcoholic beverages in whatever quantity they wish and in any place that they prefer to be in. At the same time we have to make it harder for minors and excessive drinkers to get hold of their alcohol. How?

### *Retail of Alcohol Standards Group*

The most recent initiative binds the vast majority of retailers and 8,500 outlets with the explicit aim of eliminating underage sales by the end of this year. Not just by exhortation but by practical measures including heavy in store promotion, staff training (maybe this goes too far as my mother in law was asked to provide proof of age recently - though she was flattered), research and strong coordination with other entities.

### *Other initiatives*

We have the Portman Group continuing its excellent work in controlling irresponsible advertising and its more recent initiative to get the whole trade committed to [www.drinkaware.co.uk](http://www.drinkaware.co.uk)

We have the PASS scheme that sets up a viable system to produce proof of age cards.

There are Responsible Retailing Awards for companies that are effective in their campaigns to reduce under age drinking and abuse.

There are new codes of conduct covering both 'on' and 'off' trades

All of the above are fully supported by the WSTA, and our staff have been ultra active in developing and promoting the schemes both to the trade, the public and government.

### *The Future*

The WSTA and, I believe, the whole trade, has a commitment to continue to develop initiatives to promote

sensible and moderate drinking and to control abuse and under age purchasing. Our work will be research based focussing on effectiveness rather than cheap publicity.

We will need continuing help and support.

From AIM, from The Portman Group, from the medical and research community, from our fellow trade associations, from our members and from any body that can give us information support and advice.

May we thank AIM for giving us all the opportunity to contribute to the mission. What I want to repeat is that the commercial interest of the trade is to support the moderation mission with all the strength it has. This is the route to ongoing health for all the companies in our great trade. Here's to long life through moderation.

**Ian Harris** spoke on the work of the Wine and Spirit Education Trust in promoting responsible consumption, he commented; 'The WSET is to introduce modules on the responsible retailing, marketing and sale of alcoholic drinks and the 'the Social Responsibility Standards' into Foundation and Intermediate Certificate programmes. The WSET distributes the 'The Wise Drinkers Guide' and links to the AIM websites - making 'Alcohol in Moderation' available to 15,000 students a year'.

**Helena Conibear** concluded:

'We are very lucky in the UK that we have a government that recognises that the vast majority of people drink in moderation the majority of the time and is united with the industry in the recognition of the key target areas of misuse that need addressing - particularly under age drinking, binge drinking, the rise in women's drinking, the anti social behaviour linked to excessive drinking and above all encouraging the population to limit their consumption to within the sensible drinking guidelines that is 2-3 units of 8g a day for women and three to four for men. We hope the presenters today, demonstrated the scientific base for the parameters of moderate drinking - where the benefits end and the risks begin'.

- **We recognise the importance of having a well informed trade**
  - both as to units of alcohol, guidelines, and the law
  - and the implications of alcohol
- **We recognise that 'Alcohol in Moderation' is key to the future of our industry**
- **Balance and facts from experts**