WG 7 (Naval and Undersea Medicine)

Acute Acoustic Trauma in "Iron Swords", Wartime Experience

Maayan Maneheim.
Israel Naval Medical Institute (INMI).

Acute acoustic trauma (AAT) is sensorineural hearing loss resulting from exposure to loud noise. In 2019 a clinical guideline was established for diagnosis and treatment of military personnel in the Israeli Defense Forces (IDF).
With the onset of "Iron Swords" war in October 2023, the volume of AAT patients increased drastically, while Uniformed Medical Officers (UMOs) were engaged in combat themselves. Due to these circumstances the process of diagnosis and treatment were refined, and a new medical unit was formed to provide prompt and effective treatment. From October 7, 2023, to this day 422 patients were treated at the INMI for AAT with a combination of HBOT and steroids.
In this session these adaptations will be discussed, as well as treatment protocol. Wartime findings support previous knowledge regarding the importance of beginning treatment as soon as possible, optimally within seven days from exposure. Age was negatively correlated with recovery of hearing.

WG 7 (Naval and Undersea Medicine)

The Potential of Hyperbaric Chambers in Enhancing Naval Training Protocols

Amit Geva.
Israel Naval Medical Institute (INMI).

Hyperbaric oxygen therapy (HBOT) has long been a critical component of naval medicine, primarily used to treat decompression sickness in divers. However, its potential applications extend far beyond its traditional role, offering significant benefits in the context of naval training and operational readiness. By delivering 100% oxygen at elevated pressures, hyperbaric oxygen chambers can accelerate recovery from intense physical training, reduce inflammation, and enhance wound healing, thereby optimizing the physical performance and resilience of naval personnel. Additionally, HBOT has shown promise in mitigating injuries associated with high-stress environments and improving cognitive function by promoting neural repair and reducing oxidative stress. This lecture will explore the integration of hyperbaric oxygen chambers into naval training programs, focusing on their role in recovery protocols, injury prevention strategies, and overall performance enhancement. By leveraging these advanced medical technologies, naval forces can ensure their personnel are better prepared to meet the physical and mental demands of modern maritime operations.