

AS4005.1 Recreational Dive Medical

For Flinders University Snorkel Divers

THE FIRST THREE PAGES ARE TO BE COMPLETED BY THE CANDIDATE

Surname	Other Names	Date of birth
Address		Sex: Male Female
Principal Occupation	Telephone (Home)	Telephone (Work)
Do you participate in any regular physical activity?		Yes No
Description of activity:		
Do you smoke?		Yes No
Do you drink alcohol?	Yes No	How many drinks per week?
Are you taking any tablets or medicines or drugs?		Yes No
List:		
Do you have any allergies?		Yes No
Details:		
Have you ever had any reactions to medicines or foods?		Yes No
Details:		

HAVE YOU EVER HAD OR DO YOU NOW HAVE ANY OF THE FOLLOWING?

	Tick Yes or No.		Notes on History
	YES	NO	
Previous diving medical			
Prescription glasses			
Eye or visual problems			
Hay fever			
Sinusitis			
Other nose or throat problem			
Dentures / Plates etc.			
Recent dental procedures			
Deafness or ringing tones in ear(s)			
Discharging ears or other infections			
Operation on ears			
Giddiness or loss of balance			
Severe motion sickness			
Seasickness medication			
Problems when flying in aircraft			
Severe or frequent headaches			
Migraine			
Fainting or blackouts			
Convulsions, fits or epilepsy			
Unconsciousness			
Concussion or head injury			
Sleep walking			
Severe depression			
Claustrophobia			
Mental illness			
Abnormal blood test			
ECG (Heart tracing)			
Consciousness of your heart beat			

High blood pressure		
Rheumatic fever		
Discomfort in your chest with exertion		
Short of breath on exertion		
Bronchitis or pneumonia		
Pleurisy or severe chest pain		
Coughing up phlegm or blood		
Chronic or persistent cough		
TB (Tuberculosis)		
Pneumothorax (“Collapsed lung”)		
Frequent chest colds		
Asthma or wheezing		
Use a puffer		
Other chest complaint		
Operation on chest, heart or lungs		
Indigestion, peptic ulcer or acid reflux		
Vomiting blood or passing red or black motions		
Recurrent vomiting or diarrhoea		
Jaundice, hepatitis, or liver disease		
Malaria or other tropical disease		
Severe loss of weight		
Hernia or rupture		
Major joint or back injury		
Limitation of movement		
Fractures (broken bones)		
Paralysis or muscle weakness		
Kidney or bladder disease		
Any chronic disease (see note below)		
Syphilis		
Diabetes		
Blood disease or bleeding problem		
Skin disease		
Contagious disease		
Operations		
In hospital for any reason		
Life insurance rejected		
A job or license refused on medical grounds		
Unable to work for medical reasons		
An invalid pension		
Other illness or injury or any other medical conditions		

HAVE ANY BLOOD RELATIONS HAD:

Heart disease		
Asthma or chest disease		
TB (Tuberculosis)		

FEMALES ONLY

Are you now pregnant or are you planning to be?		
Do you have any incapacity during periods?		

Date of most recent chest X-Ray:

PREVIOUS DIVING EXPERIENCE	YES	NO
Can you swim?		
Have you ever had any problem during or after swimming or diving?		
Have you ever had to be rescued?		

Do you snorkel-dive regularly?		
Have you tried SCUBA diving before?		
Have you had any previous formal SCUBA training?		
Year trained:		
Approximate number of dives:		
Maximum depth of any dive:		
Longest duration of any dive:		

I certify that the above information is true and complete to the best of my knowledge and I hereby authorise Dr _____ to give medical opinion as to my fitness, or temporary or permanent unfitness to dive to my diving instructor. I also authorise him or her to obtain or supply medical information regarding me to other doctors as may be necessary for medical purposes in my personal interest.

Signed: _____ Date: _____

Note

Any chronic disease, such as hepatitis A, B, C, HIV (AIDS), Tuberculosis (TB), may increase your risks from diving. If you have any chronic disease please discuss it with your doctor who will then be able to advise you whether you will be at increased risk.

MEDICAL EXAMINATION:

TO BE COMPLETED BY AN APPROVED MEDICAL PRACTITIONER

Height	Weight	Visual Acuity R6/ Corrected 6/ L6/ Corrected 6/	Blood pressure	Pulse
Urinalysis Albumen Glucose		Respiratory function test (Measured by equipment capable of measuring 7 litres) Vital capacity FEV ₁ Percentage	Chest X-Ray (If indicated) Date Place Result	

Audiometry (air conduction)

Frequency, Hz	500	1,000	2,000	4,000	6,000	8,000
Loss in DB (R)						
Loss in DB (L)						

If abnormal, enter in diver's log book and on certificate

Clinical Examination / Assessment	Normal	Abnormal
Nose Septum Airway		
Mouth, throat teeth		
External auditory canal		
Tympanic membrane		
Middle ear auto-inflation		
Neurological		
Eye movements		
Pupillary reflexes		
Limb reflexes		
Finger – nose		
Sharpened Romberg		
Abdomen		
Chest hyperventilation		
Cardiac auscultation		
Other abnormalities		

Notes on abnormalities

STATEMENT OF HEALTH FOR RECREATIONAL DIVING

THIS SECTION TO BE COMPLETED BY THE MEDICAL PRACTITIONER

This is to certify that I have today interviewed and examined:

Name _____

Address _____

Date of birth: Day _____ Month _____ Year _____

Initial those statements that do, and delete those that do not apply:

_____ I have assessed the candidate in accordance with AS 4005.1.

_____ I can find no conditions which are incompatible with compressed gas, SCUBA and surface supplied breathing apparatus (SSBA) and / or breath-hold diving.

_____ I have explained the potential health risks of diving to the candidate and we have discussed how these risks may be reduced. The candidate appears to have a good understanding of these risks.

_____ Based upon my assessment, the candidate should NOT dive with compressed gases (SCUBA and SSBA).

_____ Based upon my assessment, the candidate should NOT breath-hold dive.

(Signature of Medical Practitioner)

(Name of Medical Practitioner)

(Date)

THIS SECTION TO BE COMPLETED BY THE CANDIDATE

Initial those statements that do, and delete those that do not apply:

_____ I understand the health risks that I may encounter in diving and how these risks may be reduced.

_____ I also understand that the Medical Practitioner's recommendation herewith is based, in part, upon the disclosure of my medical history.

_____ I agree to accept any responsibility and liability for health risks associated with my participation in underwater diving, including those that are due to or are influenced by a change in my health and / or a failure to disclose any existing or past health condition to the Medical Practitioner.

(Signature of Candidate)

(Name of Candidate)

(Date)

ADVICE TO THE EXAMINING PHYSICIAN

Issuing an itemized account, which enables the patient to claim Medicare benefits for diving medical examinations, has been prohibited since 1st February 1984.

Diving is a sport carried out in a non-respirable environment using breathing apparatus. Sudden unconsciousness underwater is usually fatal when using SCUBA equipment, as the relaxation of muscle tone accompanying unconsciousness results in the breathing regulator falling from the victim's mouth. The diver's next breath will then be water. This makes any condition which can cause sudden unconsciousness an absolute bar to diving. Such conditions include epilepsy and diabetes where the patient requires insulin.

A further problem with the water environment is that pressure increases very rapidly with descent, i.e. by one atmosphere of extra pressure for every 10 m of depth in the sea. The use of breathing apparatus, providing gas at ambient pressure, prevents problems of pressure-volume imbalance in the lungs during descent. However, the middle ears and sinuses will develop problems on descent unless the pressure in these spaces equals the ambient pressure. There is no way of establishing the patency of sinus ostia by clinical examination. However, patency of the Eustachian tubes, and so the ability to equalise the middle ear pressures, can be established easily. Observation of the tympanic membrane while the patient holds his or her nose, shuts the mouth and blows, (Valsalva maneuver) will reveal ingress of air to the middle ear by movement of the drum. The Eustachian tube opening in the nasopharynx is normally closed. Swallowing opens the ostium. Therefore a combination of Valsalva and swallowing during the maneuver will give the best chance for air to travel up the Eustachian tube. Another way of opening the Eustachian tube is to protrude the jaw and wriggle it from side to side while performing the Valsalva maneuver. Failure to auto-inflate a middle ear is an absolute bar to diving until the person can auto-inflate.

A further set of pressure related problems also occur during ascent when the ambient pressure is decreasing. If an air-filled space cannot vent when the surrounding pressure is reduced, two things can happen. A space with elastic sides can expand but if the space has rigid walls, the pressure in the space remaining at the original pressure becomes higher than ambient pressure. The chest wall is elastic, but after a certain expansion the stretching of the lungs results in tearing of the lung substance. Air can then enter the pulmonary venous drainage, pass through the left portion of the heart and be carried to the brain as air embolism. Unconsciousness and death can result. Thus, any condition preventing normal emptying of the lungs is an absolute bar to diving.

Lung cysts, bullae, and other areas that empty slowly or not at all are an absolute bar to breathing air under pressure. These conditions are best detected by taking an X-ray of the chest in full inspiration and another in full expiration. Asthma is another such condition. To detect expiratory airway obstruction, a Vitalograph (or similar) test is required. Experience in the navies of the world, with submarine escape training of many thousands, has that a disproportionate number of those suffering burst lungs have FEV₁/FVC ratios of below 75%. Such people do not need to hold their breath on ascent to damage their lungs; all they have to do is rise too rapidly. People with FEV₁/FVC ratio below 75% cannot be considered fit for diving.

A normal FEV₁/FVC ratio but clinical signs of bronchospasm, especially on forced, deep, rapid ventilation is an indication of unfitness to dive. Treatment with drugs is not suitable as the effects can wear off underwater and the combined effects of pressure and bronchodilator drugs are uncertain.

It is hoped that the foregoing makes the following list of absolute and relative contraindications to diving logical and comprehensible:

ABSOLUTE CONTRAINDICATIONS

Conditions causing unconsciousness

Epilepsy

Diabetes where the patient requires insulin

ENT conditions

Inability to auto-inflate the middle ears. Previous middle ear surgery with insertion of prosthesis to replace any of the ossicles

Lung conditions

Asthma

Lung cysts

Previous spontaneous pneumothorax

Obstructive lung disease

Lungs which empty unevenly (X-ray appearance)

Previous thoracotomy

RELATIVE CONTRAINDICATIONS

FEV₁/FVC ratio less than 75%

Poor physical condition

Previous myocardial infarction

Pregnancy

Further information about medical standards for minimum entry-level SCUBA divers is to be found in AS 4005.1, available from Standards Australia.

If in doubt about a candidate's fitness, it is safer for the candidate to be classed as unfit than fit to dive. Difficult decisions should be referred to a doctor experienced in diving medicine. These are to be found in each State. The South Pacific Underwater Medical Society maintains a list of its members with training in diving medicine. Enquiries should be addressed to the Secretary of SPUMS, C/- Australian College of Occupational Medicine, PO Box 2090, St Kilda West, Victoria, 3182, Australia. URGENT specialist advice call be obtained from the hyperbaric units in each State, the RAN School of Underwater Medicine, HMAS Penguin, Balmoral, N.S.W. 2091, Phone: (02) 9960 0444, and the Diving Emergency Service, C/- Hyperbaric Medical Unit, Royal Adelaide Hospital, Phone: (1800) 088 200.