

Letters to the Editor

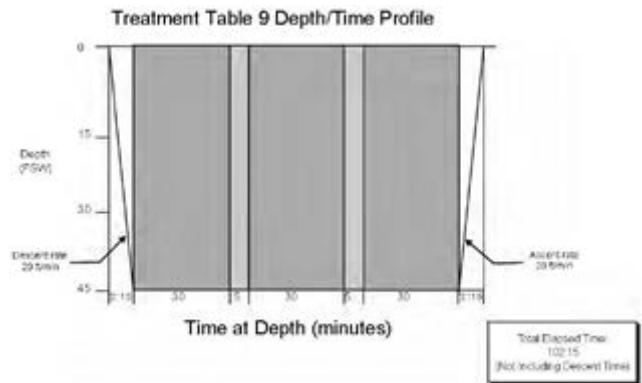
USN Treatment Table 9

The United States Navy (USN) introduced Treatment Table 9 (USN TT9) in 1999.¹ Its purpose is to provide a dosing protocol for cases of incomplete resolution of decompression sickness (DCS) and arterial gas embolism following initial provision of USN Treatment Table 6 (USN TT6). It also can be used for several non-diving-related acute toxicities. Prior to USN TT9, it was and remains common to use USN Treatment Table 5 (USN TT5) for 'follow-up' therapy. An exception might be cases of severe residual neurologic injury, where some prefer to repeat USN TT6. The primary role of USN TT5, however, is for treatment of 'pain only' (Type 1) DCS that has fully resolved within 10 minutes of the first oxygen breathing period at 60 feet of seawater (fsw) (284 kPa).²

It is thought helpful here to point out that USN TT9 offers certain safety and operational advantages over USN TT5. As USN TT9 employs a maximum pressure of 243 kPa, a marked risk reduction exists for the injured diver in terms of CNS oxygen toxicity. Seizures are reported during treatment of divers using US Navy protocols,³ some as early as the second and in one case during the first oxygen breathing period at 284 kPa (Mitchell SJ, personal communication, 2016). The inside attendant likewise enjoys an iatrogenic DCS risk reduction. While air breathing exposure time at 60 fsw on USN TT5 appears modest at first blush, the table can be extended at 30 fsw (203 kPa) for two additional oxygen/air cycles.² Such extensions result in a not inconsiderable total exposure time of three hours. DCS risk is also increased if the treatment represents a repetitive dive for the attendant, a not uncommon event. Given the ongoing occurrence of inside attendant DCS, in some cases career ending and twice with fatal outcome, its mitigation should be aggressively pursued (author's personal files).

From an operational perspective, both treatment pressure and sequencing of oxygen/air breathing cycles during delivery of USN TT9 are essentially identical to that commonly employed during multiplace chamber delivery of hyperbaric oxygen treatment. Accordingly, it is straightforward enough to incorporate follow-up decompression illness cases into daily clinical practice. Not having this dosing 'match', i.e., using USN TT5, might otherwise disrupt regularly scheduled cases.

In my capacity as a medical claims adjudicator and clinical resource, I am involved, to varying degrees, in more than 300 cases of decompression illness each year. In those involving more than a single treatment, it is very much the exception, even after 17 years since its introduction, that USN TT9 is employed. The primary purpose of this correspondence, then, is to make mention of the advantages of USN TT9 and remind providers that it is indeed a standard of care



in cases of incomplete relief for those who choose to base decompression injury management decisions on USN treatment procedures.

References

- 1 US Navy Diving Manual Revision 4. 20 January 1999. Naval Sea Systems Command; 1999.
- 2 US Navy Diving Manual Revision 7. 01 December 2016. Naval Sea Systems Command. Washington, DC: US Government Printing Office; 2016. [cited 2017 January 21]. Available from: http://www.navsea.navy.mil/Portals/103/Documents/SUPSALV/Diving/US%20DIVING%20MANUAL_REV7.pdf?ver=2017-01-11-102354-393.
- 3 Banham ND. Oxygen toxicity seizures: 20 years' experience from a single hyperbaric unit. *Diving Hyperb Med.* 2011;41:202-10.

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Key words

Decompression illness; Decompression sickness; Recompression; Letters (to the Editor)