**Introduction:** This study aimed to examine difference in trauma injuries between bicycle users in winter months compared to summer months. Behavioral variables were also examined to assess seasonal variability, as well as associations with traumas. **Methods:** This was a retrospective cohort study of all bicycle related traumas presenting to a level I trauma center between the years 1998-2018. All data was collected through a standardized trauma database. Seasonal differences were examined by comparing trauma severity and behavior patterns between patients arriving in the months May-September (summer) and those arriving in November-March (winter). Outcome measures included: Injury Severity Scale, GCS, type of accident, helmet use, demographics and alcohol level. Groups were compared using t-tests and Chi-square analysis as appropriate. **Results:** A total of 980 bicycle related traumas were analyzed. There were a significantly greater number of injuries in the summer as compared to winter months (879 in summer vs. 101 in winter). While most injuries in both groups were rated in the severe range of the Injury Severity Scale, there were no differences in injury severity, initial GCS, deaths, or head injuries between the two seasons. There were also no differences in drug, alcohol, or helmet use. The only significant difference between seasons was that winter riders were more likely to be male. Overall, helmet use was associated with lower injury severity, less head trauma, and a higher initial GCS. Use of alcohol was associated with less likelihood of wearing a helmet. **Conclusion:** In conclusion, bicycle use in winter does not appear to be associated with worse outcomes than summer. Public health interventions can continue to encourage winter bicycle use, with the encouragement of helmet use and avoidance of alcohol when cycling as an important protective factor in both seasons.

**Keywords:** bicycle, environment, trauma

## P117

### A multicenter analysis of an emergency physician lead on department flow and the provider experience

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**Introduction:** Emergency department (ED) flow is a strong predictor of patient safety, quality of care and provider satisfaction. Throughput interventions have been shown to improve flow metrics, yet few studies have considered MD leadership roles and evaluated provider experience. Our objective was to evaluate the emergency physician lead (EPL) role, a novel MD staffing initiative. **Methods:** This mixed-method observational time series analysis evaluated ED metrics at two tertiary EDs including ED length of stay (LOS), EMS Park LOS and physician initial assessment (PIA) time as well as 72-hour readmit and left without being seen (LWBS) rates. Data was collected from the ED information system database for control (Dec 6, 2017-Feb 28, 2018 SITE1 and Mar 1–May 31, 2018 SITE2), pre (Sept 3-Nov 30, 2018 SITE 1 and Dec 3, 2018-Feb 28, 2019 SITE2) and post (Dec 3, 2018 –Feb 28, 2019 SITE1, Mar 1- May 31, 2019 SITE2) periods for adult patients presenting to each site. Site data was analyzed independently using descriptive and inferential statistics to calculate differences in means, and means were compared using t-tests. A survey elicited provider feedback from ED physicians, nurses, and EMS professionals on the effect of the EPL on throughput, timeliness of admissions and discharges, provider workload, and the EPL as a resource to other professionals. **Results:** The number of ED visits at SITE1 were 13136 (Ctrl), 13236 (Pre) and 13137 (Post), and at SITE2 were 14371(Ctrl), 13866 (Pre) and 14962 (Post). Mean ED LOS was decreased by 17 min in post vs control and 20 min vs pre at SITE1 ($p < 0.01$). SITE2 saw an increase in ED LOS by 7 min vs control and 8 min vs pre ($p < 0.01$). EMS LOS at SITE1 was decreased by 21 min vs control and 22 min vs pre ($p < 0.01$), but was increased at SITE2 by 2 min vs control ($p = 0.09$) and 14 min vs pre ($p < 0.01$). PIA time at SITE1 was decreased by 15 min vs control ($p < 0.01$) and 13 min vs pre and increased by 5 min vs control and 12 min vs pre at SITE2 ($p < 0.01$). 72 hour readmit and LWBS rates were unchanged at both sites. Qualitative feedback from ED providers highlighted the early provision of treatments and investigations by the EPL, and many felt the EPL was an important resource. **Conclusion:** The inclusion of both quantitative and qualitative data in this study provided a robust analysis of the impact of the EPL role and demonstrated modest but important improvements. A site-dependent, carefully considered implementation of the EPL role may improve ED metrics and provider experiences.

**Keywords:** emergency physician lead, emergency medical services park, provider experiences

## P118

### Impact des bêtabloquants pour les patients souffrant d'un arrêt cardiorespiratoire avec un rythme initial défibrillable : une revue systématique et méta-analyse

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**Introduction:** Malgré les progrès au niveau des soins de réanimation lors des dernières années, le pronostic des patients souffrant d'un arrêt cardiorespiratoire (ACR) demeure abyssal et aucun médicament ne semble influencer leur devenir au long cours. Cependant, les résultats de quelques études évaluant l'impact des bêtabloqueurs chez cette population s'avèrent cependant très encourageants. L'objectif de cette revue systématique, est d'évaluer l'évidence disponible quant à l'impact des bêtabloqueurs sur le devenir des patients traités pour un ACR dont le rythme initial est défibrillable. **Methods:** La présente revue systématique a été préalablement enregistrée sur Prospero (CRD42018105453). Les moteurs de recherche Medline, Embase et CENTRAL ont été fouillés de leur création jusqu'au 17 octobre 2018. La recherche de littérature grise s'est faite via Web of Science et Google Scholar. Les références de tous les articles inclus ainsi que des méta-analyses existantes sur le sujet ont également été révisées. Tous les types de devis ont été considérés, sauf les études de cas et les séries de cas. Les études devaient inclure des adultes (16 ans et plus) en ACR dont le rythme initial était défibrillable, dont une partie avait reçu un médicament bêtabloquants par voie intraveineuse pendant leur ACR et l'autre un traitement standard, et présenter une mesure de résultat centrée sur le patient (retour de circulation spontanée [RCS], survie ou bon devenir neurologique). La qualité des articles a été évaluée à l'aide du 'Newcastle Ottawa scale'. **Results:** Deux études observationnelles rétrospectives, menées auprès d'un total de 66 patients, ont été incluses. Il y avait une association positive entre l'administration de bêtabloquants et l'occurrence d'un RCS (rapport de cotes [RC] = 5.76 [intervalle de confiance {IC} à 95% = 1.79-18.52], $p = 0.003$), ainsi qu'avec la présence d'un bon devenir neurologique (RC = 4.42 [IC95% = 1.05 - 18.56], $p = 0.04$). Une