



CONTRAINDICATIONS TO DIVING

This list of relative and absolute contraindications is not all inclusive. Contraindications that are absolute permanently place the diver and his diving partners at increased risk for injury or death. Relative contraindications to scuba may be resolved with time and proper medical intervention or may be intermittent. A bibliography is included to aid in clarifying issues that arise. The Divers Alert Network (DAN) physicians are available for consultation by phone (919) 684-2948 during normal business hours. For diving related emergencies call, DAN at (919) 684-9111 24 hours, 7 days a week.

OTOLARYNGOLOGICAL

Relative Contraindications:

- History of...
 - significant cold injury to pinna
 - TM perforation
 - tympanoplasty
 - mastoidectomy
 - mid-face fracture
 - head and/or neck therapeutic radiation
 - temporomandibular joint dysfunction
- Recurrent otitis externa
- Significant obstruction of the external auditory canal
- Eustachian tube dysfunction
- Recurrent otitis media or sinusitis
- Significant conductive or sensorineural hearing impairment
- Facial nerve paralysis not associated with barotrauma
- Full prosthodontic devices
- Unhealed oral surgery sites

Absolute Contraindications:

- History of...
 - stapedectomy
 - ossicular chain surgery
 - inner ear surgery
 - round window rupture
 - vestibular decompression sickness
- Monomeric TM
- Open TM perforation
- Tube myringotomy
- Facial nerve paralysis secondary to barotrauma
- Inner ear disease other than presbycusis
- Uncorrected upper airway obstruction
- Laryngectomy or status post partial laryngectomy
- Tracheostomy
- Uncorrected laryngocele

NEUROLOGICAL

Relative Contraindications:

- History of...
 - head injury with sequelae other than seizure
 - spinal cord or brain injury without residual neurologic deficit
 - cerebral gas embolism without residual, pulmonary air trapping has been excluded
- Migraine headaches whose symptoms or severity impair motor or cognitive function
- Herniated nucleus pulposus
- Peripheral neuropathy
- Trigeminal neuralgia
- Cerebral palsy in the absence of seizure activity

Absolute Contraindications:

- History of...
 - seizures other than childhood febrile seizures
 - TIA or CVA
 - spinal cord injury, disease or surgery with residual sequelae
 - Type II (serious and/or central nervous system) decompression sickness with permanent neurologic deficit
- Intracranial tumor or aneurysm

CARDIOVASCULAR

Relative Contraindications:

- The suggested minimum criteria for stress testing is 13 METS.
- History of...
 - CABG or PCTA for CAD
 - myocardial infarction
 - dysrhythmia requiring medication for suppression
 - Hypertension
 - Valvular regurgitation
 - Asymptomatic mitral valve prolapse
 - Pacemakers-Note: Pacemakers must be depth certified by the manufacturer to at least 130 feet (40 meters) of sea water.

Absolute Contraindications:

- Asymmetric septal hypertrophy and valvular stenosis
- Congestive heart failure

PULMONARY

Asthma (reactive airway disease), COPD cystic or cavitating lung diseases all may lead to air trapping.

Relative Contraindications:

- History of...
 - prior asthma or reactive airway disease (RAD)*
 - exercise/cold induced bronchospasm (EIB)
 - solid, cystic or cavitating lesion
- Pneumothorax secondary to: thoracic surgery *, trauma or pleural penetration*, previous over inflation injury*
- Restrictive Disease** (*Air Trapping must be excluded) (**Exercise Testing necessary)

Absolute Contraindications:

- History of spontaneous pneumothorax
- Active RAD (asthma), EIB, COPD or history of the same with abnormal PFS or positive challenge
- Restrictive diseases with exercise impairment

GASTROINTESTINAL

Relative Contraindications:

- Peptic ulcer disease
- Inflammatory bowel disease
- Malabsorption states
- Functional bowel disorders
- Post gastrectomy dumping syndrome
- Paraesophageal or hiatal hernia

Absolute Contraindications:

- High grade gastric outlet obstruction
- Chronic or recurrent small bowel obstruction
- Entero-cutaneous fistulae that do not drain freely
- Esophageal diverticula
- Severe gastroesophageal reflux
- Achalasia
- Unrepaired hernias of the abdominal wall potentially containing bowel

METABOLIC AND ENDOCRINOLOGICAL

Relative Contraindications:

- Hormonal excess or deficiency
- Obesity
- Renal insufficiency

Absolute Contraindications:

- Diabetics on Insulin therapy or oral anti-hypoglycemia medication

PREGNANCY

Absolute Contraindications:

Venous gas emboli formed during decompression may result in fetal malformations. Diving is absolutely contraindicated during any state of pregnancy.

HEMATOLOGICAL

Relative Contraindications:

- Sickle cell trait
- Acute anemia

Absolute Contraindications:

- Sickle cell disease
- Polycythemia
- Leukemia

ORTHOPEDIC

Relative Contraindications:

Chronic Back Pain
Amputation
Scoliosis - assess impact on pulmonary function
Aseptic osteonecrosis

BEHAVIORAL HEALTH

Relative Contraindications:

- History of
 - drug or alcohol abuse
 - previous psychotic episodes
- Developmental delay

Absolute Contraindications:

- History of panic disorder
- Inappropriate motivation for scuba training
- Claustrophobia and agoraphobia
- Active psychosis or while receiving psychotropic medications
- Drug or alcohol abuse

BIBLIOGRAPHY

The Physiology and Medicine of Diving, 4th edition, 1993; *Diving and Subaquatic Medicine*, 3rd edition 1994; *Diving Physiology in Plain English*, 2nd edition, 1997