There were 192 PRE-C patients, compared to 388 POST-C. The mortality in PRE-C was not significantly different compared to the POST-C group (11.46% vs 8.8%, p = 0.308). There were also no differences in LOS, ICU-LOS, readmission, and unplanned ICU admission. ICU utilization was dramatically different: PRE-C 17.8% were admitted to ICU compared to 35.6% POST-C (p < 0.01).

**OBJECTIVE**

New Chest Wall Injury and Reconstructive Centers (CWIRC) are emerging; this study aims to investigate the potential benefits of implementing a CWIRC at a single institution.

**Hypothesis:** patients treated at a CWIRC will have improved outcomes

**INTRODUCTION**

Rib fractures remain one of the most common blunt trauma injuries, with multiple rib fractures occurring in about 39% of all blunt chest trauma patients. It is not known if all chest wall injury patients (both operative and non-operative) would gain increased benefit from receiving care at a hospital that is a Chest Wall Injury and Reconstructive Center (CWIRC) versus a hospital that is not.

Hospitals that are considered CWIRC centers of excellence have met certain benchmarks in ability, expertise, training, patient care and volume. They use multimodal pain medication protocols and provide therapies which optimize the care of both the operative and non-operative patient with chest wall injury.

We instituted a CWIRC in 2019 at Saint Francis Hospital and Medical Center. We retrospectively compared trauma patients with rib fractures who presented to our center 18 months before (PRE-C) and 18 months after CWIRC implementation (POST-C). Outcomes measured included mortality, length of stay (LOS), intensive care unit (ICU-LOS), readmission rates, and unplanned ICU admission.

Our POST-C group multi-modal pain regimen included Acetaminophen, Ibuprofen, Gabapentin, and regimented oral narcotics. Our respiratory regimen includes inhaled nebulizers, chest physiotherapy routine twice daily, Positive Expiratory Pressure devices (PEP, Aerobika device), and Incentive spirometry.

We recorded a chest wall daily evaluation that included pain scores, pain regimen usage, incentive spirometer use, and oxygen requirements.

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**METHODS**

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**RESULTS**

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Creating a Chest Wall Injury and Reconstructive program: A single center experience with rib fractures

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**CONCLUSIONS**

The number of patients admitted with rib fractures to our center nearly doubled after CWIRC establishment. Early diagnosis and triage led to significantly more admissions to higher levels of care. There are trends toward improved outcomes using practice management protocols, albeit with higher ICU utilization. Establishment of a CWIRC should be considered for level 1 ACS trauma centers and as utilization of established CWIRC protocols are increased, patients will have improved outcomes.

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