Effective management of device-supported patients in the Intensive Care Unit (ICU) is complex, involving the interpretation of large volumes of high frequency data from numerous cardiac and respiratory parameters presented by the ICU monitors. ICU Clinical Decision Support systems can play an important role in assisting medical staff in terms of its ability to disentangle and comprehend large amount of physiological datasets with a number of
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explanatory variables. We propose data wavelets as a data mining approach for analyzing historical ICU data for deriving trends. We propose a clinical decision support system that uses the trends to assist medical staff by performing temporal reasoning to determine the outcome of therapies and to reason qualitatively to remove clinically insignificant events and to identify clinical conditions.

Reference

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Index Terms

Computer Science  Intelligent Systems

Key words

signal processing

medicine

time-series analysis

data mining

wavelets