Manual and Exercise Therapy for the Treatment of Chronic Costochondritis in a Male Office Worker: A Case Report.



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Unique

For some patients, the use of techniques that typically comprise a physical therapy (PT) treatment plan for costochondritis, such as high-velocity low-amplitude (HVLA) manipulation, can be intolerable due to pain or even contraindicated because of other comorbidities. ^{1,2} This case report describes the successful treatment of a patient with chronic costochondritis utilizing gentler, more conservative manual therapy techniques than those that are typically used in PT management of the condition.

Foundation



- •Costochondritis is one of the most common sources of musculoskeletal chest pain
- •Most often occurs in females over the age of 40 or as a result of strenuous activity.
- Typical medical treatment consists of pharmacologic symptom management rather than elimination of the source of the dysfunction.^{3,4}
- •Typical PT treatment includes HVLA manipulative techniques. 5,6,7

Purpose

The purpose of this case report was to detail a conservative, effective treatment plan utilizing manual and exercise therapy techniques for a patient with chronic costochondritis.

Description

History

- •The patient was a 32-year-old male office worker with a two year history of costochondritis.
- •His primary complaint was 5/10 pain over the 3rd and 4th left costosternal joints.
- •Pain increased with deep breathing.
- •Pain increased 24-48 hours following bouts of heavy lifting.
- •Tenderness to palpation (TTP) of 1st, 9th and 10th thoracic and 7th cervical vertebrae (T9-10 and C7-T1)
- •All previous treatments were unsuccessful.

Plan of Care

- •The patient attended a total of three 60-minute treatment sessions over a period of two weeks.
- •Manual interventions: myofascial release (MFR) of the 3rd and 4th ribs, MFR of the respiratory diaphragm, strain counterstrain (S-CS) of bilateral pec minors.



Left: Strain-counterstrain Right pec minor

Right: MFR 3rd and 4th ribs

•Exercise interventions:



Theraband rows



Theraband shoulder extensions

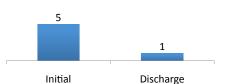


Foam roll chest opening stretch

•Educational interventions: Included postural correction and avoidance of exacerbating activities •Home Exercise Program: Included all previous exercise interventions as well as a self performed strain-counterstrain position for the pectoralis minor

Observations

Pain at worst (VAS)



- •No pain with deep breaths
- •No pain after heavy lifting
- •No TTP of ribs 2-4, T9-10, or C7-T1
- •Improved bilateral pectoralis minor tone
- •Decreased rounded shoulder and forward head posture

Conclusion

- •The plan of care was effective in reducing the patient's pain and dysfunction.
- •Factors contributing to efficacy:
 - Patient adherence
 - •Responsiveness to exercise
 - Elimination of aggravating factors
- •The gentle manual techniques may have
- acted in an analgesic manner.
 •Additional research concerning the efficacy of similar treatment plans is warranted.

Limitations

Applicability of the results are limited due to this being a case report as well as the relatively low prevalence of the condition.

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Réferences

1. Ermit E. Advense effects of spinal maripulation: a systematic review. J R Soc Med. 2007;100(7):310-338. doi:10.1258/jnm.100.7.330.

2. Pantedura E O'Grady W. Safety of throat joint manipulation in the threacis spine: a systematic review. J Man Mamp Thr. 2015;23(1):154-161. doi:

p537 PMIN. Accessed Sure 24, 2026.
4. Fruits 5. Officer billing from a most Prestreent in a Patient With Publisher's Upper Theracis: Pain. Pps. Ther. 2005;68(2)]. Available at: https://psp:mal.pain.org/content/98/2/2548ecc13. Accessed May 25, 2015.
5. Apageron, Publish Miller McCommanter Theratment of a female Collegister Volleybald Polisyer with Contochondriss. J Markop Phys Ther. 2007;99(2): 223-225.

doi:10.1006/j.jngt.2007.01.00.05.
Whethick R. Klaudion and frosterinent of mucculoskeletal chest well pain in a military athlete. Int J Sports Phys Ther. 2012;7(3):323-332.
Grindstaff C Beazell L, Salad L, Tingersoff C. Treatment of a female collegiate rower with costochordritis: a case report. J Man Montp Ther. 2010;18(2):54-68.
doi:10.1179/10068130.101269070972191.0112691301.012691301.01269070972191.012691301.01269070972191.012691301.012691301.01269070972191.012691301.012691301.012691301.01269070972191.012691301.012691

doi:10.1179/106698110x12640740712653

8. Mayo Foundation for Medical Education and Research. Costchondritis. 2013. Available at: http://www.mayoclinic.org/~/media/kcms/gbs/patie