

1 **Clinical Practice Guideline: Thoracic Rib Belt**

2

3 **Date of Implementation: December 18, 2015**

4

5 **Product: Specialty**

6

7

8 **GUIDELINES**

9 American Specialty Health – Specialty (ASH) considers thoracic rib belts not medically
 10 necessary because the literature has not reported treatment safety and effectiveness for rib
 11 fractures or other related indications. There is insufficient evidence in the published,
 12 peer-reviewed scientific literature to demonstrate that thoracic rib belts are a safe and
 13 effective treatment as they may increase the incidence of respiratory complications.

14

15 **HCPCS Codes and Descriptions**

HCPCS Code	HCPCS Code Description
L0220	Thoracic, rib belt, custom fabricated

16

17 **DESCRIPTION/BACKGROUND**

18 Thoracic rib belts have been previously suggested as an additional treatment in simple rib
 19 fracture, along with analgesics and breathing exercise to avoid secondary or delayed
 20 pulmonary complications. However, this practice is out of favor because of the potential
 21 for an increase in complications due to reduced chest expansion and ventilation from belt
 22 application. Restriction of ribs and chest movements when breathing and coughing may
 23 lead to pneumonia.

24

25 **EVIDENCE REVIEW**

26 There is very little published evidence on use of thoracic rib belts and thorax injuries,
 27 such as rib fractures. The existing studies are small pilot studies that were published
 28 between 1989 and 1990. The outcomes of these studies are insufficient for drawing
 29 conclusions about the efficacy and safety of thoracic rib belts for any indication and
 30 present a case for discouragement of use of these belts due to increased respiratory
 31 complications, such as pneumonia. Lazcano et al. (1989) investigated the use of rib belts
 32 in acute rib fracture. Authors designed and conducted a controlled, prospective,
 33 randomized pilot study to determine if there was any increased morbidity associated with
 34 the use of rib belts in the treatment of patients with acute rib fractures. Twenty-five adult
 35 patients with proven acute rib fractures were randomized into two groups: treatment with
 36 analgesics and a standard circumferential rib belt and treatment with analgesics alone.
 37 Patients were contacted by telephone three days after the initial injury and then
 38 reexamined 14 days post-injury. Rates of pain reduction, compliance, and delayed

1 complications were assessed. Rib belts were not found to significantly reduce the severity
 2 of pain. Four complications (one case of bloody pleural effusion requiring
 3 hospitalization, two cases of asymptomatic discoid atelectasis, and one case of allergic
 4 contact dermatitis) were identified, all occurring in the group of patients receiving rib
 5 belts. This pilot study indicates that while rib belts were widely accepted by patients for
 6 control of pain at the time of this study, they are associated with an increased incidence
 7 of complications.

8
 9 Quick (1990) completed a pilot study in which 20 patients with simple rib fractures were
 10 randomized prospectively into two treatment groups. One group received ibuprofen and
 11 the other group ibuprofen plus a rib belt for analgesia. There were no statistically
 12 significant differences observed in pulmonary function testing between the groups at
 13 initial visit, 48 hours, or 5 days. Atelectasis developed in four patients, two in each
 14 treatment group; there were no cases of pneumonitis. Patients with displaced rib fractures
 15 experienced a higher rate of hemo- or pneumothorax than did those with non-displaced
 16 fractures (5/10 v 1/10). Patients with displaced fractures who used rib belts experienced a
 17 higher rate of hemothorax than those using oral analgesia alone (4/6 v 1/4). Patients using
 18 rib belts uniformly reported a significant amount of additional pain relief. Authors
 19 suggest that the clinician can use a standard rib belt to provide additional comfort to the
 20 patient with fractured ribs without apparent additional compromise to respiratory
 21 parameters. However, this conclusion is not warranted based on the small sample size
 22 and complications experienced that were serious in nature.

23 **References**

24 Joint Commission International. (2020). Joint Commission International Accreditation
 25 Standards for Hospitals (7th ed.): Joint Commission Resources

26
 27
 28 Lazcano A, Dougherty JM, Kruger M. Use of rib belts in acute rib fractures. *Am J Emerg*
 29 *Med.* 1989;7(1):97-100. doi:10.1016/0735-6757(89)90093-4

30
 31 Melendez, S. (2023). Medscape: Rib Fracture Treatment & Management. Retrieved on
 32 August 18, 2024 from [https://emedicine.medscape.com/article/825981-](https://emedicine.medscape.com/article/825981-treatment#:~:text=While%20rib%20belts%20or%20binders,use%20is%20no%20lon ger%20recommended.)
 33 [treatment#:~:text=While%20rib%20belts%20or%20binders,use%20is%20no%20lon](https://emedicine.medscape.com/article/825981-treatment#:~:text=While%20rib%20belts%20or%20binders,use%20is%20no%20lon ger%20recommended.)
 34 [ger%20recommended.](https://emedicine.medscape.com/article/825981-treatment#:~:text=While%20rib%20belts%20or%20binders,use%20is%20no%20lon ger%20recommended.)

35
 36 Quick G. A randomized clinical trial of rib belts for simple fractures. *Am J Emerg Med.*
 37 1990;8(4):277-281. doi:10.1016/0735-6757(90)90073-9

38
 39 Rib fractures. In: Eiff MP, Hatch R, eds. Rib fractures. In: Eiff MP, Hatch R, eds.
 40 Fracture Management for Primary Care. 3rd ed. Philadelphia, PA: Elsevier Saunders;
 41 2011:chap 18