



EXCURSIONS AND OTHER NEWS

Small insights in student's or professor's points of view, field trips, and other stuff we do.

What is an ISSN and why does BioS Reports have one?

by Klaus Reinhardt

From issue #9 onwards BioS Reports displays an eight-digit number on their header. This number, the ISSN – International Standard Serial Number – is a globally unique identifier for continuing resources and serial publications, which, by definition of the ISSN International Centre are published “without a predetermined end”¹. So, BioS Reports declares to go forward without a predetermined end - a sign that they are going to get (even more) serious. Seriousness will be helpful when it comes to link the content of BioS Reports articles to existing encyclopaedic websites (e.g., Wikipedia) or to reach out to science communication channels. Another benefit, besides showing the intent to join the ranks of serious publications, is that the ISSN can be searched in the world catalogue of (scientific) journals called WorldCat, and hence BioS Reports is also listed there,

accessible to all libraries in the world. The ISSN International Centre themselves further suggest that an ISSN increases visibility, facilitates sales and provides “increased recognition of the value of their content”². This sounds great but I have the feeling that increasing visibility and recognition will have to be largely done by ourselves – by providing great and unique content and by working to reach out to the public. That articles are now being translated into German³ is a first step towards the latter aim. The ISSN International Centre recommends the ISSN being displayed ideally in the top right corner – voilà!

FACT CHECK

In this section students evaluate the scientific evidence behind a certain urban myth.

TikTok Trend with explosive effect: Shortage of a diarrhoea medication

by Cosima Sagurna, Hedda Wern, Jana Skrobanek, Leonie Hobohm

Social media determine our lives in many ways. Posting, liking and sharing are daily habits, especially of the young generation. So-called “trends” are very popular posts that go viral and dominate social media platforms in the shortest amount of time. This phenomenon can have an impact outside the online universe, as was the case last summer in Germany: A TikTok trend caused shortage of the diarrhoea medication Elotrans[®]. Several TikTok creators endorsed taking Elotrans[®] because they experienced less severe hangover symptoms^{1,2,3}. Elotrans[®], a glucose-electrolyte mixture, allegedly prevents hangovers by balancing the electrolyte level, which can be disturbed through alcohol consumption. Since Elotrans[®] is available without prescription, the medication was quickly sold out and manufacturer STADA couldn't keep up with the production^{1,2}. In the media, alleged hangover curing effects of Elotrans[®] were discussed immensely. Is there any truth behind the hype? Do the electrolytes help the body to recover from heavy alcohol consumption, is it the extra liquid supply from taking the medication or is the positive effect just a myth after all?

Alcohol has direct toxic effects on our body that contribute to a hangover. The medical term for this temporary state is *veisalgia*. Type and intensity of hangover symptoms vary based on body constitution and environmental factors, but commonly include fatigue, headache, muscle aches, dizziness, vomiting and mood swings⁴. A hangover usually occurs with falling alcohol concentration in the bloodstream, meaning that symptoms are most noticeable once the person is sober again⁴. It is known that electrolyte loss plays a significant role in chronic, acute alcoholics⁵ but how is the situation for people who are not addicted to alcohol? To find out if supplemented electrolytes, rather than mere extra liquid, help to alleviate *veisalgia* symptoms, we need to ask the question: Why does a hangover occur?

Alcohol acts as a diuretic, which means it reduces the reabsorption of water in the kidneys and therefore leads to higher urine production⁴. When we urinate, we naturally not only excrete water, but also electrolytes⁵. The results of two studies imply, that the electrolyte balance was not significantly impacted during and after moderate alcohol intake in average non-addictive consumers^{6,7}. It means, that hangovers of non-addicts should have other causes than electrolyte imbalance. Therefore, the intake of Elotrans[®], as recommended in TikTok videos, will not aid in alleviating hangover symptoms, as there is no electrolyte imbalance that needs to be restored. Indeed, providing one group of people with electrolytes (plus sugar and water) with a similar composition to Elotrans[®] before alcohol consumption did not significantly reduce hangover symptoms compared to people who only received water and sugar⁸.

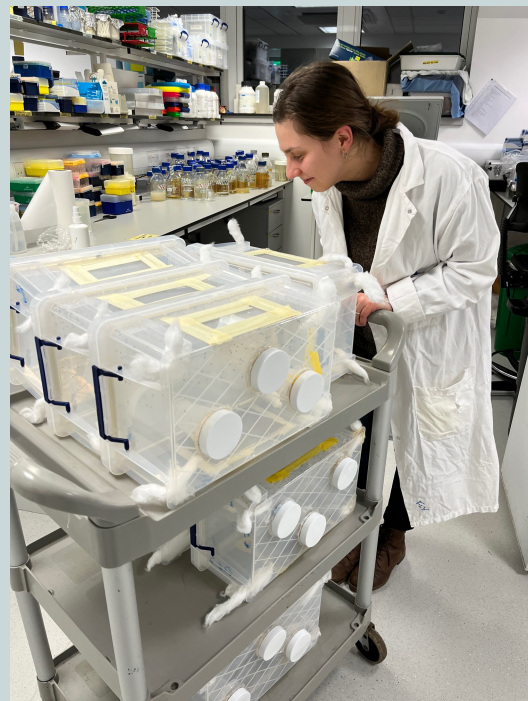
If non-addictive alcohol consumers are unlikely affected by loss of electrolytes, what other reasons are there for hangover symptoms? The answer may include increased oxidative stress⁹. Oxidative stress can occur in the body when certain physiological processes are thrown off balance, leading to cell and tissue damage and possibly diseases⁹. Some studies also cite dehydration as a possible cause for a hangover⁴. In short, the only reason Elotrans[®] seems to lessen the aftereffect of heavy drinking is increased water intake as a side effect from taking the medication and presumably a non-negligible placebo effect. In conclusion, no evidence was found for the online claim that Elotrans[®] had anti-hangover properties, a rumour which ultimately caused a supply shortage.

A shortage in Elotrans[®] can prove to be an acute, but not fatal issue for people in need of a diarrhoea medication. But shortages because of improper use could happen with medication or other supplies that have more serious consequences if not accessible. This incidence shows that we need to learn to not take everything posted on the internet at face value. Critically evaluating the facts presented and checking the sources are skills that everyone should learn to make sure that only cross-checked facts are further distributed.

EXCURSIONS AND OTHER NEWS

Understanding ageing using the fruit fly – Lab Rotation

by Anne Ryndyck



Picture: Anne in the lab with fly cages.

Ageing is an omnipresent topic in society, medicine and disease. Insights into the mechanisms of ageing are studied in different organisms such as the famous fruit fly *Drosophila melanogaster*. Various factors can drastically alter the life expectancy of organisms. Here, the differences between sexes can also be remarkable¹. In relation to these fascinating topics, I had the opportunity to complete my Lab Rotation in Jenny Regan's lab, which is part of the Institute of Immunology and Infection at the University of Edinburgh, Scotland.

I infected different lines of fruit flies at different life stages with a specific strain of the bacterium *Pectobacterium carotovorum* to trigger an immune response in the flies. The goal was to observe survival of the fruit flies after their infection and to investigate whether there are differences among different fruit fly lines as well as sex differences.

During my experiments I learned how to dissect guts from infected flies and to count dividing intestinal stem cells. They serve as an indicator for ageing and response to the infection. Since I am still in the process of analyzing the data, I am excited to see what the results will reveal.

In addition to the lab work, I was able to meet people, participate in lab meetings and explore the beautiful Edinburgh. I would also highly recommend a trip to the Highlands, they were stunning.