ISO standards for the assessment of Heat stress

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1 Introduction

People are exposed to hot conditions throughout the world, both outdoors and indoors. This presentation describes the most up to date position concerning international (ISO) standards that can be used to assess hot environments and protect people from unacceptable thermal strain including heat injuries and death. ISO TC 159 SC5 ‘Ergonomics of the Physical Environment’ includes all Ergonomics standards concerned with heat stress. There is an increasing need for heat stress standards and much current interest due to the occurrence of heat waves, unexpected weather due to global warming and the effects of protective clothing (against ‘ebola’ virus for example) which can lead to heat casualties in vulnerable people, agricultural workers (particularly in developing countries), health care workers, construction workers and people in sport (fun runs, soccer etc).

2 Method

A complete description of all relevant standards and their system of operation will be provided. ISO 7243(1989) is currently under revision and details of the proposed new version will be provided. ISO 7933 (2004) provides an analytical approach to assessing hot environments and ISO 9886 (provides a method for taking physiological measurements, based upon heart rate, core and skin temperatures and sweat loss. This underpins the development of personal monitoring systems. The suit of standards are used in combination to determine working practices for hot environments and to provide advice on how to embed heat stress management systems into simple and complex organisations (Parsons, 2014).

3 Results

A practical example of the use of ISO standards for the assessment of heat stress will be provided.

4 Discussion

The development of ISO standards in the area of Ergonomics was first proposed by the International Ergonomics Association in 1973 and these include standards in the area of heat stress. The current set of standards provides best practice to date but there are new developments and Ergonomics as a subject is uniquely placed to take a holistic view in terms of the whole system and organisation. New techniques will be presented as well as a consideration of strategy for the future.

5 References,


