

# REHABILITATION OF CHRONIC BRACHIAL PLEXUS NEUROPRAXIA AND LOSS OF CERVICAL EXTENSION IN A HIGH SCHOOL FOOTBALL PLAYER: A CASE REPORT

Ryan A. Hartley, PT, DPT, SCS<sup>1</sup>

Michael E. Kordecki, PT, DPT, SCS, ATC<sup>1</sup>

## ABSTRACT

**Background and Purpose:** Brachial plexus neuropraxia (BPN), or “burners” and “stingers”, affect 50-65% of football players, with a high rate of recurrence and the potential, in rare cases, for catastrophic injury. Existing literature on rehabilitation of these athletes is limited. The purpose of this case report is to describe the successful and comprehensive rehabilitation of a subject with recurrent brachial plexus neuropraxia using range of motion exercises, cervical and periscapular strengthening, stabilization exercises, and activity modification.

**Case Description:** The subject was a 17-year-old high school linebacker with repeated BPN episodes. He presented with limited cervical extension, rounded shoulder posture, and weakness of the cervical and periscapular stabilizers, and was known to tackle using the crown of his helmet. Physical therapy intervention consisted of regaining full passive & active range of motion and strength in the neck, shoulders and periscapular region, including several novel stretches and exercises to address the subject's unique presentation. Dynamic stabilization, postural control, safe tackling form, and long-term maintenance exercises were also addressed to decrease risk of injury recurrence.

**Outcomes:** The subject regained full pain-free PROM, AROM, strength & stability throughout the upper body after ten treatment sessions over five weeks, and was able to return to full participation the next season with normal safe tackling form and no further episodes.

**Discussion:** Despite the prevalence, chronic nature, and potentially devastating effects of BPN, little has been written regarding comprehensive rehabilitation of the condition. Regaining full upper body range of motion, strength, and dynamic stability, as well as normalizing tackling form, is essential to resolving BPN and preventing recurrence.

**Level of Evidence:** Level 4, single case report

**Key Words:** Brachial plexus neuropraxia, burners, cervical, stingers, football

## CORRESPONDING AUTHOR

Ryan A. Hartley, PT, DPT, SCS  
Praxis Physical Therapy & Human  
Performance  
935 Lakeview Parkway, Suite 195  
Vernon Hills, IL 60061  
Phone: 847-247-7200  
E-mail: rah@praxiscare.com

<sup>1</sup> Praxis Physical Therapy & Human Performance, Vernon Hills, IL, USA

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