

APPENDIX C OPEN WATER SWIMMING MEDICAL ISSUE

This section is derived from Open Water Swimming – Medical Notes by Dr Paul Mark, Perth Western Australia:

C.1 Nutrition and fluid Balance:

Competing in open water swimming events is a major physical effort, for which all competitors should have adequately trained. Swimmers can expect to be in the water for 2 – 4 hours for an up to 8km event and up to 6 – 8 hours for a 25km+ event. It is therefore important to recognize that the body has a finite reserve of carbohydrate and liquid and that the frequent intake of nutritional substances is essential.

It is not appropriate for swimmers to wait until they feel their energy levels decreasing before stopping for nutrition. Rather, swimmers should aim to complete the event with "half a tank full" of energy. This will require frequent stops over the longer events of 25km + events even though they may feel their energy reserves are adequate.

It is recommended that approximately 200 – 400mls of a balanced carbohydrate/electrolyte solution is ingested every half hour. This will also help in reducing cramps that are due to electrolyte depletion. Solid food may also be ingested but it will be difficult to chew with a fast heart rate. Chopped up banana, peach or fruit salad are recommended. Ingested substances should not be icy cold.

It is important to limit the duration of each break to less than 30 second in order to reduce the risks of hypothermia (getting too cold) and muscle stiffness.

C.2 Hypothermia (Lowered Body Temperature):

Prevention of hypothermia is essential. Wool fat (anhydrous lanolin) should be applied and will also help to lubricate the skin, especially around the neck, groin and armpit. Double bathing caps should be worn because a large amount of body heat is lost through the head. As body temperature is reduced, the blood vessels in the skin constrict and a disproportionately larger amount of heat is lost through the head and neck rather than through the rest of the body.

Nutrition stops should be brief because exercise increases the amount of blood flow through the skin, thereby increasing heat loss. Whilst active exertion is taking place, this is balanced by the increased muscle activity but when the swimmer stop, the increased flow through the skin results in further heat loss whilst muscular heat production is reduced. Prolonged stops are an easy formula for the development of hypothermia.

Swimmers who begin to feel cold should ingest more food by taking more stops of short duration.

Food increases the body temperature because heat is produced by digestion and because the muscles require high levels of nutritional substances for maximum efficiency including heat production.

Escort crews should always be on the lookout for the development of hypothermia in their swimmers.

Early symptoms consist of uncoordinated swimming movements and continual veering off course.

When the swimmer stops, their mental processes may be dulled and they may appear vague. If a swimmer is unable to raise his/her arms above the head, obey other commands or to answer questions appropriately, then he/she should be retrieved from the water.

Hypothermia casualties should be handled gently. They should be dried thoroughly and wrapped on all sides with thick blankets. Towels etc. may be wrapped around the scalp and the sides of the neck.

They should be protected from the wind either with windproof jackets or large green garbage bags.

Food and fluids should be encouraged frequently in small amounts but alcohol is not advised.

The Medical Officer for the event should see the patient retrieved from the water on account of hypothermia.

C.3 Exhaustion :

Exhaustion occurs because of lack of energy from inadequate nutritional intake and from the effects of hypothermia. Its recognition and management are similar to hypothermia.

C.4 Pain:

Approximately 15km into a swim, many swimmers develop pain, especially in the shoulders. They may become abusive but can obey commands and answer questions. Support crews will require considerable tolerance in this situation but should encourage their swimmers to continue.

C.5 Sunburn:

This is a real risk despite the water. As a minimum, ICI Sports Blockout 15+ should be applied 15 minutes prior to wool fat. It is important to include the area behind the ears, the back, the back of the legs and the bottom of the feet. Fair skinned persons should reapply sun block every two hours to any area of their body not covered by wool fat.

C.6 Jellyfish stings:

These could be a problem for those people susceptible to stings. Wool fat will help to prevent them but Vaseline is far less effective because it melts off. The main problem with jellyfish stings is pain, although if there are multiple contacts, the pain may be severe and systematic symptoms such as nausea and vomiting may develop.

Pain is often soothed by the coolness of the water. Persistent severe pain should be reported to the Medical Officers.

C.7 Swallowed salt water:

Salt water is approximately 3% sodium chloride that is three times more concentrated than the body's internal fluids. Ingestion often results in vomiting. Treatment includes reassurance in the first instance, but persistent vomiting may require withdrawal.

C.8 Trauma:

Shark attack is unlikely. A significant risk however exists from escort boat propellers and extreme care must be taken when manoeuvring near swimmers. It is therefore highly recommended that all IRB units that are used in the vicinity of swimmers be equipped with a "prop guard", a stainless steel unit that fits over the exposed propeller.