

ABSTRACT

A conceptual generic model for fatigue-mediated overexertion, margin of safety, and job-related risk of injury is proposed. The model has been built with the variables of force, effective exposure in time domain, and motion of the exertion in space. With the proposed model, the physical risk factors can be identified and quantified. It also allows one to gauge a relative contribution of various integral factors involved in fatigue-mediated occupational injuries. Although the model is based on established relationships between the job variables (strength [force], frequency-duration of exposure, recovery from exposure, and range of required motion) and the injuries sustained, it has not been validated within any single study. The model provides a framework for numerous validation studies. With availability of more information through such studies, the model can be appropriately refined for accuracy of its prediction

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