SCOTTISH GLIDING CENTRE

# SAFETY NEWSLETTER

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# The importance of the ABCD checks

We all know that you should have a walk around the glider and do our ABCD checks before any flight and not just jump into the glider. But are we all doing it?

Things can happen during a flight that cause an issue for the next flight without having been noticed.

Just recently the new Motorglider was coming back from a flight ready for the next pilot. It had been DI'd and no issues found before the first flight. The next pilot walked around the glide and did his checks and discovered a substantial crack in the tailplane.

***Always have a look around the glider and do your ABCD checks before flying.***

# Hydration during long flights

It is well documented that a significant degree of dehydration is a hazard for pilots during long flights. It can cause fatigue, headaches, cramps and cognitive problems. We may need to drink substantial amounts to cover:

- The fluids we would have drunk during that part of our daily non-flying routine.
- Salt and sweat loss during rigging and flying. (Sweat is about half as salty as our blood)
- Water loss from breathing – especially if we over-breath or fly at altitude where the air is dryer.
- The obligatory urine loss that occurs even if we are starting to get dehydrated.

We carry water with good intentions of drinking plenty but all too often we realise after the flight that we didn't actually drink as much as we planned. We have dark urine and are feeling washed out or headachy. We may have been busy and concentrating on soaring and only remembering to drink when we felt thirst or when we had something to eat. That settled the thirst so we had thought it was sufficient. The truth is that we cannot assure a normal state of hydration by the absence of thirst alone.

We would not turn on our oxygen system only as a "treatment" for hypoxic symptoms, rather, we use oxygen whenever we reach a certain altitude. That is how we should think of our fluid intake during the whole flight.

***Recommendations. We should:***

1) Start to think of our fluid supply as our vital "hydration system", analogous to our oxygen system.

2) Have a clear idea of how much we must drink **before and during** the flight. We should prepare to drink 250-500mls/hour during flight depending on

the ambient temperature and humidity. We will also need about 200-500mls pre-flight after glider preparation.

3) Understand that thirst (and poor concentration) begins with the loss of 1-2% of our fluid volume but if we drink plain water thirst settles after taking about half of the fluid volume deficiency. Relief of thirst alone does not indicate return to normal hydration and leaves us still at risk of the dehydration symptoms.

4) Ensure that we continue to pass urine throughout the flight and, if practical, that it is not too dark.

5) Understand that fluid absorption, and electrolyte balance, is better achieved if we drink weak (hypotonic) electrolyte solution such as proprietary sports drinks, electrolyte solutions or a homemade version. (One 5ml tea spoonful of salt added to 2000mls water makes a suitable hypotonic solution. Flavour can be added to taste. Added sugar is not necessary if we eat adequate low GI foods during the flight.)

### *Background:*

About 90% of our body **fluid volume** is inside our cells and tissues and only 10% in our blood. As we become dehydrated our blood electrolyte concentration increases and the osmolality differential causes fluid to move quite rapidly out of the cells and tissue spaces into the blood stream to try to maintain its volume and electrolyte balance. This keeps us from fainting from blood volume loss and low blood pressure in the short term but it starts to dry out our cells, including our brain cells, which is not good for them.

**Thirst** is primarily stimulated by an increased electrolyte concentration (osmolality) in the blood and usually starts when we have lost the equivalent of 1-2% of our body fluid. When we drink plain water the blood osmolality comes down to normal after consuming only about half of what we need to replenish the total volume loss in our cells and tissues. The sensation of thirst stops and we lose the urge to drink more. If we were to then push on with large amounts of plain water we would tend to reduce our blood electrolyte concentration too much. However, if we drink hypotonic salt solutions (about half the concentration in our blood) then we delay the loss of thirst as well as more gradually bringing the blood osmolality down to normal as we continue to drink. Another important consideration is that hypotonic solutions are proven to be better absorbed than plain water from the gut and into the blood stream and also make us feel less bloated.

*Thanks to John Galloway*

## No Blame reporting

We recently had a number of issues around incident reporting. Pictures were posted on facebook and messages were sent via membersinstant following on from reported incidents. As a result some members may feel they do no longer want to report an incident, if they get publicly blamed.

Let me re-iterate, ***incident reporting is purely to analyse recurring issues and be able to address and eliminate them, no blame is ever attached to a pilot having an incident.***

As a result, some updates have nbeen made to make it clear which fields are visible to all registered users and which are only visible to the CFI / DCFI and CSO. Any field containing personal or aircraft information is no longer visible to other users, only the description and the prevention fields are visible to all, so don't put any personal or glider specific information in those fields.

But please continue reporting incidents. It is important for continued safety at Portmoak.

## No Beat ups at the airfield or the hill

If you haven't seen Kate's recent message to all members, here is a reminder:

***Beat ups are prohibited at Portmoak.***

This is clearly stated in the site manual and will still be in the new edition that's in preparation.

Low fast passes over or near houses or along the ridges are also prohibited. Members of the public are likely to perceive this as dangerous and the club suffers if they make complaints.

You will be aware of the law. SERA.3101 (*Negligent or Reckless Operation of Aircraft)* includes "aircraft must not be flown closer than 150 metres (500 feet) to any person, vessel, vehicle or structure (with limited exceptions)".

A recent email from the BGA Chief Executive, which was forwarded to all members, also stressed the importance of glider pilots following the rules if we want to keep our present freedom to hill soar.