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IECBES 2016 - IEEE-EMBS Conference on Biomedical Engineering and Sciences  
 3 February 2017, Article number 7843476, Pages 370-375  
 2016 IEEE-EMBS Conference on Biomedical Engineering and Sciences, IECBES 2016; Pullman Hotel and ResortsKuala Lumpur; Malaysia; 4 December 2016 through 8 December 2016; Category numberCFP1626K-ART;  
 Code 126362

## Efficacy and safety of SPRINT and STAR protocol on Malaysian critically-ill patients (Conference Paper)

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### Abstract

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Intensive care unit patients may have a better glycaemic management with the right control protocol. Results of virtual trial performance on Malaysian critically-ill patients adopting a model-derived and model-based control protocol known as SPRINT and STAR are presented in this paper. These ICU patients have been treated by intensive sliding-scale insulin infusion. The effectiveness and safety of glycaemic control are then analysed. Results showed that patient safety improved by 83% with SPRINT and STAR protocol as the number of hypoglycaemic patients significantly reduced ( $BG < 2.2 \text{ mmol/L}$ ). Percentage of time within desired bands and median BG improves in both SPRINT and STAR. However, the improvements are associated with higher number of BG measurements (workload). © 2016 IEEE.

### Author keywords

hyperglycaemia   ICU patients   model-based protocol

### Indexed keywords

Engineering controlled terms: Biomedical engineering   Intensive care units   Safety engineering   Stars

Compendex keywords: Control protocols   Critically-ill patients   Hyperglycaemia   Hypoglycaemic  
 Insulin infusions   Model based controls   Model-based OPC   Patient safety

Engineering main heading: Patient treatment

**ISBN:** 978-146737791-1  
**Source Type:** Conference Proceeding  
**Original language:** English

**DOI:** 10.1109/IECBES.2016.7843476  
**Document Type:** Conference Paper  
**Sponsors:** EMB,Humanitarian Activities Committee,IEEE Standards Association,Malaysia Convention and Exhibition Bureau  
**Publisher:** Institute of Electrical and Electronics Engineers Inc.

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