

## Health & Fitness Tips

### Dehydration - It's hotting up

By LEUT Tracey Elliot

#### The importance of replacing lost fluids in the heat

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WHEN exercising in the heat the body is faced with two competitive demands:

- muscles require oxygen to sustain energy metabolism, and
- metabolic heat must be transported by the blood from deep tissues to the periphery.

As demands are placed on the body's fluid reserves, a relative state of dehydration frequently occurs.

#### DEHYDRATION

In a few hours of hard exercise in the heat, water loss or dehydration can occur quickly.

The magnitude of fluid loss for an acclimatised person may reach a peak of about three litres per hour during severe work and average nearly two litres an hour on a daily basis.

Several hours of intense sweating can also cause sweat gland fatigue, which makes it very difficult to regulate core temperature.

#### FLUID REPLACEMENT

The aim of fluid replacement is to maintain plasma blood volume so that circulation and sweating can progress at optimal levels.

Prevention of dehydration and its consequences, especially hyperthermia – absorption of more heat into the body than it can dissipate – can only be achieved with adequate water replacement.

Drinking extra water before exercise, especially in the heat, provides some protection because it delays the onset of dehydration, increases sweating during exercise and brings about a smaller rise in core temperature.

But it is still important to continually take in fluid during exercise.

Sorting out how much water is right for you is pretty easy: weigh yourself prior to endurance exercise then weigh yourself when you finish.

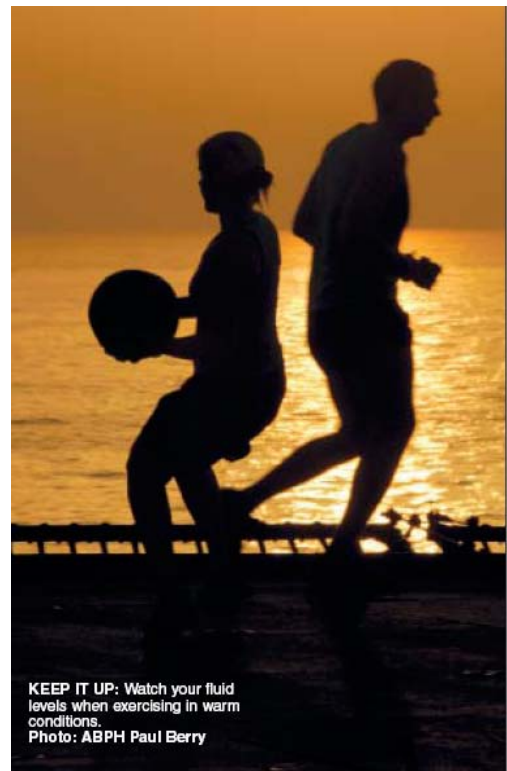
If you weigh less then you should have drunk more; if you weigh more you drank too much.

#### HOW MUCH WATER SHOULD WE AIM TO DRINK?

Cold fluids are absorbed by the body at a faster rate than fluids at body temperature.

A volume of about 250mls ingested at 10-15 minute intervals is probably a realistic goal – larger volumes tend to make you feel full.

To obtain a high rate of fluid absorption, don't get full and make sure the water is cold.



## **SPORTS DRINKS AND ELECTROLYTE REPLACEMENT**

The value of sports drinks is in their carbohydrate content – the carbs top up the blood glucose levels and delay fatigue.

But sports drinks often do not address the replacement of large electrolyte losses because they have a low sodium content.

In the case of post-exercise rehydration, there is evidence that the replacement of electrolyte losses, particularly sodium, must occur before fluid balance is fully restored.

So fluid intake should be accompanied by electrolyte replacement, particularly sodium, to optimise fluid retention.

Sodium replacement can be achieved through the consumption of salt-containing foods eaten at meals or as a recovery snack (bread, cereal, and processed savoury foods) or by adding salt to meals and snacks.

Electrolyte replacement during and after sport is really an issue for a selective group of people and should be conducted under the supervision of a sports physician or dietician.