Robert Workman ……Decompression Tables

The approach to decompression modeling proposed by JS Haldane was used with minor modifications from 1908 through until the 1960s. These modifications were primarily changes to the number of compartments and half times used. The US Navy tables published in 1937 and based on research by O. D. Yarbrough used only 3 compartments as the two fastest compartments were dropped (5 and 10 minutes). Later revisions in the 1950's restored the fast 5 and 10 minute compartments as well as adding a slower 120 minute compartment for a total of six compartments.

It wasn't until the 1960s that any fundamental changes to the model were considered. Robert D. Workman of the U.S. Navy Experimental Diving Unit (NEDU) was a medical doctor with the rank of Captain in the Medical Corps. It had been observed that tables based on Haldane's work and subsequent refinements were still inadequate when it came to longer and deeper dives. Workman undertook a review of the basis of the model as well as subsequent research performed by the US Navy.

Workman revised Haldane's model to take into account the fact that each of the various tissue compartments can tolerate a different amount of over pressurisation and that this level changes with depth. He introduced the term "M-value" to describe the amount of over pressurisation each compartment could tolerate at any depth. Workman also added three further slow tissue compartments with 160, 200 and 240 minutes half times.

Rather than present his calculations as a completed table Workman presented his conclusions in the form of an equation which could be used to calculate the results for any depth. He also made the observation that "a linear projection of M-values is useful for computer programming as well" and so was one of the first people to identify the role that computers would come to play in the calculation of decompression tables.