

Statistics 1B Interludes

1. Guidelines for alcohol and toast

UK Chief Medical Officers' Alcohol Guidelines Review

Summary of the proposed new guidelines

Both men and women advised not to drink more than 14 units a week

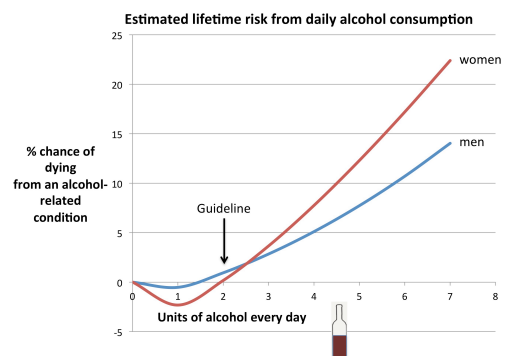
But where does this come from?



One alcohol unit = 10ml or 8g of pure alcohol.

1.5 units  Small glass red/white/rosé wine (175ml, ABV 12%)	2.1 units  Standard glass red/white/rosé wine (175ml, ABV 12%)
3 units  Large glass red/white/rosé wine (350ml, ABV 12%)	2 units  Pint of lower strength lager/beer/cider (ABV 3.6%)
3 units  Pint of higher strength lager/beer/cider (ABV 5.2%)	1.7 units  Bottle of lager/beer/cider (330ml, ABV 5%)

Model output provided in expert report



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Summary of the proposed new guidelines

2. The proposed guidelines and the expert group report that underpins them, have been developed on the basis of the following principles:

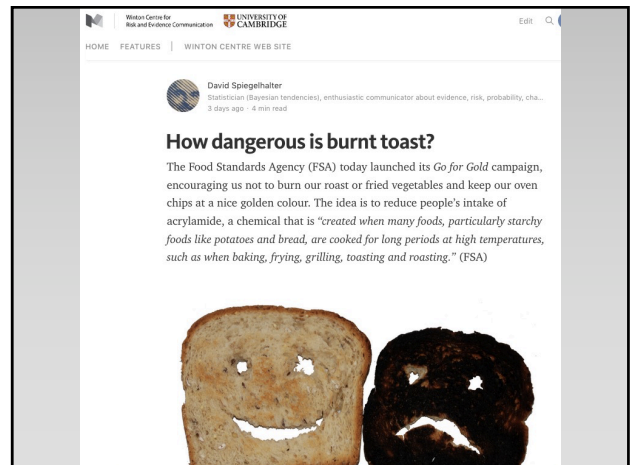
- People have a right to accurate information and clear advice about alcohol and its health risks.
- There is a responsibility on Government to ensure this information is provided for citizens in an open way, so they can make informed choices.

So what did the Department of Health say?



These issues prompted changes to alcohol guidelines for men. Men should not drink more than 14 units of alcohol each week, the same level as for women. This equals 6 pints of average strength beer a week, which would

This review also found that the benefits of alcohol for heart health only apply for women aged 55 and over. The greatest benefit is seen when these



However, there is no good evidence of harm from humans consuming acrylamide in their diet: [Cancer Research UK](#) say that "At the moment, there is no strong evidence linking acrylamide and cancer."

This lack of evidence is not for want of trying. A [massive report from the European Food Safety Authority \(EFSA\)](#) lists 16 studies and 36 publications, but concludes

In the epidemiological studies available to date, AA intake was not associated with an increased risk of most common cancers, including those of the GI or respiratory tract, breast, prostate and bladder. A few studies suggested an

Group	Age-range	Estimated acrylamide exposure in $\mu\text{g}/\text{kg}/\text{day}$		BMDL ₁₀ $\mu\text{g}/\text{kg}/\text{day}$	Margin of exposure	
		Average	High (97.5%)		Average consumers	High consumers
Toddlers	1-5-3	1.4	2.9	170	120	59
Young people	4-6	1.4	2.6	170	160	77
	7-10	1.1	2.2	170	160	77
	11-18	0.75	1.5	170	230	110
Adults	19+	0.56	1.1	170	300	160

Table 1: BMDL₁₀ is the exposure of acrylamide which toxicologists think unlikely to cause increased tumours in mice. The 'margin of exposure' is the BMDL₁₀ divided by the estimated exposure.

of acrylamide in diet. But, for cancer, toxicology committees demand a rather arbitrary margin of exposure of 10,000 before considering the chemical essentially acceptable. That's 33

Conclusions

- Statistical analysis is vital
- But many uncertainties/assumptions are not reflected in the final guidance