

DIVING RELATED ILLNESS • 1/2

RECOGNITION AND ASSESSMENT

Consider in any patient who has been diving in the last 3 weeks. Remember common medical conditions when presented with an unwell diver – exacerbations of cardiorespiratory problems are common as in other forms of exertion and exposure to hostile/cold environments

A range of problems are possible in divers presenting acutely including:

- Decompressions sickness ("The Bends")
- Arterial gas embolism
- Barotrauma
- Nitrogen narcosis
- Oxygen toxicity
- Hypothermia
- Medical emergencies precipitated by exertion/diving

Decompressions sickness ("The Bends")

- Nitrogen collects in tissues as a result of breathing pressurised gas during diving. If allowed to expand before being reabsorbed (typically by ascending too quickly) it can form bubbles of nitrogen throughout the body producing symptoms ranging from musculoskeletal pain to life-threatening neurological compromise – see **Table 1**
- **Treatment:** 100% oxygen, IV fluids and consultation with DDRC Healthcare (01752 209999) to consider hyperbaric treatment

Table 1: Signs and symptoms of decompression sickness

DCS Type	Bubble location	Clinical manifestations
Musculoskeletal	Mostly large joints	<ul style="list-style-type: none"> • Localised deep pain: ranging from mild to excruciating, a dull ache but rarely a sharp pain • Pain aggravated by active and passive motion of the joint, may be reduced by bending joint to find a more comfortable position • Pain occurring immediately on surfacing or many hours later
Cutaneous	Skin	<ul style="list-style-type: none"> • Itching, around ears, face, neck, arms and upper torso • Sensation of tiny insects crawling over the skin (formication) • Mottled or marbled skin or subcutaneous crepitation, around the shoulder, upper chest and abdomen, with itching • Skin swelling, accompanied by pitting oedema
Neurologic	Brain	<ul style="list-style-type: none"> • Altered sensation, paresthesia, hypersthesia • Confusion or amnesia • Visual abnormalities • Unexplained mood or behavioural changes • Seizures, unconsciousness
	Spinal cord	<ul style="list-style-type: none"> • Ascending weakness or paralysis in the legs • Grinding abdominal or chest pain • Urinary and fecal incontinence
Constitutional	Whole body	<ul style="list-style-type: none"> • Headache • Unexplained fatigue • Generalised malaise, poorly localised aches
Audiovestibular	Inner ear	<ul style="list-style-type: none"> • Loss of balance • Dizziness, vertigo, nausea, vomiting • Hearing loss
Pulmonary	Lungs	<ul style="list-style-type: none"> • Dry persistent cough • Burning chest pain under the sternum, aggravated by breathing • Shortness of breath

Arterial gas embolism

- Commonly results from barotrauma to the lungs caused by pressurised gasses (often precipitated by rapid ascent) leading to escape of gas mixtures into the arterial circulation – can be fatal
- **Treatment:** high flow oxygen and consultation with DDRC Healthcare