

A lifetime inspired by the ocean: marine environmental effects on human physiology

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The sea showed that it can be a deadly enemy and that those who go to sea must do so in the knowledge that they may encounter dangers of the highest order (Jacobs & Hawley, 2011). My family, up to my father's generation, were fishermen. My grandfather had great stories about fearlessly sailing to Iceland to fish for cod and how he survived the sinking and abandonment of a fishing boat. It helped explain why my grandmother didn't want her sons and grandsons to become sailors. I became an exercise physiologist (exercise physiology can be defined as the study of how the human body, from a functional standpoint, responds, adjusts and adapts to physical activity and exercise), teaching and doing fundamental research in a sport and clinical setting. However, my life was inspired by the ocean. In my teenage years - during holidays - I sailed dinghies, worked as beach lifeguard in Ostend (Belgium) and as deck mate on a container ship crossing the North Atlantic Ocean. In 1980, I crossed the North Atlantic Ocean again in a 44 foot yacht. One year later, I left my hometown to sail the Whitbread Round the World Race 1981-1982. At the start of my professional career in 1983, I became a member of the national rowing squad. In this context, it seems logical that part of my research is conducted on water-related sports activities (rowing, sailing and kite surfing). A few years ago, I invited Prof. Mike Tipton from the University of Portsmouth (UK), a world authority on survival at sea and thermoregulation in cold and hot environments (Golden & Tipton, 2002), to give some lectures on beach lifeguarding and cold water immersion to my students. At that moment, I realized that marine environmental effects on human physiology are worth studying and that the expertise of our research group is suitable to do research in this field.

The greatest wilderness on earth is the ocean and working in this wilderness as a marine scientist seems wonderful to many people. Marine science workers bring a specific skill to a problem. Sometimes, that problem lies in a comfortable neutral environment. But more likely, the problem will yield only to prolonged study in an uncomfortable and harsh environment. (Garrison, 2010). Water is one of the most hostile and life-threatening natural environments for inadequately prepared individuals. Health maintenance at sea is crucial for marine science workers to do their job very thoroughly, and to survive the possible threats of an ocean environment. Therefore, a basic understanding of how the human body works in a specific marine environment (thermoregulation in heat, cold and wet environments, adaptive response to real and apparent motion, shift work,...), knowledge of specific health issues at sea (dehydration, hypothermia, seasickness, sleep deprivation,..) and possible countermeasures are necessary to maintain optimal physical and mental performance as well as survival.

References

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