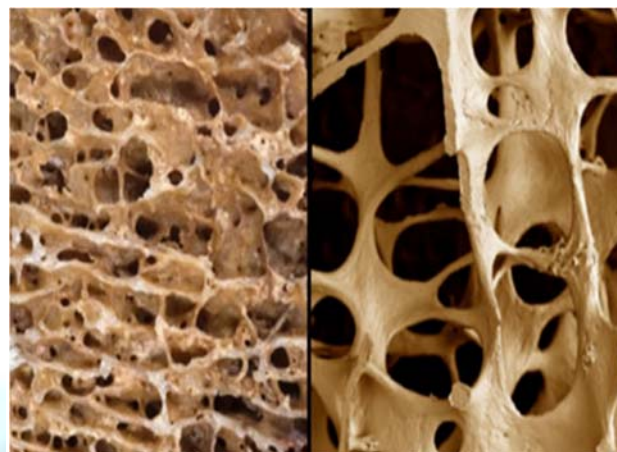


Drug For Osteoporosis Causes Micro-Cracks in Bones

According to a new research, a therapy that has been prescribed for osteoporosis for over 2 decades has actually been linked to increased incidence of hip fractures! Scientists are saying that the root of the problem rests in the microscopic fractures that are caused, paradoxically, by the drugs such as alendronate (trade name Fosamax) and ibandronate (trade name Boniva) which are supposed to strengthen bones.

The research team in Imperial College London examined samples from patients who suffered hip fractures. Half of the patients had received bisphosphonates, and half had not. The microscopic cracks found in the bone of patients exposed the bisphosphonates. People who had taken bisphosphonates had 24 percent more microfractures in their bones, as compared to those who had not taken the drug. As such, these people had bones that were 33 percent weaker than bisphosphonate-free patients.



Source: <https://www.labroots.com/trending/clinical-and-molecular-dx/5431/osteoporosis-drug-causes-micro-cracks-bones-instead>

Combined effect of Obesity and Diabetes on Brain

For patients who are both obese and diabetic (specifically adult onset Type 2 diabetes), the combination of both of these problems can actually



alter the brain according to new research. The European Association for the Study of Diabetes [EASD] revealed that overweight and obese individuals with early stage type 2 diabetes (T2D) had more severe and progressive abnormalities in brain structure and cognition compared to normal-weight study participants.

MRI studies were conducted to measure the mean thickness of the cerebral cortex of the study patients. Thinning of this part of the brain is associated with dementia and cognitive decline. The MRI images showed that grey matter was noticeably thinner in the temporal, prefrontoparietal, motor and occipital cortices of the brains of diabetic patients as when compared to the healthy control group. This thinning was even more pronounced in the group of overweight and obese diabetic patients when compared to diabetics of normal weight. In the temporal lobe of the brain, thinning of the cortex was most significant in those patients who were both overweight/obese and diabetic. The temporal lobe is one of the most commonly affected parts of the brain in patients with Alzheimer's disease and other forms of dementia, so seeing this kind of damage among patients who were both overweight and diabetic was significant. The researchers have already advised that failure to control blood sugar and weight could have serious risks to the brain.

Source: <https://www.labroots.com/trending/neuroscience/5901/obesity-diabetes-combine-affect-brain>

A Drug for Overactive Bladder is Linked to Depression

Overactive bladder, or OAB, is common in elderly women but two recent research studies show that the most commonly prescribed drugs to treat this disorder, antimuscarinics, could have mental side effects like depression. OAB is a condition where the urge to

urinate is more frequent and more urgent than normal which can happen after childbirth, trauma or as a side effect of certain medications and often does happen without any pathology or explanation.

The first study, from researchers at Taipei Medical University Hospital, used data from the Taiwan Longitudinal Health Insurance Database. The team led by Li-Ting Kao identified 1,952 women with OAB who took antimuscarinics and 9,760 women with OAB who did not take antimuscarinics. The women were followed for three years. Over this time period the patients who had taken the antimuscarinics had a 38% higher chance of being diagnosed with depressive disorder than those who had not taken the medication.

Thus, clinicians should be alert to the relationship between antimuscarinics and depressive disorder in OAB women. However, future experimental studies are still required to identify the potential mechanisms for the association between antimuscarinic use and depressive disorder in OAB women.



Source: <https://www.labroots.com/trending/neuroscience/5802/drug-overactive-bladder-linked-depression>

Gut Bacteria Linked to Chronic Fatigue Syndrome

Abnormal levels and types of gut bacteria may be the cause of Chronic Fatigue Syndrome/Myalgic Encephalomyelitis (CFS/ME), researchers report. The findings add to the growing body of evidence that the microbiome is actively involved in our health outcomes.

Researchers at the Columbia University's Mailman School of Public Health inquired whether CFS may be caused by gut bacteria, as it has been linked to viral infection, hormonal imbalance, and even immune malfunctions. Furthermore, a large percentage of CFS patients also suffer from irritable bowel syndrome (IBS) - a condition with known influences from the gut bacteria. The team analyzed fecal samples from 50 participants with CFS/ME and 50 healthy controls. They found that the gut bacteria of affected



Source: <https://www.labroots.com/trending/clinical-and-molecular-dx/5865/gut-bacteria-linked-chronic-fatigue-syndrome>

patients had high levels of certain bacteria: *Faecalibacterium*, *Roseburia*, *Dorea*, *Coprococcus*, *Clostridium*, *Ruminococcus*, *Coprobacillus*. Furthermore, the bacteria types were different among those who had CFS/ME only, and those who had both CFS/ME and IBS.

However, it is not clear how IBS and CFS are interrelated - chronic fatigue syndrome may trigger IBS and vice versa, or the two conditions may be simultaneously triggered. However, the results suggest a look into the gut microbiome, which could one day give doctors the indications to more accurately

predict and diagnose CFS. Furthermore, the results hint at new ways to treat the condition, possibly by modulating the levels of the bacteria in our bowels.

Introducing the most eco-friendly pet: the caterpillar that eats plastic bags

Dr. Bombelli and colleague Federica Bertocchini from the University of Cambridge have discovered that the wax worm, the larvae of the common insect *Galleria mellonella*, or greater wax moth, is able to degrade plastic. Bertocchini, is a beekeeper, and she found the worms' utility by accident when she took them out from honeycombs in her hives and left them in a plastic bag. Later she found that the bag had holes in it and embarked on her experiments. The scientists put one hundred wax worms in a plastic bag from a UK

Source: <https://www.labroots.com/trending/earth-and-the-environment/5854/introducing-eco-friendly-pet-caterpillar-eats-plastic-bags>

supermarket and left them to do their thing - which they did, after only 40 minutes. Twelve hours later they had reduced the mass of the bag by 92mg. The researchers say that if they can discover how the chemistry works behind the worms' process, it could mean big things for managing plastic waste in the environment. More research will be necessary to reach this point, but the team is hopeful for the implications that their caterpillars could serve as a solution for managing plastic waste and contribute to a more healthy environment.