



Intelligent Data Analysis to Calculate the Operational Reliability Coefficient

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Abstract

Nowadays the complexity that medical equipment has reached means that not all failure patterns can be easily managed through maintenance activities, carried out after their manufacture and commissioning. For this reason, experts in electromedicine consider that the analysis of failure patterns should be carried out with the tools of reliability engineering, since medical equipment is a technology that is not without risks. Failures in these devices are caused by risks associated mainly with operator malfunctions, impairment of the electrical fluid that causes the stopping of procedures in execution in an unexpected manner and others inherent to the technology. All these risks lead to a dynamic working behaviour of medical equipment, which passes through a finite number of states: running, faulty and broken. As part of the analysis of failure patterns in medical equipment, the CONFEM algorithm is proposed in this manuscript to determine the operational reliability coefficient.

Keywords: Medical equipment, Failure patterns, Risks Operational reliability coefficient, Algorithm

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