

## MEDICAL FORM FOR PROSPECTIVE RECREATIONAL SCUBA DIVERS

### CANDIDATE DETAILS: THIS SECTION TO BE COMPLETED BY CANDIDATE.

All information provided in this form will be kept in strict confidence between you and the examiner. It will not be relayed to a third party without your consent.

Diving can usually be undertaken even if you have a chronic infection (eg hepatitis B and C, herpes or HIV), however you should inform the medical examiner so that you can be advised how to dive safely.\*

It is advisable to inform your instructor of any advice you have been given.

Positive responses to questions do not necessarily disqualify you from diving.

1	Surname	Other names	2 Date of Birth
3	Address		Phone (home)
4	Sex	Male                      Female	
5	Principal Occupation		Phone (work)
6	Do you participate in any regular physical activity?		YES    NO
7	Description of activity		
8	Do you smoke?		YES    NO
9	Do you drink alcohol?		YES    NO
10	If yes, how many drinks per week?		
11	Are you taking any tablets, medicine or other drugs?		YES    NO
	List:		
12	Do you have any allergies?		YES    NO
	List:		
13	Have you had any reactions to drugs, medicines or food?		YES    NO
	List:		

Have you ever had or do you now have any of the following? Tick YES or NO

		YES	NO	Notes on history
14	Previous diving medical			
15	Prescription glasses			
16	Contact lenses			
17	Eye or visual problems			
18	Hay fever			
19	Sinusitis			
20	Any other nose or throat problem			
21	Dentures / plates, dental prostheses			
22	Recent dental procedures			
23	Deafness or ringing in ears			
24	Discharging ears or any other ear problem			
25	Operation on ears			
26	Giddiness or loss of balance			
27	Severe motion sickness			
28	Seasickness medication			
29	Any problem when flying in aircraft			
30	Severe or frequent headaches			
31	Migraine			
32	Fainting or blackouts			
33	Convulsions, fits or epilepsy			
34	Unconsciousness			
35	Concussion or head injury			
36	Sleepwalking			
37	Severe depression			
38	Claustrophobia			
39	Mental illness			
40	Heart disease			
41	Abnormal blood test			
42	ECG (heart tracing)			
43	Awareness of your heartbeat			
44	High blood pressure			
45	Rheumatic fever			
46	Discomfort in your chest with exertion			
47	Shortness of breath on exertion			
48	Bronchitis or pneumonia			
49	Pleurisy or severe chest pain			
50	Coughing up phlegm or blood			
51	Chronic or persistent cough			

		YES	NO	Notes on history
52	TB			
53	Pneumothorax ('collapsed lung')			
54	Frequent chest colds			
55	Asthma or wheezing			
56	Use a puffer			
57	Other chest complaint			
58	Operation on chest, lungs or heart			
59	Indigestion, peptic ulcer or acid reflux			
60	Vomiting blood or passing red or black motions			
61	Recurrent vomiting or diarrhoea			
62	Jaundice, hepatitis or liver disease			
63	Malaria or other tropical disease			
64	Severe loss of weight			
65	Hernia or rupture			
66	Major joint or back injury			
67	Limitation of movement			
68	Fractures (broken bones)			
69	Paralysis or muscle weakness			
70	Kidney or bladder disease (cystitis)			
71	Any chronic infection* (see note at top of form)			
72	Sexually transmitted disease			
73	Diabetes			
74	Blood disease or bleeding problem			
75	Skin disease			
76	Contagious disease			
77	Operations			
78	In hospital for any reason			
79	Life insurance rejected			
80	A job or licence refused on medical grounds			
81	Unable to work for medical reasons			
82	An invalid pension			
83	Any other illness or injury or other medical condition			
Have any blood relations had:				
84	Heart disease			
85	Asthma or chest disease			
Females only				
86	Are you possibly pregnant or planning to be?			
87	Do you have any incapacity during periods?			

88	Date of last chest x-ray			
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### Previous Diving experience

		YES	NO	Notes on history
89	Can you swim?			
90	Have you ever had any problem during or after swimming or diving?			
91	Have you ever had to be rescued?			
92	Do you snorkel dive regularly?			
93	Have you tried SCUBA diving before?			
94	Have you had previous formal SCUBA training?			
95	Year			
96	Approximate number of dives			
97	Maximum depth of any dive			
98	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 medical fitness to dive to my diving instructor. I also authorise him or her to obtain or supply medical information regarding me from or to other doctors as may be necessary for medical purposes in my personal interest.

Candidate's name: \_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

**MEDICAL EXAMINATION: TO BE COMPLETED BY A REGISTERED MEDICAL PRACTITIONER**

1	Height cm	2	Weight kg	3	Vision R6/            Corr6/ L6/            Corr6/	4	Blood pressure	5	Pulse
6	Urinalysis  Albumen Glucose	7	Respiratory function test  Vital capacity FEV <sub>1</sub> Percentage			8	Chest X-ray (if indicated) Date..... Place..... Result.....		
9	Audiometry (air conduction)								
	Frequency, Hz			500	1 000	2 000	4 000	8 000	
	Loss in dB, (R)								
	Loss in dB, (L)								
If abnormal, enter in diver's logbook, on certificate, or both.									
Clinical examination / assessment				Normal		Abnormal		Note on abnormalities	
10	Nose, septum, airway								
11	Mouth, throat, teeth, bite								
12	External auditory canal								
13	Tympanic membrane								
14	Middle ear auto-inflation								
15	Neurological - Eye movements - Pupillary reflexes - Limb reflexes - Finger-nose - Sharpened Romberg*								
16	Abdomen								
17	Chest hyperventilation								
18	Cardiac auscultation								
19	Other abnormalities								

\*Results should be descriptively detailed at right to assist future comparison.

**Medical fitness to dive**

Candidate's name: \_\_\_\_\_

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

..... Based upon my assessment, the candidate is not medically fit to dive with compressed gases (SCUBA and SBBA).

*Advice:*

Doctor's name (print): \_\_\_\_\_

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Medical benefits refund and / or medical rebate is not permissible, by law, for this examination. Issue of any item number which allows the candidate to claim such benefit will result in the physician being guilty of medifraud.

## STATEMENT OF HEALTH FOR RECREATIONAL DIVING

**This section to be completed by a medical practitioner, preferably with appropriate training in diving medicine.**

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

Name:.....

Address:.....

.....

Date of Birth: ...../...../.....

**Initial the statements that apply:**

- ..... I have assessed the candidate in accordance with AS 4005.1
- ..... I can find no conditions which are incompatible with compressed gas, SCUBA, surface supplied breathing apparatus (SSBA) and / or breath-hold diving.
- ..... I have explained the health risks of diving disclosed by this examination 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 is not medically fit to dive with compressed gases (SCUBA and SSBA).
- ..... Based upon my assessment, the candidate is not medically fit to breath-hold dive.

..... Signature of medical practitioner	..... Name, address and phone number of medical practitioner (stamp should be used)	...../...../..... Date
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**This section to be completed by the candidate.**

**Initial the statements below.**

- ..... 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 my failure to disclose any existing or past health condition to the medical practitioner.
- ..... I hereby authorise the medical practitioner to supply information with regard to my medical fitness to dive to the diving instructor.

..... Signature of candidate	..... Name of candidate	...../...../..... Date
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This statement is valid for 12 months.

## ADVICE TO THE EXAMINING PHYSICIAN

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

Diving is a sport carried on in a non-respirable environment which requires the use of either self-contained or surface supplied 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 contraindication to diving. Such conditions may include epilepsy and diabetics on 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 10m 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 equalize the middle ear pressures, can be established easily. Observation of the tympanic membrane while the patient holds his (or her) nose, closes the mouth and blows (Valsalva manoeuvre) will reveal inflation of the middle ear by movement of the drum. The nasopharyngeal opening of the Eustachian tube is normally closed but is opened by swallowing. Therefore, a combination of a Valsalva and swallowing during the manoeuvre 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 a Valsalva manoeuvre. Failure to demonstrate an ability to 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 may 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 tears 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 an air embolism. Unconsciousness and death can result. Thus, any condition preventing normal emptying of the lungs is an absolute contraindication to diving.

Asthma, lung cysts, bullae, and other areas that empty slowly or not at all are an absolute contraindication 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. To detect expiratory airway obstruction, a Vitalograph (or similar) test is required. Experience in the navies of burst lungs have FEV<sub>1</sub>/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. A FEV<sub>1</sub>/FVC ratio below 75% may be an exclusion from diving and should be further investigated.

A normal FEV<sub>1</sub>/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 broncho-dilator 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

FEV<sub>1</sub>/FVC ratio less than 75%

Poor physical condition

Previous myocardial infarction

Pregnancy

**Further information about medical standards for minimum entry-level SCUBA divers can be found in AS4005.1, available from Standards Australia.**

**Phone: 1300 65 46 46,**

**Website: [www.standards.com.au](http://www.standards.com.au)**

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 Medicine Society\* maintains a list of its members with training in diving medicine. Enquiries should be addressed to the Secretary of SPUMS, C/- The Australian and New Zealand Collage of Anaesthetists, 630 St Kilda Rd, Melbourne, Victoria 3004.

URGENT specialist advice can be obtained from the major hospital hyperbaric units in each State and the RAN School of Underwater Medicine, HMAS Penguin, Balmoral, NSW 2091, Phone: (02) 9960 0555.

For diving emergencies, contact the Diving Emergency Service (Australia), C/- Hyperbaric Medical Unit, Royal Adelaide Hospital, Phone: 1800 08 8200.

*Recommended reading:* THE SPORTS DIVING MEDICAL Parker, J., 1996. Melbourne: J.L. Publications.

DIVING AND SUBAQUATIC MEDICINE Edmonds, C., Lowry, C., and Pennefather, J., 3<sup>rd</sup> Edition, 1992. Butterworth-Heinemann.

\*The South Pacific Underwater Medicine Society exists –

(a) to promote and facilitate the study of all aspects of underwater and hyperbaric medicine; and

(b) to provide information on underwater and hyperbaric medicine.