

Child Health Obesity

As childhood obesity rates continue to rise, so too does the growing concern felt by health professionals.

In order to help combat the problem, the Child Health Obesity Telstra Kids Research Program, funded by the Telstra Foundation, has been developed.

The participants for the program which runs for 24 weeks were sourced from newspaper advertising. The aim of the program is to provide an alternative exercise program for overweight and obese children aged between 7-12 years.

Using resistance exercise techniques, the program aims to significantly reduce the weight of already overweight and obese preadolescent children with major loss coming from the fat of the soft tissue as opposed to the fat free mass.

Although funded by Telstra, the program is run

by postgraduate and undergraduate Exercise Science students in the School of Exercise, Biomedical and Health Sciences.



Dr Michael McGuigan is the project manager and the principal investigator of the grant, along with Professor Robert Newton.

The program is designed to improve body image and self-esteem whilst also aiming to enhance the muscular endurance, power and strength of the children involved.

After only eight weeks, the program had already produced astounding results with an average decrease in body fat percentage of 2.6%, with levels ranging from 0.02% to 7.4%.

The average body weight of the children stayed the same, meaning that there were increases in muscle mass along with decreased body fat levels.

The Telstra Kids Research program encourages a healthy exercise regime with steady weight loss attributed to a well-rounded lifestyle.

On Friday 1 September, the research program achieved national recognition when it was broadcast on ABC Stateline.

Collinsville Coal Project



In collaboration with the Collinsville Coal Project (Xstrata Pty Ltd) and Bowen Shire Council in Queensland in a project funded by an Australian Coal Association Research Program Grant, Dr Mark Lund and Clint McCullough (Research Fellow in the Centre for Sustainable Mine Lakes) from the School of Natural Sciences have been involved in an innovative project to clean up toxic and acid mine waters. Once coal has been extracted from the Collinsville mine, it leaves behind shallow open cut pits (10-20 m deep, several hectares in size) which fill with rain and groundwater to form mine pit lakes.

Water quality in these lakes is very poor with pH as low as 2 and high levels of iron,

sulphate, aluminium and toxic heavy metals. Water is scarce in the area, with the mine relying on water from the nearby Bowen River for its operations. Nevertheless, there is sufficient water in these lakes to substantially reduce extraction from the river, if the quality is good enough for use.

The ECU team has developed an approach to treating the lake water in situ using readily available natural organic materials. The main source of organic materials in the area is human sewage and greenwaste (garden clippings). In a series of small scale experiments, the team was able to use greenwaste and sewage to rapidly increase pH to neutral and achieve substantial reduction in toxic metal levels. This remediation treatment opens up the use of water for industrial applications such as dust suppression.

The team are trialling the approach in a large mine lake that the company has divided into two sections; one to be treated (50 millionL – approximately 20 Olympic sized pools) and one left untreated (control). Liquid and solid sewage from Collinsville and Bowen, along

with greenwaste from Collinsville will be added to the treatment lake.

Although additions only commenced in July 2006, the team are already detecting some positive signals that indicate that bacteria feeding on the organic matter are reversing the process that caused the acidity to develop in the first place. Monitoring is planned until the end of 2007.

The project recently won the Ergon Energy Tidy Towns 2006 Award for Environmental Innovation and featured in the Xstrata Pty Ltd annual report.

