

pptv.com and tudou.com were searched using simplified Chinese. Inclusion criteria required that the subject in the video be completely visible five seconds prior to the event and at least ten seconds after and the quality of the video be adequate to visualize movement. Exclusion criteria included trauma or precipitating event (substance misuse, toxic exposure or asphyxiation). Each video source was searched until 30 consecutive irrelevant videos were obtained. **Results:** Four hundred and eighty eight videos met inclusion criteria. Of those videos, 112 could be confirmed as a "cardiac arrest" by at least two sources (news, or family social media account). In 53 (47%) of these videos the person touches their face or head within five seconds of collapse. Of the 98 videos where the person is upright, in 41 (37%) instances they hip-flex and with their hands on their upper legs prior to collapse. This pattern of behaviour is combined in 36 (32%) instances. After collapse, 68 (61%) appeared to exhibit extension posturing activity. Agonal breathing was visible in 39 instances (35%). **Conclusion:** Sudden out of hospital cardiac arrest has a recognizable pattern. This represents an opportunity for machine learning, using shape tracking and edge detection, to recognize this event and activate the emergency response system.

**Keywords:** cardiac arrest, prehospital care, machine learning

### P032

#### Twelve angry medics: a study of bimanual external aortic compression in healthy adult men

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**Introduction:** Following life-threatening hemorrhage the goal is to temporize blood-loss and expedite definitive-rescue. Junctional (abdominal-pelvic) trauma, between the inguinal ligament and umbilicus; is a leading cause of potentially survivable mortality. Numerous devices such as junctional tourniquets and resuscitative endovascular balloon occlusion of the aorta have been suggested for this injury pattern, but we propose an immediately available and expedient bimanual maneuver that may act as a bridge to device application, proximal external aortic compression (PEAC). Of note, external aortic compression has been used for centuries in life-threatening postpartum hemorrhage. **Methods:** Twelve paramedic volunteers were recruited from a continuing education event. Participant demographics, blood pressure, abdominal circumference, body mass index and procedural discomfort were recorded. In pairs, six participants were taught PEAC and performed the maneuver, then exchanged roles. Training consisted of researcher led demonstration and participant return demonstration with feedback. The duration of training was less than five minutes for all participants. Femoral artery hemostasis was measured by doppler ultrasound. **Results:** Participant mean age was 28.6 (range 22 to 46) and their mean systolic blood pressure was 128.25 mmHg (range 102 to 145). Mean body mass index was 24 (range 22 to 28) and abdominal girth was 80 cm (range 70 to 110). Bilateral common femoral artery blood flow became undetectable in all participants, by doppler ultrasound. Participant discomfort was reported as a mean of 4.4 (range 3 to 6) on a zero to ten scale. No complications were reported with seven and 30 days follow-up. **Conclusion:** This study demonstrates successful PEAC in twelve healthy participants. However, our limitations include a small sample and the relatively modest abdominal circumferences of our participants. If light of these limitations, PEAC may be a potentially life-saving maneuver which is immediately deployable and easy to learn, for patient temporization until device application and/or operative rescue.

**Keywords:** trauma, hemorrhage, prehospital care

### P033

#### Reducing pantoprazole infusions in ED GI bleed patients by optimizing electronic order sets

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**Introduction:** Non-variceal upper gastrointestinal bleeding (NVUGIB) is a common presentation to the emergency department (ED) accounting for significant morbidity, mortality and health care resource usage. In Alberta, a provincial care pathway was recently developed to provide an evidence informed approach to managing patients with an UGIBs in the ED. Pantoprazole infusions are a commonly used treatment despite evidence that suggests they are generally not indicated prior to endoscopy in the ED. The goal of this project was to optimize management of patients with a NVUGIB, in particular reduce pre-endoscopy pantoprazole infusions. **Methods:** In July 2016, we implemented a multi-faceted intervention to optimize management of ED patients with NVUGIB including 1) de-emphasizing IV pantoprazole infusions in the ED, 2) clinical decision support (CDS) embedded (for endoscopy, disposition and transfusions) within the order set and 3) educating clinicians about the care pathway. We used a pre/post-order set design, analyzing 391 days pre and 189 days post-order set changes. Data was extracted from our fully integrated electronic health records system. The primary outcome was the % of patients receiving IV pantoprazole infusion ordered by an emergency physician (EP) among all patients with NVUGIB. Secondary outcomes included % transfused with hgb >70g/L and whether using the GIB order set impacted management of NVUGIB patients. **Results:** In the 391 days pre-order set changes, there were 2165 patients included and in the 189 days post-order set changes, there were 901 patients. For baseline characteristics, patients in the post-order set change group were significantly older (64.4 yrs vs. 60.9 yrs, p-value=0.0016) and had a lower hgb (115 vs. 118, p-value=0.049) but otherwise for gender, measures of severity of illness (systolic blood pressure, heart rate, CTAS, % admitted) there were no significant differences. For the primary outcome, in the pre-order set phase, 47.1% received a pantoprazole infusion ordered by an EP, compared to 31.5% in the post-order phase, for an absolute reduction of 15.6% (p-value ≤ 0.001). For the secondary outcomes, transfusion rates were similar pre/post (22.08% vs. 22.75%). Significant inter-site variability exists with respect to the reduction in pantoprazole infusion rates across the four sites (-23.3% to +6.12%). **Conclusion:** Our interventions resulted in a significant overall reduction in pantoprazole infusions in ED patients with NVUGIB. Reductions in pantoprazole infusions varied significantly across the different sites, future work in our department will explore and address this variability. Keys to the success of this project included engaging clinicians as well as leveraging the SCM order sets as well as the provincial care pathway. Although there were no changes in transfusion rates, it is unclear if this a function of the CDS not being effective or whether these transfusions were clinically indicated.

**Keywords:** quality improvement and patient safety, gastrointestinal bleeding, order sets

### P034

#### Audit and feedback for emergency physicians - perceptions and opportunities for optimization

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**Introduction:** There is a growing interest in providing clinicians with performance reports via audit and feedback (A&F). Despite significant