

Interventions and diagnostics

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CLINICAL EVALUATION OF THE NOVEL 'FULLSTOP' TOURNIQUET USING REAL TIME DOPPLER ULTRASOUND IN A HUMAN MODEL

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Background Major haemorrhage following trauma is a leading cause of preventable death. In the case of major haemorrhage from a limb, early application of a tourniquet can be life-saving. Tourniquets often need to be applied by lay persons, prior to the arrival of emergency medical services, in order to prevent exsanguination. A tourniquet needs to be completely reliable and easy to apply rapidly. We sought to evaluate the novel FullStop tourniquet (Safeguard Medical) in a human model.

Method A standard training session covering the FullStop method of application was provided. The FullStop tourniquet was applied to the upper arm of an adult human. Colour doppler ultrasound was used to identify the radial artery and visualise the radial pulse prior to tourniquet application and then following application. The time to full apply the FullStop was recorded. Successful application was defined as absence of any arterial pulsation on ultrasound.

Results 28 medical professionals participated in the study. They included doctors (n=9), nurses (n=8), medical students (n=5) and paramedics (n=6). Median time to application was 24 seconds (IQR 19–28 s). All (n=28, 100%) applications were successful in achieving complete occlusion of arterial flow in the arm.

Conclusion The FullStop tourniquet was rapid to apply and entirely effective in achieving complete occlusion of arterial flow in the upper limb. Further research is warranted to explore how effective the FullStop would be for lay person responders.

Conflict of interest None declared.

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Quality improvement and organization

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PARAMEDICS' PERCEPTIONS OF JOB DEMANDS AND RESOURCES IN FINNISH EMERGENCY MEDICAL SERVICES: A QUALITATIVE DESCRIPTIVE STUDY

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Background Paramedic professionals' fatigue is rising ^{1 2}. Stress factors show increased risk for burnout and fatigue, leaving the profession, decreased performance and risk for patient safety. (1) Meanwhile, paramedics' strong community of practice, autonomy of practice and a sense of professional

respect are important factors in forming psychological resilience.³ This study aimed to explore Finnish paramedics' perceptions of job demands and resources.

Method A cross-sectional descriptive study with qualitative design, utilizing an inductive constructivist approach. The study used reflexive thematic analysis, by Braun and Clarke, to analyse two data sets of responses from professional Finnish paramedics; open-ended questions from a web-based survey (n=174) and essays written by masters-degree students (n=34).

Results The results were categorized into job demands or resources, as defined in Job Demands and Resource model by Demerouti and Bakker. Themes identified as paramedics' job demands were continuous stress from mentally burdening work (high workload, environmental stress factors and bearing patients' and relatives' emotional burden), uncertainty under expectation pressures (sense of inadequacy and a pressure to perform) and organizational lack of support. Themes identified as paramedics' job resources were pressure management strategies (distancing coping mechanisms, ability to handle clinical demands and ability to affect own work) and professional self-actualization (psychologically safe work community, professional sense of pride and internal drive to professional development).

Conclusion Finnish paramedics exhibit both job demands and resources. Performance pressure, uncertainty and emotional burden and also environmental hazards and psychological safety in communities. This indicates a need to address not only physical aspects of the paramedic work but also early stage performance expectations and organizational cultures.

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Pain and trauma

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REVIEW OF PREHOSPITAL PAIN MANAGEMENT IN PEDIATRIC TRAUMA

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Background Adequate management of pain in children is often a neglected aspect, usually undervalued and under-treated. This study is a continuous review to see if pharmacological methods provided during the prehospital care of pediatric trauma patients is proper.

Method Retrospective study of clinical records of children up to 18 year of age, assisted between 2017 and 2018. Mild pathologies excluded. Epidemiological variables: age, gender,