



Underwater Diving Related Illness

SCUBA (self contained underwater breathing apparatus) diving is one of the fastest growing sports in the UK. It is possible to injure yourself in a number of ways by diving and these conditions, accordingly, are becoming more frequent. The commoner of these conditions are:

Decompression illness-pain, breathlessness or neurological disease occurring after decompression. May be precipitated by the decompression of an airline flight. May be associated with sprains and strains. Symptoms occur at any time during or after decompression but are less common more than 24 hours after decompression. Subjective neurological symptoms are important.

Sinus and otic barotrauma – tissue damage in the affected organs caused by the volume changes of either compression or decompression. Symptoms may be confused with decompression illness in which case the patient must be referred as if a case of decompression illness.

Pulmonary barotrauma – pulmonary damage most significantly due to the expansion of trapped pulmonary gas during decompression. May cause pneumothorax, pneumomediastinum or pneumoperitoneum. May be associated with cerebral gas embolism presenting as decompression illness.

Partial drowning – partial asphyxiation due to immersion in water with or without inhalation. May occur due to failure of the divers gas supply, training exercises that go wrong or unconsciousness in the water for some reason. May be associated with decompression illness and this would be confirmed by the presence of focal neurological signs. Combined partial drowning and neurological decompression illness may require intensive care during recompression therapy.

All cases of suspected decompression illness must be referred for specialist recompression therapy as an emergency. Symptoms or signs at any time after decompression require referral. Mild symptoms and signs can progress to a severe condition as the disease relapses and remits. The condition may remit completely only to relapse with great severity.

Referral in the case of cerebral gas embolism or deteriorating spinal cord disease is a matter of the very utmost urgency.

The first line treatment of decompression illness is with 100% oxygen and intravenous 0.9% saline or Hartmann's solution.

Emergency Contact Information

The route of referral for diving related illness in Scotland is via the 24 hour NHS supraregional service at the Hyperbaric Medicine Unit at Aberdeen Royal Infirmary.

Contact 0845 408 6008

**(Aberdeen Royal Infirmary
switchboard)**

**Ask to page the emergency
hyperbaric consultant on-call**

**Leave your contact details if you
cannot stay on the line**

You will get a reply from the consultant on-call immediately, or at most, within 15 minutes.

The service is there to provide advice on any diving related problem whether or not it is an emergency. Remember, in decompression illness, what does not seem to be urgent may turn out to be a severe condition with significant long term health implications

The on-call doctor can also advise on any aspect of hyperbaric medicine and will accept cross border referrals for treatment if hyperbaric therapy is indicated either as an emergency or electively.