

## Injury Incidence and Patterns Associated with Electric Scooter Accidents

Tuesday 3:20-3:30 PM | SSJ06-03 | Room: S406A

### PURPOSE

Electric motorized rental scooters (e-scooters, such as Bird and Lime), touted as a solution for 'last mile' problem, have the potential for significant utility in urban areas and college campuses. These vehicles can reach speeds up to 15 miles per hour. Since their legalization in our municipality on September 4, 2018, anecdotal observations have included a spike in imaging exams for 'scooter' accidents performed within our hospital system. The purpose of this study was to describe the injury incidence and imaging ordering patterns associated with the use of e-scooters in our municipality.

### METHOD AND MATERIALS

Electronic medical records (EMRs) and radiology archives in our institutional database were searched for instances of imaging exams ordered to for injuries related to scooter accidents. Inclusion criteria include age 18 years or higher, seen at the ER of a performance site from 2013 to 2018, and 'scooter' included as a key word in the imaging request. Basic statistical analysis of the number and distribution of injuries diagnosed on imaging were performed.

### RESULTS

A total of 69 exams performed on 36 unique emergency department patients with a definitive description of involvement of an e-scooter were identified. Two-thirds of these patients were ages 18-30 years. Of the imaging exams, a total of 44 (63.8%) were radiographs of the extremities, including 15 (34.1% of extremity exams) of the forearm/hand/wrist and 17 (38.6% of extremity exams) of the knee/leg/ankle/foot. A total of 18 CT exams (26.1%) were performed, including 13 (72.2% of CT exams) of the head, face or cervical spine. Of the 36 patients, 52.8% (N=19 patients) had documented injuries on 29 separate imaging exams with an overall exam positivity rate of 42.0%. The most common injuries included distal radial fracture (N=6), followed by soft tissue injury of the head, face, wrist, and ankle (N=5).

### CONCLUSION

Over half of individuals who received imaging in the setting of e-scooter accidents were found to have a radiographically apparent injury. The injuries vary but the most common patterns include distal radial fracture and soft tissue injuries involving the head, face, wrist and ankle.

### CLINICAL RELEVANCE/APPLICATION

Within our health system, imaging performed in the setting of e-scooter injuries was positive in over one half of instances. Radiographs of the extremities as well as CT of the head, face and cervical spine were the exams most likely to be ordered.