un débit d'oxygène de 15 L/min, et connectée via différentes interfaces à un poumon test pourvu de capteurs:
-Capteur de pression des voies aériennes (PAW en cm H_2O).
-Capteur de débit au niveau des voies aériennes.
-Capteur de pression "intra thoracique" (PIT max et min; et Pression Expiratoire Intra Thoracique).
Les mesures sonrt effectuées sans b-card, puis avec b-card connectée à un masque facial, un masque laryngé, une sonde trachéale.
Results: La pression "statique", celle de la valve virtuelle, mesurée au niveau de la b-card reste stable à 6 cm d'H2O, sous un débit de 15 L/min. Elle permet une résistance à hauteur de cette valeur aux flux de gaz entrant ou sortant du thorax expérimental en fonction des compressions/décompressions. Les pressions intra thoraciques positives mesurées lors des compressions restent équivalentes autour de 25 à 30 cm H_2O, et ce quelle que soit l'interface utilisée. Les pressions intra thoraciques négatives mesurées lors des décompressions restent équivalentes autour de 10 à 15 cm d'H_2O, et ce quelle que soit l'interface utilisée. **Conclusion:** Les pressions intra thoraciques obtenues en associant une oxygénation passive par la b-card à des compressions/décompressions continues permettent d'assurer une ventilation efficace et synchrone. Les pressions mesurées au niveau du dispositif sont constamment inférieures à la pression d'ouverture moyenne oesophagienne, ce qui éviterait toute insufflation gastrique.
Keywords: arrét cardiaque, oxygénation passive, compressions thoraciques continues

P035

Optimization of indirect pressure to temporize life-threatening haemorrhage: a simulation study

M.J. Douma, BSN, D.O. Dochartiagh, BScN, MSc; Lawrence S, Bloomberg Faculty of Nursing & Collaborative Program in Resuscitation Science, Faculty of Medicine, Edmonton, AB

Introduction: Minimizing haemorrhage using direct pressure is intuitive and widely taught. In contrast, this study examines the use of indirect-pressure, such as external aortic compression which has been identified as an immediately applicable maneuver to address the leading cause of battlefield mortality: junctional hemorrhage. However, it is currently unclear how to optimize this technique. **Methods:** This prospective, block-randomized, cross-over simulation study of compression optimization was performed on a model of central vessel compression that recorded weight (lbs) and pressure (mmHg). Forty participants simulated external aortic compression on the ground as well as a stretcher with and without a backboard. Participants were blinded to compression weight and pressure, as well as the purpose of the study, to minimize preparation bias. Manoeuvres were performed in alternating order to control for skill acquisition and fatigue. Scripted instructions were followed to compress with 1 then 2 hands, and to apply "sustainable effort" and then "maximal effort". **Results:** The greater the compressor's bodyweight the greater their mean compression (Pearson's correlation 0.9342). Using one-hand, a mean of 28% participant bodyweight (95%CI, 26% - 30%) could be transmitted at sustainable effort, waist-height, and on a stretcher. A second compressing hand increased rescuer bodyweight transmission by 10-22% regardless of other factors (i.e. presence/absence or a backboard; rescuer position) ($p < 0.001$). Adding a backboard increased transmission of rescuer bodyweight 7%-15% ($p < 0.001$). Lowering the patient from waist-height backboard to the floor increased transmission of rescuer bodyweight 4%-9% ($p < 0.001$). Kneeling on the model was the most efficient method and transmitted 11% more weight compared to two-handed maximal compression ($p < 0.001$). **Conclusion:** Efficacy is maximized with larger-mass, two hands, and compression on hard surfaces/backboards. Knee compression is most effective and least fatiguing, thus assisting rescuers of lower weight and lesser strength, where no hard surfaces exist (i.e. no available backboard or trauma on soft ground), or when lengthy compression is required (i.e. remote locations). This study demonstrates the feasibility of indirect pressure as a potential temporizing measure for life-threatening haemorrhage not amenable to direct compression.
Keywords: junctional trauma, hemorrhage, prehospital care

P036

A clinical decision support intervention to increase usage of probenecid in the ED

S. Dowling, MD, E. Lang, MD, D. Wang, MSc, T. Rich, MD; University of Calgary, Calgary, AB

Introduction: In certain circumstances, skin and soft tissue infections are managed with intravenous (IV) antibiotics. In our center, patients initiated on outpatient IV antibiotics are followed up by a home parental therapy program the following day. A significant number of these patients require a repeat visit to the ED because of clinic hours. Probenecid is a drug that can prolong the half-life of certain antibiotics (such as cefazolin) and can therefore avoid a repeat ED visit, reducing health care costs and improve ED capacity. Our goal was to increase probenecid usage in the ED in order to optimize management of skin and soft tissue infections (SSTI) in the ED. The primary outcome was to compare the usage of probenecid in the pre and post-intervention phase. Secondary outcomes were to compare revisit rates between patients receiving cefazolin alone vs cefazolin + probenecid. **Methods:** Using administrative data merged with Computerized Physician Order Entry (CPOE), we extracted data 90 days pre- and 90 post-intervention (February 11, 2015 to August 11, 2015). The setting for the study is an urban center (4 adult ED's with an annual census of over 320,000 visits per year). Our CPOE system is fully integrated into the ED patient care. The multi-faceted intervention involved modifying all relevant SSTI order sets in the CPOE system to link any cefazolin order with an order for probenecid. Physicians and nurses were provided with a 1 page summary of probenecid (indications, contra-indications, pharmacology), as well as decision support with the CPOE. Any patients who were receiving outpatient cefazolin therapy were included in the study. **Results:** Our analysis included 2512 patients (1148 and 1364 patients in the pre/post phases) who received cefazolin in the ED and were discharged during the 180 day period. Baseline variables (gender, age, % admitted) and ED visits were similar in both phases. In the pre-intervention phase 30.2% of patients received probenecid and in the post-intervention phase 43.0%, for a net increase of 12.8% ($p = < 0.0001$). Patients who received probenecid had a 2.2% (11.4% vs 13.6%, $p = 0.014$) lower re-visit rate in the following 72H. **Conclusion:** We have implemented a CPOE based clinical decision support intervention that demonstrated significant increase in probenecid usage by emergency physician and resulted in a decrease in ED revisits. This intervention would result in health care cost-savings.
Keywords: probenecid, decision support, infection

P037

The impact of fever on corrected QT interval in a general emergency department population

D. Drew, BScH, A. Baranchuk, MD, R.J. Brison, MD; Queen's University, Kingston, ON

Introduction: Fever is one of the most common reasons for presentation to the emergency department (ED). Interestingly, a number of small

https://doi.org/10.1017/cem.2016.211 Published online by Cambridge University Press