

(EMS) have reported significant improvements in their systems and patient outcomes.²The European Resuscitation Council Guidelines 2021 recommend the implementation.³

Method The RAD was launched in January 2020. It involves six EMS regions (Berlin, Dortmund, Kiel, Plön, Vorpommern-Greifswald, Rostock) and runs for 30 months following a structured process with continuous monitoring and ongoing sequential meetings. A key focus is on implementation of local projects. The goal is the systemic and continuous improvement measured by the German Resuscitation Registry (GRR) and the 'RAD-Online-Tool'. The 'RAD-Online-Tool' is a system-self-assessment tool (SSAT) used at different points over the study period.

Results The six EMS regions have conducted the SSAT to identify potentials for improvement and translate them into multiple projects and goals. All participants are aiming for better data quality or improved usage of the GRR and to introduce a High-Performance-CPR-Program. Some EMS dispatch centers started to measure and improve their Telephone-CPR and/or Rapid Dispatch. Several systems will implement lay rescuer integration via app or improve AED integration. Other projects are on multiprofessional training for paramedics and emergency physicians or a Paramedic-Supervisor-Pilot program.

Conclusion Initial data and reports from participating EMS regions show success and potential for further improvement. For Germany, the format of consecutive workshops and continuous support seems particularly appropriate.

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Conflict of interest SSe, JTG is member of the steering committee of the German Resuscitation Registry. The authors declare that they have no competing interests.

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Pain and trauma

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NURSE PRACTITIONERS EMS (NP-EMS) PERFORMED ULTRASOUND (US)-GUIDED FASCIA ILIACA COMPARTMENT BLOCK (FIC-BLOCK) IN PATIENTS WITH A SUSPECTED PROXIMAL FEMUR FRACTURE. PRELIMINARY DATA

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Background Prehospital pain treatment options for patients with a suspected proximal femur fracture consist mainly in

the administration of IV-analgesics by EMS paramedics. The us-guided fascia iliaca compartment block is another suitable option applied by NP-EMS in prehospital emergency care. Therefore we examined whether NP-EMS are able to successfully perform an US-guided FIC block in order to provide analgesia.

Method NP-EMS were educated in the execution of an us-guided FIC block. Hereafter the NP-EMS were dispatched to patients suspect for a proximal femur fractur. After confirmation of the diagnosis, the block was performed under sterile conditions using a SonoSite iViz us-machine equipped with a 13–6 MHz linear transducer (Secma) and a 80 mm block-needle (Stimuplex ultra 360, 22G) . Under direct visual guidance the needle was inserted and 0,3 ml/kg lidocaine (10mg/ml) with adrenaline 5 ug/ml was injected. The quality of visualization of the needle in relation to the nerve, pain relief using Numeric Rating Scale (NRS) and occurrence of complications were evaluated.

Results In 99 patients an us-guided FIC-block was performed. One NRS score was lost, so 98 data pairs (before and after FIC Block) were available for analysis. Data were not normally distributed (D'Agostino & Pearson omnibus normality test $P < 0.001$). The block was effective in 96 patients, median NRS-pain score before FIC block was 8 interquartile range [7–9]. NRS decreased to median 3 interquartile range [1–6] after the FIC block, $P < 0.0001$ using Wilcoxon matched-pairs signed rank test Figure 1. No complications were noted. In two patients a correct visualization of the needle or spread of local anesthetic was not obtained.

Conclusion Well-trained NP-EMS can successfully and effectively perform an us-guided FIC block for providing adequate pain relief in patients with a suspected proximal femur fracture in the pre hospital setting.

Conflict of interest None declared.

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Miscellaneous

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DEVELOPING A YOUNG PERSONS ADVISORY GROUP (YPAG) TO INFORM THE DESIGN OF A STUDY TO IMPROVE PRE-HOSPITAL PAIN MANAGEMENT FOR CHILDREN AND YOUNG PEOPLE (CYP)

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Background Patient and public involvement is an integral component of clinical research. A YPAG is group of young people with active involvement in the design and conduct of clinical research aimed at CYP.^{1 2} Active collaboration with a YPAG can be mutually beneficial and can have a positive impact on study design and conduct.^{2 3} We report on the involvement of young people, their influence on study design and the perceived benefits to members.

Method A UK secondary school was approached and ten 16–17 year old students agreed to form a YPAG. Three 1-hour sessions were planned involving arts-based activities to explore key challenges, predetermined iteratively by the

research team. Activities involved group work to explore and propose solutions for effective CYP recruitment and data collection, produce a study logo and review the plain English summary.

Results YPAG members produced insightful arts-based posters containing important ideas and concepts that were incorporated into the study design. A study logo was created, diaries and electronic communication methods to collect data were added and a variety of age-based leaflets were added to the recruitment strategy. Members reported several benefits from the sessions, including enhanced creative and problem-solving skills and members enjoyed the teamwork and collaborative approach.

Conclusion YPAG involvement resulted in meaningful improvements to research design and members gained new knowledge, transferrable skills and improved confidence. This experience should help inform YPAG involvement in future research.

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Dispatch and triage

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INTRODUCTION OF VIDEO TRIAGE OF CHILDREN WITH RESPIRATORY SYMPTOMS AT A MEDICAL HELPLINE

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Background Calls regarding children make up the relatively largest proportion of contacts to medical call-centers, with calls often concerning respiratory symptoms. Triage of children without visual cues and through second-hand information is difficult, with risks of over- and undertriage. We aimed to test feasibility, acceptance and patient outcome after introduction of video triage of young children at the out-of-hours medical call-center in Copenhagen, Denmark.

Method Prospective quality improvement study, with patients aged 6 months to 5 years with respiratory symptoms enrolled to video or standard telephone triage (1:1). Calculated sample size was 774. The proportion of successful video calls, representing feasibility, and parental acceptance of video participation was registered, along with patient outcome within 48 hours, including adverse events (intensive care unit admittance, lasting injuries, death).

Results We included 617 patients (54% video triage) before the study prematurely was shut-down due to the COVID-19 pandemic. Feasibility was 95.2% and acceptance rate likewise 95.2%. No adverse events were registered in either group. Patients were triaged to stay at home in 63% of video triage calls vs. 58% of telephone triage calls ($p=0.19$). Within 8 and 24 hours there was a trend towards fewer video triaged than telephone triaged patients assessed at hospitals: 39% versus 46% ($p=0.07$) and 41% versus 49% ($p=0.07$), respectively.

Conclusion Video triage of young children with respiratory symptoms at a medical call-center was feasible, acceptable and safe. Video triage can potentially optimize triage and hospital referrals, and might be beneficial in many pediatric call-center contacts.

Conflict of interest None to declare.

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Miscellaneous

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A QUALITATIVE EXPLORATION OF RESTRAINT DECISIONS MADE BY PARAMEDICS AND ADVANCED PARAMEDICS IN THE CONTEXT OF ACUTE BEHAVIOURAL DISTURBANCE (ABD) IN THE PRE-HOSPITAL SETTING

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Background Acute behavioural disturbance, also known as excited delirium, is a medical emergency. Paramedics are required to balance competing concerns, including the risks of restraint to the patient, the need for diagnostic accuracy and the need for compliance with relevant legislation. Decisions take place in the context of challenging situations and paramedics are required to work closely with other professionals, such as the police.

Method 17 semi structured interviews¹ and focus group were undertaken with Paramedics and Advanced Paramedic Practitioners. This data is being analysed using reflexive thematic analysis (Braun and Clarke, 2006), informed by critical realism.

Results We have identified five tentative themes: Professional identity and patient advocacy, adequacy of clinical