

Back Ache When Breathing Deeply

List of signs and symptoms of diving disorders This is complicated Diving disorders are medical conditions specifically arising from ambient pressure underwater diving with breathing apparatus. The signs and symptoms of these may present during a dive, on surfacing, or up to several hours after a dive. gas mixture when diving deeper, to reduce the effects of narcosis, to avoid the risk of oxygen toxicity, and to reduce work of breathing e59d5ded15

The extreme exposures common in saturation diving make the physiological effects of ambient pressure diving more pronounced, and they tend to have more significant effects on the divers' safety, health, and general well-being. Several short and long term physiological effects of ambient pressure diving must be managed, including decompression stress, high pressure nervous syndrome (HPNS), compression arthralgia, dysbaric osteonecrosis... e59d5ded15 The principal conditions are decompression illness (which covers decompression sickness and arterial gas embolism), nitrogen narcosis, high pressure nervous syndrome, oxygen toxicity, and pulmonary barotrauma (burst lung). Although some of these may occur in other settings, they are of particular concern during diving activities. e59d5ded15

Saturation diving Once saturated, the time required for decompression to surface pressure will not increase with longer exposure. evidence that HPNS symptoms increase when chamber temperature is too high. The ratio of productive working time at depth to unproductive decompression time is thereby increased, and the health risk to the diver incurred by decompression is minimised. The diver undergoes a single decompression to surface pressure at the end of the exposure of several days to weeks duration. Unlike other ambient pressure diving, the saturation diver is only exposed to external ambient pressure while at diving depth. Compression arthralgia is a deep aching pain in the joints caused by exposure Saturation diving is an ambient pressure diving technique which allows a diver to remain at working depth for extended periods during which the body tissues become saturated with metabolically inert gas from the breathing gas mixture e59d5ded15

Dysbarism Various activities are associated with pressure changes. Underwater diving is a frequently cited example, but pressure changes also affect people who work in other pressurized environments (for example, caisson workers), and people who move between different altitudes. A dysbaric disorder may be acute or chronic. Pain may be sudden and intense Dysbarism or dysbaric disorders are medical conditions resulting from changes in ambient pressure. pains. Compression arthralgia has been recorded as deep aching pain in

the knees, shoulders, fingers, back, hips, neck and ribs e59d5ded15

Immersion affects fluid balance, circulation and work of breathing. Exposure to cold water can result in the harmful cold shock response, the helpful diving reflex and excessive loss of body heat. Breath-hold duration is limited by oxygen reserves, the response to raised carbon dioxide levels, and the risk of hypoxic blackout, which has a high associated risk of drowning. e59d5ded15 Ambient pressure on a diver is the pressure in the water around the diver (or the air, with caisson workers etc.). It is the sum of the atmospheric pressure at the surface and hydrostatic pressure due to the depth. As a diver descends, the ambient pressure increases. At 10 meters (33 feet) in seawater, it is twice the normal atmospheric pressure at the surface. At 40 meters (a common recommended limit for recreational diving) it is 5 times the pressure at sea level. e59d5ded15

Human physiology of underwater diving It has been recorded as deep aching pain in the knees, shoulders, fingers, back, hips, neck and ribs. All of these may affect diver performance and safety. high rate of compression. Several factors influence the diver, including immersion, exposure to the water, the limitations of breath-hold endurance, variations in ambient pressure, the effects of breathing gases at raised ambient pressure, effects caused by the use of breathing apparatus, and sensory impairment. Pain may be sudden and intense Human physiology of underwater diving is the physiological influences of the underwater environment on the human ambient pressure diver, and adaptations to operating underwater, both during breath-hold dives and while breathing at ambient pressure from a suitable breathing gas supply. It, therefore, includes the range of physiological effects generally limited to human ambient pressure divers either freediving or using underwater breathing apparatus e59d5ded15

Since bubbles can form in or migrate to any part of the body, DCS can produce many symptoms, and its effects may vary from joint pain and rashes to paralysis and death. DCS often causes air bubbles to settle in major joints like knees or elbows, causing individuals to bend over in excruciating pain, hence its common name, the bends. Individual susceptibility can vary from day to day, and different individuals under the same conditions may be affected differently or not at all. The classification of types of DCS according to symptoms has evolved since its original... e59d5ded15

Deep diving Nitrogen narcosis becomes a hazard below 30 metres (98 ft) and hypoxic breathing gas is required below 60 metres (200 ft) to lessen the risk of oxygen toxicity. In some cases this is a prescribed limit established by an authority, while in others it is associated with a level of certification or training, and it may vary depending on whether the diving is recreational, technical or commercial. ultra-deep diving on self-contained breathing apparatus include: Compression arthralgia Deep aching pain in the knees, shoulders, fingers, back, hips Deep diving is underwater diving to a depth beyond the normal range accepted by the associated community e59d5ded15

Disorders particularly associated with diving include those caused by variations in ambient pressure, such as barotraumas of descent and ascent, decompression sickness and those caused by exposure to elevated ambient pressure, such as some types of gas toxicity. There are also non-dysbaric disorders associated with diving, which include the effects of the aquatic environment, such as drowning, which also are common to other water users, and disorders caused by the equipment or associated factors, such as carbon dioxide and carbon monoxide poisoning. General environmental conditions can lead to another group of disorders, which include hypothermia and motion sickness, injuries by marine and aquatic organisms, contaminated waters... e59d5ded15

Pleurisy This can result in a sharp chest pain while breathing. Occasionally the pain may be a constant dull ache. Other symptoms may include shortness of breath. Pleurisy, also known as pleuritis, is inflammation of the membranes that surround the lungs and line the chest cavity (pleurae). Other symptoms may include shortness of breath, cough, fever, and weight loss, depending on the underlying cause. Occasionally the pain may be a constant dull ache. This can result in a sharp chest pain while breathing e59d5ded15

Taixi (embryonic breathing) Taixi (Chinese: 胎息, "embryonic breathing" or "embryonic respiration") refers to Daoist meditation and neidan Inner Alchemy methods, the principle of which is to breathe like an embryo or fetus in the womb, without using nose or mouth. Techniques developed for embryonic breathing include xingqi (行气; "circulating breath"), biqi (闭气; "breath retention; apnea"), fuqi (服气; "ingesting breath; aerophagia"), and taishi (胎食; "embryonic eating; swallowing saliva") e59d5ded15

For some recreational diving agencies, "Deep diving", or "Deep diver" may be a certification awarded to divers that have been trained to dive to a specified depth range, generally deeper than 30 metres (98 ft). However, the Professional Association of Diving Instructors (PADI) defines anything from 18 to 30 metres (59 to 98 ft) as a "deep dive" in the context of recreational diving (other diving organisations vary), and considers deep diving a form of technical diving. In technical diving, a depth below about 60 metres (200 ft) where hypoxic breathing gas becomes necessary to avoid oxygen toxicity may be considered a deep dive. In professional diving, a depth that requires special equipment... e59d5ded15 Large or sudden changes in ambient... e59d5ded15 Pleurisy can be caused by a variety of conditions, including viral or bacterial infections, autoimmune disorders, and pulmonary embolism. The most common cause is a viral infection. Other causes include bacterial infection, pneumonia, pulmonary embolism, autoimmune disorders, lung cancer, following heart surgery, pancreatitis and asbestosis. Occasionally the cause remains unknown. The underlying mechanism involves the rubbing together of the pleurae instead of smooth gliding. Other conditions that can produce similar symptoms include pericarditis, heart attack, cholecystitis, pulmonary embolism, and pneumothorax. Diagnostic testing may include a chest X-ray, electrocardiogram (ECG), and

blood tests. e59d5ded15 In the history of Daoism, Tang dynasty (618-907) Daoist Internal Alchemists fundamentally changed the nature and understanding of embryonic breathing from the ancient theory of waiqi (外气; "external qi of the air; external breathing") to the new theory of neiqi (内气; "internal qi of one's organs; internal breathing"). Instead of inhaling and retaining waiqi air, adepts would circulate and remold visceral neiqi energy, which was believed to recreate the yuanqi (元气; "prenatal qi; primary vitality") received at birth and gradually depleted during human life. Taixi (胎息; "embryonic breathing") was associated with the shengtai (圣胎; "sacred embryo; embryo of sainthood"), which was originally a Chinese Buddhist concept that Tang Daoists developed... e59d5ded15

Diving disorders This second group further divides conditions caused by exposure to ambient pressures significantly different from surface atmospheric pressure, and a range of conditions caused by general environment and equipment associated with diving activities. The effects depend Diving disorders, or diving related medical conditions, are conditions associated with underwater diving, and include both conditions unique to underwater diving, and those that also occur during other activities. physiological diving disorder that results when a diver descends below about 500 feet (150 m) while breathing a helium-oxygen mixture e59d5ded15

The disorders are caused by breathing gas at the high pressures encountered at the depth of the water and divers will often breathe a gas mixture different from air to mitigate these effects. Nitrox, which contains more oxygen and less nitrogen, is commonly used as a breathing gas to reduce the risk of decompression sickness at recreational depths (up to 34 meters or 112 feet for 32% oxygen). Helium may be added to reduce the amount of nitrogen and oxygen in the gas mixture when diving deeper, to reduce the effects of narcosis, to avoid the risk of oxygen toxicity, and to reduce work of breathing. This is complicated at depths... e59d5ded15

Hydrogymnastics Hydrogymnastics is often assisted by a qualified aquatic therapist and/or exercise physiologist. Being a form of aquatic therapy, hydrogymnastics aims to improve the physical and psychological health and well-being of an individual. Hydrogymnastics can be performed by anyone, including youths (children, teenagers, young adults), middle-aged people, the elderly, athletes and those with disabilities. energy, development of even breathing, better sleeping and rest patterns, and a higher body awareness (the ability to feel when something in their body does Hydrogymnastics is a water-based therapeutic exercise. As its name suggests, this form of aquatic therapy or aquatic rehabilitation is performed in water, and it can take place in swimming pools at aquatic leisure centres and/or in home pools. Although the effects of hydrogymnastics may vary between individuals belonging to different age groups and genders, hydrogymnastics mainly improves one's cardiovascular fitness, strength, balance and mobility e59d5ded15

Treatment depends on the underlying cause. Paracetamol (acetaminophen) and ibuprofen may be used to decrease pain. Incentive spirometry may be... e59d5ded15 == History == e59d5ded15 Pressure decreases with altitude above sea level, but less dramatically. At 3000 feet altitude (almost 1000 meters), the ambient pressure is almost 90% of sea level pressure. Ambient pressure does not drop to

50% of sea level pressure until 20,000 feet or 6,000 meters altitude. e59d5ded15

Decompression sickness Decompression sickness can occur after an exposure to increased pressure while breathing a gas with a metabolically inert component, then decompressing too fast Decompression sickness (DCS; also called divers' disease, the bends, aerobullosis, and caisson disease) is a medical condition caused by dissolved gases emerging from solution as bubbles inside the body tissues during decompression. DCS and arterial gas embolism are collectively referred to as decompression illness. DCS most commonly occurs during or soon after a decompression ascent from underwater diving, but can also result from other causes of depressurization, such as emerging from a caisson, decompression from saturation, flying in an unpressurised aircraft at high altitude, and extravehicular activity from spacecraft e59d5ded15

== Ambient pressure == e59d5ded15

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