

## CASE SERIES

## IMPAIRMENT BASED EXAMINATION AND TREATMENT OF COSTOCHONDRITIS: A CASE SERIES

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## ABSTRACT

**Background:** Costochondritis is commonly encountered in primary care, but is not routinely referred to PT. Costochondritis can last from several weeks to several months, limiting the patient's ability to perform tasks at work and home.

**Purpose:** Identify common impairments and examine the effects of treatment in subjects with costochondritis.

**Study Design:** Retrospective case series

**Case Description:** Eight subjects were referred to physical therapy for costochondritis (mean duration of condition  $6.3 \pm 1.3$  months) and reported that their condition restricted their ability to participate in occupational and fitness activities. The numerical pain rating scale (NPRS) and patient-specific functional scale (PSFS) were administered at the initial evaluation and at discharge. The Global Rating of Change (GROC) scale was only administered at discharge. All subjects received treatment directed at the cervicothoracic spine and ribcage and consisting of manual therapy and exercise.

**Outcomes:** Subjects were seen  $4.8 \pm 0.9$  (mean  $\pm$  standard deviation) times. All subjects showed clinically meaningful changes at discharge. The mean NPRS decreased by  $5.1 \pm 1.7$  points; the mean PSFS increased by  $5.3 \pm 1.4$  points; and the mean GROC was  $5.9 \pm 1.1$  points. All subjects were able to return to participation in previous activities without restrictions at discharge.

**Discussion - Conclusion:** The results of this case series suggests that PT utilizing an impairment based examination and treatment approach including manual therapy and therapeutic exercise may facilitate the resolution of costochondritis.

**Level of Evidence:** Level IV

**Key words:** Breathing, chest, manual therapy, ribs, thoracic

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The University of Jamestown Institutional Review Board approved this study and informed consent was obtained from the subjects prior to the collection of data. The authors certify that they have no affiliations or financial involvement with any organization or entity with a direct financial interest in the subject matter or materials discussed in the article.

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