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ASMR SA ANNUAL SCIENTIFIC MEETING - Adelaide Convention Centre

## SA SCIENTISTS STRUT THEIR STUFF

### Junk food – is it an addiction?

Why do so many people struggle to control junk food intake? Consuming foods high in sugar and fat causes the release of dopamine in the central reward pathway creating a feeling of pleasure not dissimilar to that caused by drugs. Repeated activation of reward feelings is associated with addiction and this study has shown that chronic junk food intake can result in dependency. *Zhi Yi Ong, Sansom Institute, University of SA*

**Kids not getting enough sleep? Just 12 minutes a night more could help treat and prevent childhood obesity!** Dr Carol Maher from the University of SA examined the relationship between weight status and sleep duration in adolescents on school and non-school days. Dr Maher has found that there is an association between low duration sleep and overweight and obese children. Obese adolescents slept 12 minutes per night less than normal weight adolescents and 20 minutes less than very underweight adolescents, varying on different types of days with a 65 minute difference between obese and very underweight on non school days!

### Emus do more than run fast!

Cancer chemotherapy is known to cause bone osteoporosis and fracture in cancer patients and survivors. Rethi Nadhanan from the University of SA examined the potential protective effects of dietary supplementations with Emu oil which is known to possess potent anti-inflammatory properties and has been widely used by Australian Aboriginals to treat arthritis and joint pains. The oil has been shown to have some protective effects and may be useful in protecting bone and preventing chemo induced bone loss.

## BABES IN THE WOMB

### Under-nourished Mum, under-nourished Bub, long term implications!

Jessica Reid from the University of SA is looking at the effect of poor nourishment during pregnancy, particularly relative liver weight. Babies born small for gestational age are more likely to be obese and suffer from metabolic and heart disease in later life.

### Intergenerational obesity – breaking the cycle.

Dr Bev Mulhausler, University of SA is looking at why babies born to women who are overweight or obese during pregnancy have an increased risk of being fat children and adults and developing strategies to stop the intergenerational cycle of obesity.

### NUTRITION AND DNA DAMAGE – Can diet make a difference?

Alzheimer's disease is the most common form of dementia and currently affects 27 million people worldwide. Epidemiological research suggests that onset of the disease may be influenced by diet. People who eat a Mediterranean diet are less likely to develop Alzheimer's. Dietary supplements such as grape seed extract or curcumin have been suggested as being potentially protective. Sarah Brooker from CSIRO will compare Alzheimer's disease prone mice on Western diets and those receiving potentially protective nutrients.

### Cardiac Repair using adult bone marrow stem cells

The therapeutic benefits of stem cells from adult bone marrow for heart attacks are known. However, the ability of these special cells to help repair the heart in other types of heart failure, or cardiomyopathies, has not been well understood. This work demonstrates that a particular type of stem cells isolated from adult bone marrow can in fact improve heart function and lessen the amount of tissue scarring (fibrosis) that leads to heart stiffness in cardiomyopathy.. *Peter James Psaltis, University of Adelaide*

- **Protective low dose radiation for cancer prevention**  
Low dose radiation has been shown experimentally to protect from cancer. Alex Staudacher from Flinders University is trying to identify the mechanism through which this protection occurs with a view to establishing a low dose radiation procedure for cancer prevention.
- **An 'apple a day' may not keep the doctor away**  
Apple juice diarrhea in infants is caused by fructose malabsorption. This study supports the conclusion that younger children have lower physiological thresholds for fructose absorption and show that absorption ability improves with age. *Hilary Jones, University of SA*
- **A Gecko's tail!**  
The humble gecko is helping unlock the mysteries of regeneration and vascular regrowth. The Australian marbled gecko *Christmas marmoratus*, like many gecko species can drop its tail to escape predators. *Christmas marmoratus* can then regenerate a new, fully functioning tail! Molecular modeling is helping to identify crucial elements for successful regeneration. *Helen Blacker, University of Adelaide*
- **Grape Seed Extract and bowel disease**  
Ker Cheah from the University of Adelaide is looking at the effect of grape seed extract on chemotherapy induced and inflammatory bowel disease. Grape seed extract has the potential to exert anti-oxidant and anti-inflammatory activities within the gastrointestinal tract and may represent a promising new treatment.

## ABSTRACTS AVAILABLE

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