

---

# MEDICAL ASSESSMENT OF FITNESS TO DIVE: RECREATIONAL DIVING ASPECTS

Chris Edge, Stephen Glen

---

## ABSTRACT

A new self-assessment medical form was introduced in the United Kingdom for members of the British Sub-Aqua Club (BSAC), the Scottish Sub-Aqua Club (SSAC) and the Sub-Aqua Association (SAA). The effect of this change of assessment on the cohort of divers who are members of, or wished to join, the SSAC since 2000 are discussed.

## FULL TEXT

Until 2000, recreational divers in the United Kingdom who were members of the British Sub-Aqua Club (BS-AC), the Sub-Aqua Association (SAA) or the Scottish Sub-Aqua Club (SSAC) had to pass a medical examination consisting of answering a medical questionnaire and having a physical examination conducted by any medically qualified doctor, who normally charged between £30 and £60 for the medical. This examination was conducted every 5 years up to the age of 40, every 3 years up to the age of 50 and annually thereafter. If the GP was concerned about the diver's state of health, then a medical referee could be contacted.

In contrast, divers in the UK who were members of the Professional Association of Diving Instructors (PADI) were required only to complete a medical questionnaire at initial entry (no reassessments). A physician examined the diver only if he or she answered "Yes" to any question on the RSTC medical form.

There were problems associated with the medical assessment for BSAC, SAA and SSAC divers. The predictive value of routine medical examinations was poor, medicals performed by non-diving doctors were particularly unhelpful. There was a missed opportunity for education and a lack of consistency. An audit performed in the SSAC analysed 2962 medical forms and found examination abnormalities in 174 (59%) of divers. The commonest medical conditions were asthma, hypertension, and a BMI > 30. All examination abnormalities were predicted by the questionnaire. A worrying trend of increasing BMI (figure 1) and smoking was also identified.

In 2000, the medical examination of non PADI divers was replaced by a self-assessment questionnaire, similar in form (but differing in content) to the RSTC form. Divers were examined by a doctor trained in diving medicine only if they answered "Yes" to any question in the questionnaire. This method of assessment was adopted by the BS-AC, SAA and SSAC. The assessment is completed on an annual basis, whatever the age of the diver.

The effect of the new medical system can be summarised in Table 1 below. SSAC incidents were also analysed in the years 2000-3 and two occurred in divers with medical conditions, both of which had been identified prior to the incident by the questionnaire. In both cases divers had undergone further medical examination by a diving doctor.

The most common clinical conditions identified were asthma (24%), general medication queries (10%), hypertension (9%) and previous decompression illness (9%).

The UK implications of the new medical form were considered. There are 63,000 club divers (excluding PADI) and using the frequencies of the SSAC population it can be estimated that 819 divers will need to consult a diving medical referee each year. There are currently 60 medical referees which implies that each referee will see 14 divers per annum.

The BSAC incident statistics from 2002 showed a fall in the fatality rate from 2001 although the incidence of decompression illness has gradually risen since 1999. Dr. Andrew Trevitt from the Orkney Islands found that one out of every 102 divers visiting Scapa Flow (a popular wreck site) was involved in an incident. The incidence of decompression illness was 0.49 per 1000 dives. The dive organisations were advised to reconsider dive training and depth limits to improve the safety of recreational diving in the UK.

The UKSDMC medical form continues to be monitored and long term safety statistics and changes to the diving incident pattern will be assessed. The initial results are reassuring and divers are benefiting from expert assessment from diving doctors.

Year	1997	1998	1999	2000	2001	2002
Members	1796	1809	1931	1896	1950	1896
Forms requiring review by medical referee	10 (0.6)	23 (1.3)	24 (1.2)	109 (5.7)	135 (6.9)	146 (7.7)
Passed	5 (0.3)	17 (0.9)	11 (0.6)	90 (4.7)	106 (5.4)	108 (5.7)
Failed	5 (0.3)	6 (0.3)	13 (0.7)	19 (1.0)	29 (1.5)	38 (2.0)
Clinical Assessment	2 (0.1)	4 (0.2)	3 (0.2)	20 (1.1)	26 (1.3)	25 (1.3)

The shaded columns show the statistics for the three years prior to the introduction of the new UKSDMC form.

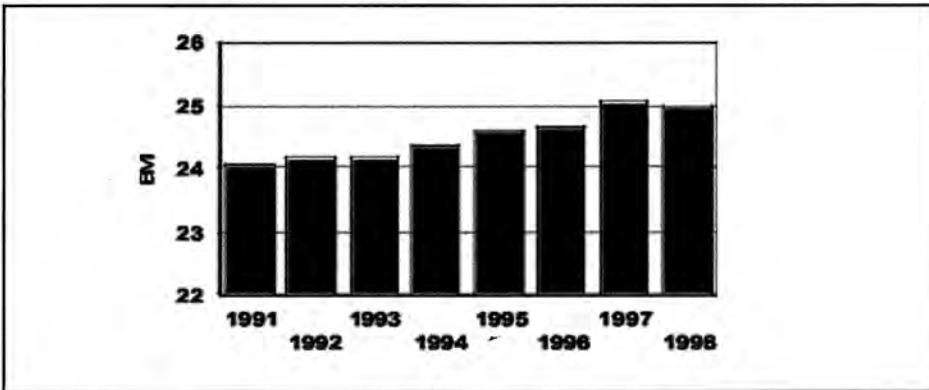


Figure 1. Trend of Body Mass Index (BMI) versus year

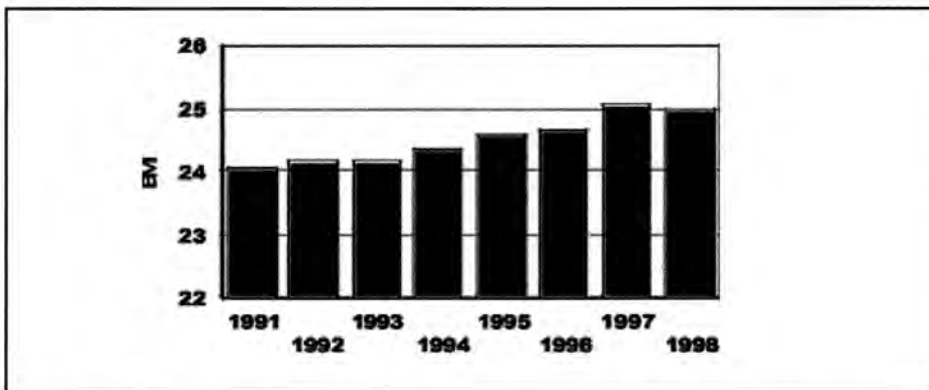


Figure 2. Number of Cases of Decompression Illness versus Year for Divers in Scapa Flow