

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

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

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5 **Product: Specialty**

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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.

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15 **ICD-10 Codes and Descriptions That Support Medical Necessity: None**

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17 **HCPCS Codes and Descriptions related to this policy:**

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

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19 **BACKGROUND**

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

26

27 **EVIDENCE REVIEW**

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

1 Patients were contacted by telephone three days after the initial injury and then  
 2 reexamined 14 days post-injury. Rates of pain reduction, compliance, and delayed  
 3 complications were assessed. Rib belts were not found to significantly reduce the severity  
 4 of pain. Four complications (one case of bloody pleural effusion requiring  
 5 hospitalization, two cases of asymptomatic discoid atelectasis, and one case of allergic  
 6 contact dermatitis) were identified, all occurring in the group of patients receiving rib  
 7 belts. This pilot study indicates that while rib belts were widely accepted by patients for  
 8 control of pain at the time of this study, they are associated with an increased incidence  
 9 of complications.

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

## 25 **References**

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