

# MEDICAL FORM FOR PROSPECTIVE RECREATIONAL SCUBA DIVERS

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

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

|  |             |                       |
|--|-------------|-----------------------|
| 1 Surname  | Other Names | 2 Date of Birth       |
| 3 Address  |             | Phone ( <i>home</i> ) |
| 4 Sex  | Male        | Female                |
| 5 Principal Occupation                                     |             | Phone ( <i>work</i> ) |
| 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, medicines or other drugs?   | YES         | NO                    |
|  | YES         | NO                    |
|  | YES         | NO                    |
| 12 Do you have any allergies?                              | YES         | NO                    |
|  | YES         | NO                    |
| 13 Have you had any reactions to drugs, medicines or food? | YES         | NO                    |
|  | YES         | NO                    |

*Have you ever had or do you have any of the following? Tick YES or NO and give details where necessary.*

|   | 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 noises in ears     |     |    |                  |
| 24 Discharging ears or other infections   |     |    |                  |
| 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 racing)                     |     |    |                  |
| 43 Consciousness of your heart beat       |     |    |                  |
| 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          |     |    |                  |

|   | YES | NO | Notes on history |
|---|-----|----|------------------|
| 50 Coughing up phlegm or blood                                |     |    |                  |
| 51 Chronic or persistent cough                                |     |    |                  |
| 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 diarrhea                             |     |    |                  |
| 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 In a high risk factor for HIV or AIDS                      |     |    |                  |
| 72 Syphilis   |     |    |                  |
| 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 a licence refused on medical grounds              |     |    |                  |
| 81 Unable to work for medical reasons                         |     |    |                  |
| 82 An invalid pension   |     |    |                  |
| 83 Any other illness or injury or any other medical condition |     |    |                  |
| <b>Have any blood relations had :</b>                         |     |    |                  |
| 84 Heart Disease  |     |    |                  |
| 85 Asthma or chest disease                                    |     |    |                  |
| 86 TB   |     |    |                  |
| <b>Females only:</b>  |     |    |                  |
| 87 Are you possibly pregnant or planning to be                |     |    |                  |
| 88 Do you have any incapacity during periods?                 |     |    |                  |
| 89 Date of last chest X-ray?                                  |     |    |                  |

*Previous Diving Experience*

|  | YES | NO | Notes on history |
|--|-----|----|------------------|
| 90 Can you swim?   |     |    |                  |
| 91 Have you ever had any problem during or after swimming or diving? |     |    |                  |
| 92 Have you ever had to be rescued?                                  |     |    |                  |
| 93 Do you snorkel dive regularly?                                    |     |    |                  |
| 94 Have you tried SCUBA diving before?                               |     |    |                  |
| 95 Have you had previous formal SCUBA training?                      |     |    |                  |
| 96 Year  |     |    |                  |
| 97 Approximate number of dives                                       |     |    |                  |
| 98 Maximum depth of any dive   |     |    |                  |
| 99 Longest duration of any dive?                                     |     |    |                  |

I certify that the above information is true and complete to the best of my knowledge and I hereby authorize Dr \_\_\_\_\_ to give medical opinion as to my fitness, or temporary or permanent unfitness to dive to my diving instructor. I also authorize 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.

**Signed** \_\_\_\_\_

**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 1 February 1984.

Diving is a sport carried on 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 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, shuts the mouth and blows (Valsalva manoeuvre) 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 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 wiggle it from side to side while performing a Valsalva manoeuvre. 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 declared 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 shown 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, are 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 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/- Australian College of Occupational Medicine, PO Box 2090, St Kilda West, Victoria 3182. URGENT specialist advice can be obtained from the hyperbaric unit in each state, the RAN School of Underwater Medicine, HMAS Penguin, Balmoral, NSW 2091, phone (02) 9960 0444, and the Diving Emergency Service, C/- Hyperbaric Medical Unit, Royal Adelaide Hospital, phone (008) 08 8200.

## Recommended reading

DIVING AND SUBAQUATIC MEDICINE Edmonds, C, Lowry, C, and Pennefather, J, 2<sup>nd</sup> Edition, 1981. Revised 1983. Sydney: Diving Medical Centre.

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- The South Pacific Underwater Medicine Centre 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.