

Review of: "Marine Medical Response: Exploring the Training, Role and Scope of Paramedics and Paramedicine"

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Perspective from a Diver Cardiologist on "Marine Medical Response: Exploring the Training, Role and Scope of Paramedics and Paramedicine"

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As both a cardiologist and a diver, I find this paper particularly compelling in its focus on the need for paramedics specifically trained in marine medicine. Diving presents unique challenges to the cardiovascular system, including the risks of decompression sickness (DCS), heart attacks, and strokes, particularly in divers with underlying health conditions.

From a cardiovascular standpoint, dive paramedics can play a crucial role in managing cardiac events in divers, which can occur frequently, especially in individuals with obesity, undiagnosed heart disease, or respiratory issues. The paper rightly emphasizes the potential for paramedics to perform advanced life support in these settings. However, this could be expanded to include more detailed protocols for managing diving-related cardiac emergencies such as arrhythmias and myocardial infarctions, particularly in remote and resource-limited marine environments.

The paper also highlights the importance of pre-dive assessments, and I agree that dive paramedics could be instrumental in this area. Training paramedics in basic cardiology, such as mobile ECG interpretation devices and the management of common cardiovascular conditions, would significantly improve the prevention and treatment of cardiac events underwater.

In addition, the paper could further explore the role of dive paramedics in providing life-saving interventions such as cardiopulmonary resuscitation (CPR) or defibrillation (mini AED devices) in cases of cardiac arrest or severe arrhythmias. Early recognition and timely treatment of such conditions are essential to improving outcomes, especially given the isolated nature of many diving activities.

An often-overlooked condition in divers is patent foramen ovale (PFO), a small hole between the right and left atrium, which affects approximately 25% of the population. PFO can increase the risk of arterial gas embolisms, leading to embolic strokes, particularly in the context of rapid ascent or decompression. Having dive paramedics trained to recognize and manage such complications could significantly enhance safety.

Here are some suggestions for dive paramedics to effectively recognize the cardiovascular emergency, diagnose, and perform the advanced cardiovascular life support (ACLS) protocol: (1) Basic cardiovascular physiology & diving risks, (2) Recognizing cardiovascular emergencies in divers, (3) Diagnosis tools & techniques, (4) ACLS protocols for diver paramedics, (5) Life-saving protocols for unique diving-related cardiac emergencies, (6) Remote emergency response & evacuation, and (7) Post-emergency care & diver safety education.

The American Heart Association (AHA) Basic Life Support (BLS) and Advanced Cardiovascular Life Support (ACLS) protocols are sets of guidelines used to manage individuals experiencing cardiac emergencies, such as cardiac arrest, arrhythmias, stroke, and other life-threatening cardiovascular events. BLS is designed for laypeople and healthcare providers alike, focusing on immediate interventions like CPR and defibrillation, while ACLS is intended for healthcare professionals, incorporating advanced interventions such as airway management, medication administration, and cardiac rhythm interpretation.

Another suggestion: dive paramedics may use telemedicine equipment (e.g., satellite communication devices or gadgets) to consult with specialists in real-time, particularly in managing complex cases of gas embolism or cardiovascular compromise. This may help paramedics receive expert guidance and support for complex PFO-related cases, thus improving decision-making and treatment.

Moreover, simple tools such as portable pulse oximeters may help to monitor the heart rate and oxygen saturation of the diver.

In conclusion, as a cardiologist, I strongly support the call for specialized dive paramedics, and this paper makes an important contribution to the ongoing discussion about expanding the medical capabilities available to divers and marine rescue teams. Diving presents distinct cardiovascular risks, from decompression illness to heart attacks and strokes, and paramedics with specialized training could play a pivotal role in mitigating these risks and improving diver safety.