

# THE MOON

(Better than The Sun ... )

On Saturday 10<sup>th</sup> May *The Sun* published the article "[What's your poison? The toxins that are all around us](#)". It contained so many scientific inaccuracies we called on trained toxicologists and dieticians to respond. Here is a version that fits reality ...

## What's your poison?

### ~~The toxins that are all around us~~

#### The misinformation that is all around us

"While the body is equipped to rid itself of toxins by breaking them down in the liver, ~~it is not designed to cope with the sheer quantity we encounter as part of modern day living,~~ according to travel writer Anna Rodgers [who has not trained as a toxicologist or a dietician]."

According to toxicologist Professor Alan Boobis: "We have been actively detoxifying potentially harmful chemicals in our diet for millennia, at much greater levels than those to which we are now exposed from man-made sources."

Professor Sir Colin Berry explains in our guide, *Making Sense of Chemical Stories*: "One of the most poisonous chemicals that many people encounter is alcohol. However, even if you drink an almost lethal dose of alcohol (which I don't recommend) your liver will clear it in 36 hours."

~~"Toxic exposure builds up inside of us each and every day. This is why there are so many people with cancers and other serious illnesses."~~

The reality is that many claims about chemicals being 'linked' to diseases simply tell us that a chemical was present when an effect occurred, rather than showing that the chemical causes the effect.

### Aluminium

~~"Aluminium intake has been strongly linked to the development of Alzheimer's and dementia ...."~~

Alzheimer's Society says: "There is no evidence that aluminium causes Alzheimer's disease. Aluminium is found in protein build-ups associated with Alzheimer's disease, but that doesn't mean that this is due to too much aluminium being present in the body - the same is true of other metals."

### Mercury

~~"Linked to [...] Alzheimer's." "If you have amalgam fillings, you should avoid chewing gum or drinking hot drinks - these can cause toxic vapours to be inhaled."~~

Professor Sir Colin Berry responds: "To get vapour from amalgams to give off enough mercury you would need a temperature that would fry your tongue!"

Alzheimer's Society says "Low levels of heavy metals, including mercury found in tooth fillings, have not been linked with an increased risk of developing dementia. Mercury has been identified as a neurotoxin but only at very high levels. The amount present in the environment for the vast majority of people is not at these levels."

## Lead

~~“Lead has been linked to behavioural difficulties, insomnia, failing memory, hearing loss, anaemia and Alzheimer’s.”~~

According to chemist Dr John Emsley, “The issues regarding lead relate to the world as it was in the middle of the last century when lead-based paints, lead pipes, and lead-containing petrol were all used. Even so, its effects were hardly noticed by the vast majority. Today all these sources of lead have been removed from our lives. There are still some homes with old paint and pipes and a couple of the points are valid for them, but I can't believe there are many who live in such houses. As for eating 'organic' food, that tip is nonsense as a way of avoiding lead.”

Professor Alan Boobis says: “This article mixes some very real issues, such as lead contamination from old pipes, to some which are minimal, such as lead from pesticides. Whilst one way to reduce risk is to minimise exposure, there is no evidence that the suggestions to help improve digestion or to detoxify the indoor environment will have any impact at all.”

## Tackling misconceptions about chemicals

Chemicals are often presented in the media as something that can be avoided or eliminated using special diets, and that they cause only harm to health and damage to the environment. The realities are that everything is made of chemicals, that synthetic chemicals are often safer for human health than so-called ‘natural’ ones, and that unfounded anxiety about chemicals is encouraging people to buy into ideas and ‘remedies’ that make little scientific or medical sense.

**On Monday 19<sup>th</sup> May we’re launching the new edition of *Making Sense of Chemicals*, a guide to combat these and other misconceptions that exist around chemicals. Look out for the guide on Monday here: [www.senseaboutscience.org](http://www.senseaboutscience.org) #MSChemicals**

