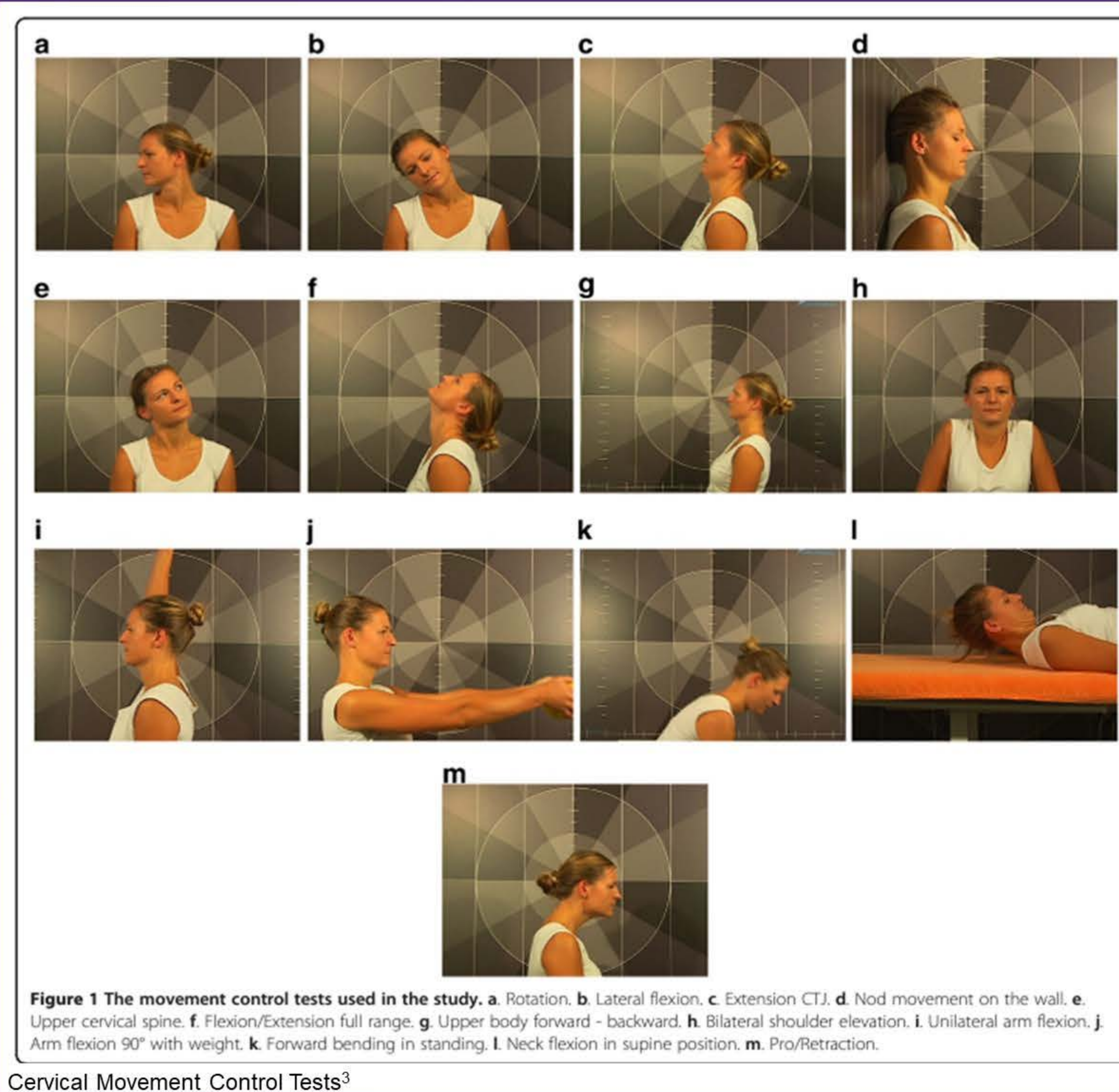


# The relationship of cervical range of motion and movement control with temporomandibular dysfunction: A pilot study

<sup>1</sup>Blake Coughenour, DPT '24 <sup>2</sup>Tracy Porter, PT, DPT, EdD, <sup>3</sup>Shannon Petersen DScPT, OCS Emeritus, FAAOMPT  
<sup>1,2,3</sup> Department of Physical Therapy, Des Moines University, Des Moines, IA

## Introduction

Evidence exists that cervical posture is associated with temporomandibular joint dysfunction (TMD)<sup>1,2</sup>. Few studies have examined cervical spine active range of motion and cervical movement control in subjects with TMD. The purpose of this study is to pilot a protocol comparing cervical spine range of motion and cervical movement control between subjects with and without TMD.



## Methods

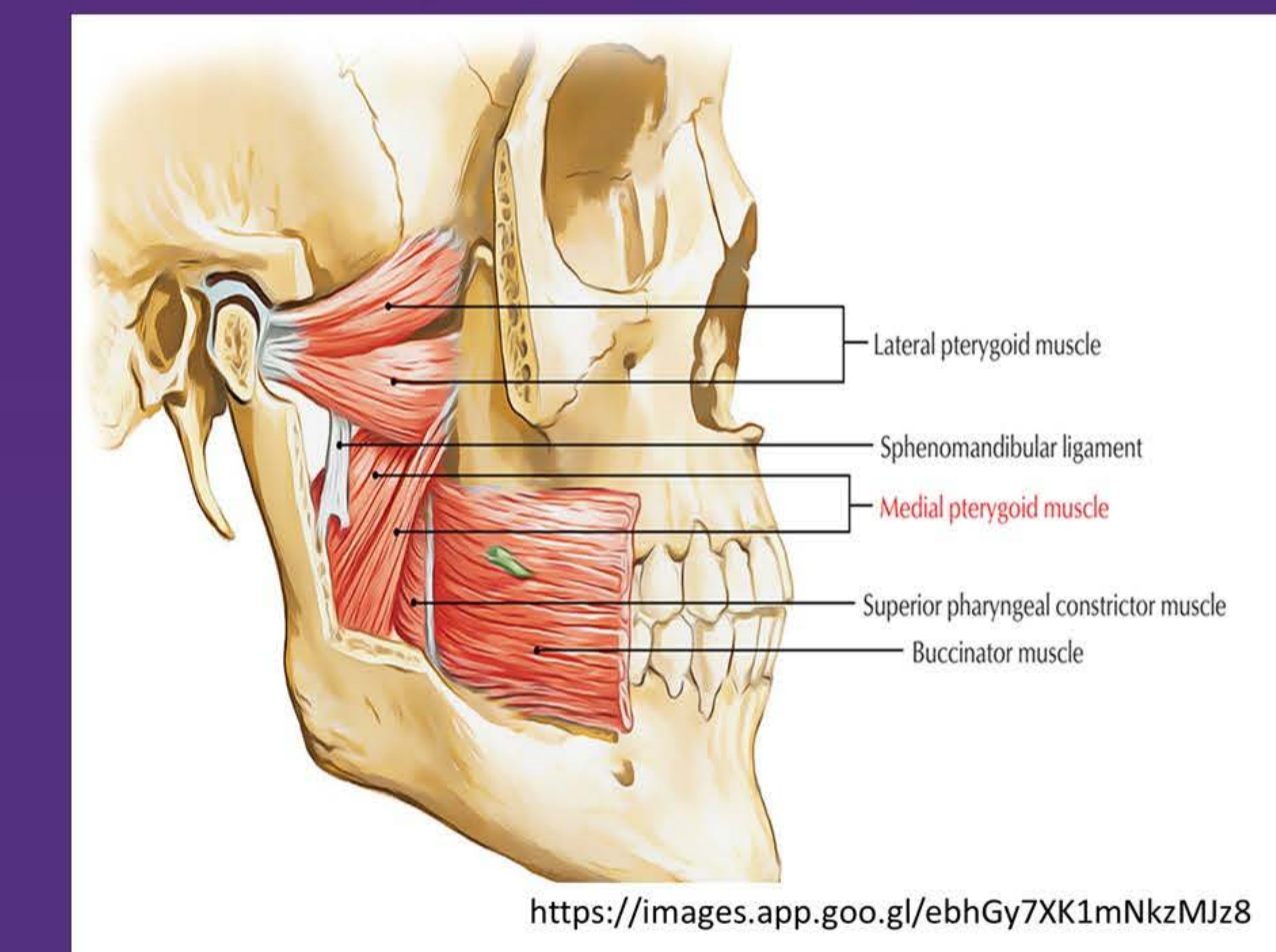
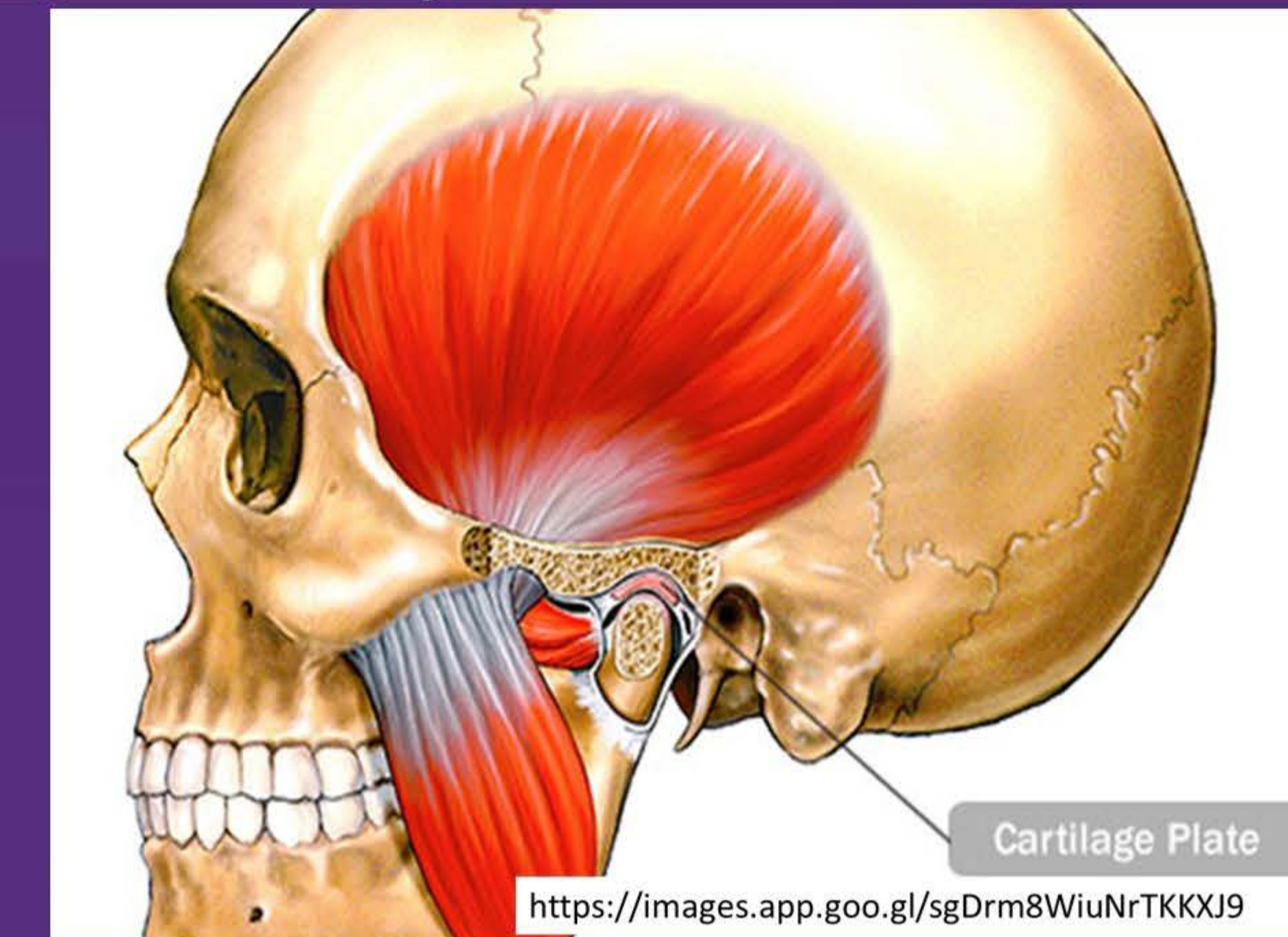
Subjects include individuals 18-60 years of age with or without the presence of TMD signs/symptoms of jaw pain, limited jaw motion, or joint noise.

Subjects exclude those with history of jaw or cervical spine surgery within 5 years, history of joint disease of the temporomandibular joint (TMJ) or cervical spine, cervical or TMD symptoms under active treatment by a healthcare provider, moderate or severe neck disability as identified by the Neck Disability Index (NDI), systemic disease impacting the cervical spine or TMJ, and subjects who are pregnant.

Subject recruitment continues for individuals with and without TMD.

Data collection includes: TMJ Disability Index and NDI scores, active cervical range of motion for six physiologic motions, cervical movement control tests, active maximal mouth opening and lateral deviation and TMD subgroup classification.

## TMJ Anatomy



## References

1. Grondin F, Hall T, Laurentjoye M, Ella B. Upper cervical range of motion is impaired in patients with temporomandibular disorders. *Cranio*. 2015;33(2):91-99. doi:10.1179/0886963414Z.00000000053
2. Lendraitiene E, Smilgiene L, Petruskeviciene D, Savickas R. Changes and Associations between Cervical Range of Motion, Pain, Temporomandibular Joint Range of Motion and Quality of Life in Individuals with Migraine Applying Physiotherapy: A Pilot Study. *Medicina (Kaunas)*. 2021;57(6):630. Published 2021 Jun 17. doi:10.3390/medicina57060630
3. Patroncini M, Hannig S, Meichtry A, Luomajoki H. Reliability of movement control tests on the cervical spine. *BMC Musculoskelet Disord*. 2014;15:402. Published 2014 Nov 29. doi:10.1186/1471-2474-15-402

## Acknowledgments

The authors would like to thank Des Moines University for supporting this research through the Mentored Student Research Program.