

Internal Fixation of Rib Fracture

Policy Number: PG0372
Last Review: 02/01/2023

HMO AND PPO
ELITE (MEDICARE ADVANTAGE)
MARKETPLACE

GUIDELINES:

- This policy does not certify benefits or authorization of benefits, which is designated by each individual policyholder terms, conditions, exclusions, and limitations contract. It does not constitute a contract or guarantee regarding coverage or reimbursement/payment. Self-Insured group specific policy will supersede this general policy when group supplementary plan document or individual plan decision directs otherwise.
- Paramount applies coding edits to all medical claims through coding logic software to evaluate the accuracy and adherence to accepted national standards.
- This medical policy is solely for guiding medical necessity and explaining correct procedure reporting used to assist in making coverage decisions and administering benefits.

SCOPE:

- ☒ Professional
☐ Facility

DESCRIPTION:

Rib fractures are one of the most common injuries of the chest. Ribs usually fracture at the point of impact or where they are the weakest (at the posterior angle). Typically, the fifth through ninth ribs are affected. Simple rib fractures can be treated with analgesia and respiratory care (to prevent complications such as pneumonia or atelectasis). Although most injuries to the chest wall do not result in long-term respiratory dysfunction requiring operative management, multiple fractured ribs or flail chest can significantly compromise respiratory function. Complex rib fractures or multiple rib fractures may require surgical stabilization. Pain with inspiration and expiration, along with inability to properly inflate and deflate the lungs, may require mechanical ventilation to assist with respiratory effort. With multiple rib fractures, flail chest can occur. Flail chest is diagnosed when multiple, consecutive ribs are fractured in two or more places, creating an incompetent region of the chest wall. This paradoxical movement of the chest wall can alter respiratory effort and may hinder the ability to remove mechanical ventilation.

Internal rib fixation (also called open reduction and internal fixation or surgical stabilization of the ribs) is indicated for treatment of complex rib fractures restoring mechanical integrity and providing fixation for flail chests, fractures, fusions, and osteotomies of the ribs. The internal rib fixation implant systems consist of plates and screws for stabilization of flail chest injuries. Instrumentation is supplied with the implants to aid in the insertion of the plates and screws. The U.S. Food and Drug Administration issued 510(k) market approval to several bone fixation appliances designed for rib fixation. These devices are classified as class II prosthetic, orthopedic single or multiple component metallic bone fixation appliances and accessories (21CFR888.3030).

The current practice management guideline for pulmonary contusion - flail chest, issued by the Eastern Association for the Surgery of Trauma, states that surgical fixation may be considered in severe unilateral flail chest or in patients requiring mechanical ventilation when thoracotomy is otherwise required. However, there are a limited number of randomized clinical trials available evaluating the use of surgical fixation vs. non-surgical management for flail chest, thus this guideline is listed as a Level 3 recommendation, indicating, "the recommendation is supported by available data but adequate scientific evidence is lacking. While much of the current literature is limited to retrospective studies and small sample sizes, the preponderance of evidence consistently shows benefits from internal rib fixation for selected individuals. These benefits include decreased hospital days, decreased ICU days, and decreased days of mechanical ventilation.

POLICY:

Paramount Commercial Plans, Medicare Advantage Plans and Paramount Advantage Medicaid

Internal fixation of rib fractures, procedure codes 21812 and 21813, do not require prior authorization for all product lines when the coverage criteria below is met.

Paramount Commercial Plans and Medicare Advantage Plans

Internal fixation of rib fractures, procedure code 21811 is non-covered

Paramount Advantage Medicaid

Internal fixation of rib fractures, procedure 21811 does not require prior authorization

COVERAGE CRITERIA:

Paramount Commercial Insurance Plans and Elite (Medicare Advantage) Plans and Paramount Advantage Medicaid

Paramount considers internal fixation of rib fractures medically necessary for the treatment of flail chest injury in members who are skeletally mature and either:

- Fail to wean from a ventilator, in the absence of other causes of ventilator dependency such as severe brain injury;
- Require thoracotomy for additional thoracic procedures;
- Have chronic impaired pulmonary mechanics at least three to six months following a non-union associated with multiple (at least three), severe (bi-cortical) displaced fractures;
- Have chronic, disabling pain refractory to medical management at least three to six months following a non-union

Paramount considers internal fixation of rib fractures experimental and investigational for all other indications.

Percutaneous or thoracoscopic stabilization of rib fractures is considered investigational.

The following interventions are considered experimental and investigational for internal fixation of rib fractures because the effectiveness of these approaches has not been established:

- Bioabsorbable plate
- Minimally invasive plate osteosynthesis

Contraindications to rib fixation generally include:

- Severe pulmonary contusion.
- Severe traumatic brain injury (e.g., Glasgow coma scale < 10).
- Spinal injury that precludes lateral decubitus positioning.
- Open rib fractures with soiling or infection.
- Anatomic location of rib fractures not amenable to surgical fixation.
- Myocardial contusion.
- Other injuries that could be adversely affected by general anesthesia.

Paramount Commercial Plans and Elite (Medicare Advantage) Plans

- Paramount will cover CPT codes 21812 and 21813
- CPT 21811 is non-covered, as in most instances fractures involving 1-3 ribs do not require internal fixation

Paramount Advantage Medicaid

- CPT codes 21811, 21812, 21813 are covered

CODING/BILLING INFORMATION:

The appearance of a code in this section does not necessarily indicate coverage. Codes that are covered may have selection criteria that must be met. Payment for supplies may be included in payment for other services rendered.

CPT CODES

21811	Open treatment of rib fracture(s) with internal fixation, includes thoracoscopic visualization when performed, unilateral; 1-3 ribs
21812	Open treatment of rib fracture(s) with internal fixation, includes thoracoscopic visualization when performed, unilateral; 4-6 ribs
21813	Open treatment of rib fracture(s) with internal fixation, includes thoracoscopic visualization when performed, unilateral; 7 or more ribs

REVISION HISTORY EXPLANATION: ORIGINAL EFFECTIVE DATE: 06/24/2016

Date	Explanation & Changes
06/24/2016	<ul style="list-style-type: none">Policy created to reflect most current clinical evidence per TAWG
12/22/2020	<ul style="list-style-type: none">Medical policy placed on the new Paramount Medical Policy Format
02/01/2023	<ul style="list-style-type: none">Policy reviewed/updated to reflect most current clinical evidenceNo changes to policy statement
03/11/2024	<ul style="list-style-type: none">Medical policy placed on the new Paramount Medical Policy Format

Paramount reserves the right to review and revise our policies periodically when necessary. When there is an update, we will publish the most current policy to

<https://www.paramounthealthcare.com/providers/medical-policies/policy-library>

REFERENCES/RESOURCES

Centers for Medicare and Medicaid Services, CMS Manual System and other CMS publications and services <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals> <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Internet-Only-Manuals-IOMs>

American Medical Association, *Current Procedural Terminology (CPT®)* and associated publications and services <https://www.ama-assn.org/amaone/cpt-current-procedural-terminology>

Centers for Medicare and Medicaid Services, Healthcare Common Procedure Coding System, HCPCS Release and Code Sets <https://www.cms.gov/Medicare/Coding/HCPCSReleaseCodeSets/HCPCS-Quarterly-Update>

U.S. Preventive Services Task Force, <https://www.uspreventiveservicestaskforce.org/uspstf/>
Industry Standard Review

Hayes, Inc., <https://www.hayesinc.com/>

Industry Standard Review

Simon B, Ebert J, Bokhari F, et al; Eastern Association for the Surgery of Trauma. Management of pulmonary contusion and flail chest: An Eastern Association for the Surgery of Trauma practice management guideline. *J Trauma Acute Care Surg.* 2012;73(5 Suppl 4):S351-S361.