



Assessing Cardiovascular Demands in Simulated Underwater Welding: An African Perspective on Occupational Health Monitoring

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Abstract

Underwater welding is a hazardous occupation with significant cardiovascular risks. There is a paucity of research and regionally relevant safety protocols addressing these risks within the specific context of African diving conditions and occupational health monitoring practices. This book review assesses a monograph investigating cardiovascular demands during simulated underwater welding. Its objective is to evaluate the book's contribution to understanding physiological strain and its relevance for occupational health monitoring from an African perspective. The review critically analyses the monograph's content and approach. The primary methodology of the reviewed book involved continuous electrocardiogram (ECG) and oxygen consumption monitoring during simulated welding tasks in a controlled environment in Uganda. As a book review, this article presents no empirical results. The analysis finds the book effectively highlights the substantial cardiovascular strain associated with underwater welding. It identifies a key theme: the critical importance of real-time physiological monitoring, arguing such practices are not yet standardised in many African commercial diving operations. The reviewed book is a valuable resource. It successfully translates physiological research into practical occupational health insights, making a strong case for enhanced cardiovascular monitoring for underwater welders in African conditions. The review recommends the book for hyperbaric physicians, diving safety officers, and occupational health researchers in Africa. It suggests the text should prompt industry stakeholders to review and adopt more rigorous health surveillance protocols based on its evidence. Occupational diving, hyperbaric medicine, cardiovascular physiology, underwater welding, health surveillance, Africa This review synthesises and critiques a key text, highlighting its role in advancing the discourse on regionally specific occupational health standards for commercial divers in Africa.

Keywords: *Occupational health, Cardiovascular strain, Underwater welding, Sub-Saharan Africa, Physiological monitoring, Simulated work environment, Hyperbaric medicine*

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