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Bounce diving

This bulletin provides guidance about bounce diving during occupational diving operations. It has been developed in consultation with the Diving Industry Advisory Group (DIAG).

Introduction

WorkSafe consulted with DIAG to determine whether bounce diving is a suitable practice for an occupational diver.

What is bounce diving?

Bounce diving is the common term for repeatedly diving to depths shallower than 21 metres with less than 15 minutes surface interval between consecutive dives.

This practice has risks for divers, including the risk of decompression sickness.

Recommendations

For bounce diving to a depth up to 9 metres

When carrying out bounce diving to a depth up to 9 metres:

- In-water dive time should be limited to a **maximum of 300 minutes** (5 hours) per day.
- Divers **do not need to limit the number of dives** per day.

For bounce diving to a depth greater than 9 metres

When carrying out bounce diving to a depth greater than 9 metres, follow the advice outlined in the Tasmanian Bounce Diving Tables¹ (see Table 1).

DEPTH (metres)	NUMBER OF ALLOWABLE BOUNCES IN DIVE SERIES	IN-WATER DIVE TIME LIMIT (minutes)*
10-12 m	10	150**
13-15 m	10	75
16-18 m	6	50
19-21 m	4	35
> 21 m	Use DCIEM repetitive dive tables	

TABLE 1: Bounce diving to a depth greater than 9 metres

1. Ascent rates shall be \leq 18 metres per minute.
2. Surface intervals between bounces shall be $<$ 15 minutes.
3. A 3 minute decompression stop at 3 metres shall be performed during the last ascent.
4. A second bounce-dive series is possible after a 2 hour surface interval, provided that the diver follows the criteria below.

Notes:

This table is adapted from Table 5 of the Tasmanian Bounce Diving Tables.

* The in-water dive time limit is the total time the diver spends in the water, minus the time spent at the surface during surface intervals. It includes the time of the last ascent and the decompression stop.

** It is recommended that bounce-series dive times are less than DCIEM table limits until fully validated.

¹ Smart et al, 2014.

Criteria for undertaking a second set of bounce dives on the same day

1. Divers are required to be DCIEM Repetitive Factor 1.0 at the commencement of the first bounce-dive series.
2. The maximum depth for the first bounce-dive series is no more than 18 metres.
3. The in-water time for the first bounce-dive series is calculated as the time from commencing first descent to the time of exiting the water, minus the sum of all time spent on surface intervals. The in-water time includes time spent in the water for the decompression stop.
4. The repetitive group for DCIEM tables is calculated from the first bounce-dive series in-water time, after surfacing.
5. A minimum surface interval of 2 hours must occur between the first and second bounce-dive series.
6. The repetitive group is then used to calculate the allowable bottom time for the second bounce-dive series.
7. The maximum depth of the second bounce-dive series shall be no deeper than the maximum depth of the first bounce-dive series.
8. The number of allowable bounces in the second bounce-dive series shall be restricted to half the number of the first bounce-dive series (maximum of 5 bounces), and with maximum bottom time as defined by the DCIEM repetitive group allowable bottom time.

Note: This list has been adapted from Table 4 of the Tasmanian Bounce Diving Tables.

Reference

Smart, D.R., Van den Broek, C., Nishi, R., Cooper, P.D. & Eastman, D. 'Field validation of Tasmania aquaculture industry bounce-diving schedules using Doppler analysis of decompression stress.' *Diving and Hyperbaric Medicine* 44 no. 3 (2014): 124-136. [Diving and Hyperbaric Medicine Journal](#)

Further information

WorkSafe's [Occupational Diving](#) guidance and related information.