

Visual Phenomena Experienced After Neck and Shoulder Massage: A Case Report

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Background

- Lifetime prevalence of neck and shoulder pain (NSP) up to 70% (1)
- Massage therapy is an effective treatment for NSP (2)
- Visual phenomena following gentle massage to neck and shoulder areas exceedingly rare
- **Purpose:** To report on a case of a 73-year-old woman with neck and shoulder pain treated with gentle massage who experienced visual phenomena immediately following

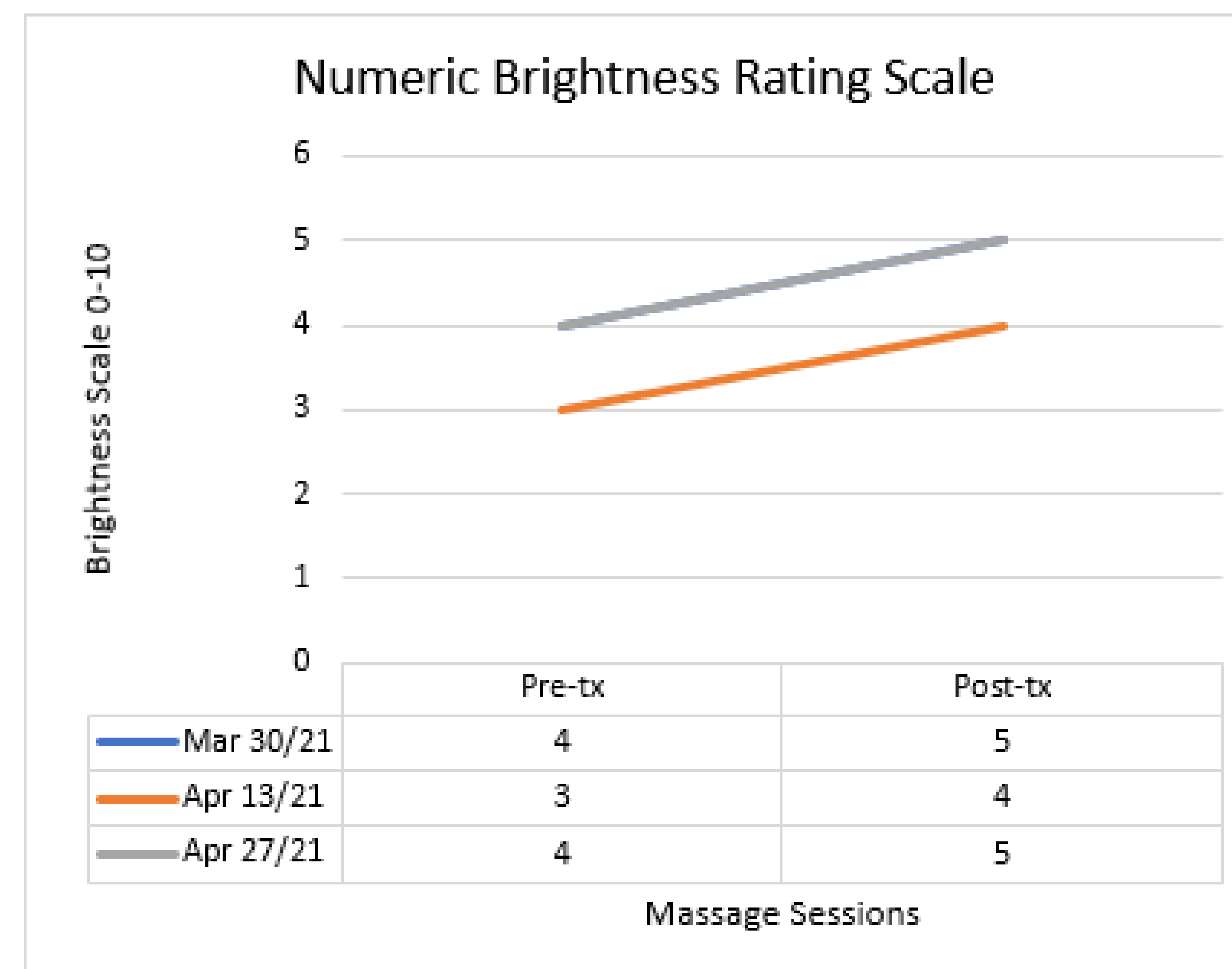
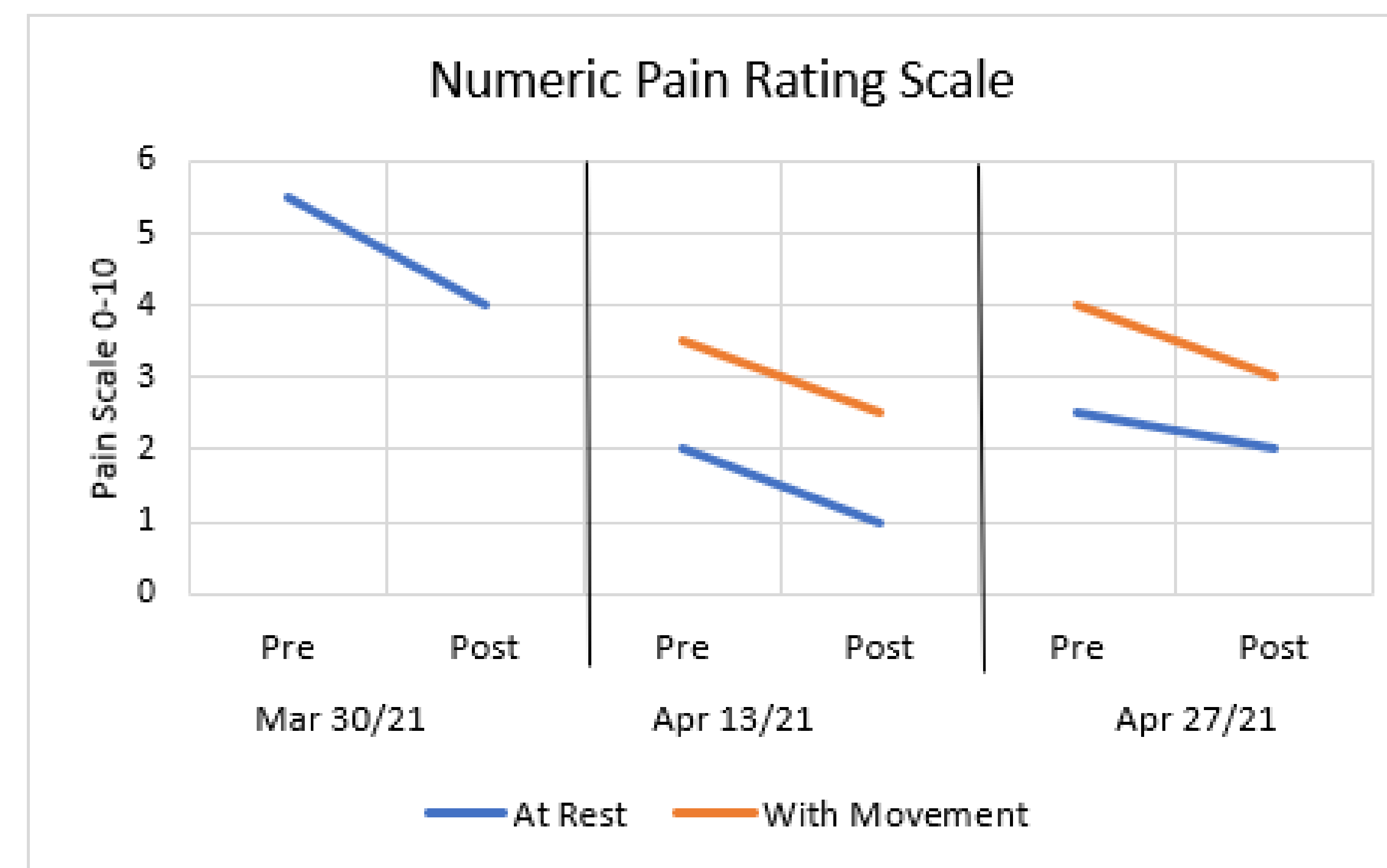
Narrative

- 73-year-old woman presents with recent onset NSP and reduced neck mobility
- Symptoms correspond with sudden increase in computer work (12 hours/day)
- Loss of central vision in left eye 5+ years ago due to macular holes
- Patient states pain at its worst 8/10, finds massage helpful
- After incorporating dermo-neuro-modulating (DNM) – gentle, sustained skin stretch – into massage session, patient experienced increased brightness in room over four consecutive sessions
- Outcomes: 1) pain is reduced by approx. 1 point on 0-10 numeric scale; 2) brightness in room increased by 1 point on 0-10 numeric scale

Timeline

Date	Description
Sept 2020	Sudden increase in computer use, up to 12 hours/day
Oct 2020	Onset of NSP and reduced neck range of motion
Dec 2020	Seeks massage therapy and finds improvement in symptoms
Mar 2021	Introduction of DNM into massage sessions; patient experiences visual phenomena immediately afterwards
Mar/Apr 2021	Patient continues to experience improvement in symptoms and visual phenomena with massage over three more sessions

Outcomes



Perspective

- Gentle massage to the neck and shoulder area
- Consistently reduced the patient's report of pain in that area
- Including DNM, resulted in increased brightness in the visual field
- The patient expressed lasting relief from the constant distress of high pain and discomfort in the neck and shoulder area

Discussion

- There is no physiological explanation for gentle soft tissue manipulation of the neck and shoulder and simultaneous changes in the visual field
- Massage stimulates the parasympathetic nervous system (3), which constricts pupils, further highlighting how unusual the increase in brightness is
- The patient's history of macular holes and eye surgeries has no known correlation with increased brightness and the patient has been thoroughly examined for abnormalities
- It is possible that increased perceived brightness following gentle manual manipulation of the neck and shoulder area has become associated in the patient's brain, creating a neurotag that now gets activated

Conclusions

- Further research is needed to try to ascertain an explanation for the patient's experience of visual phenomena following neck and shoulder massage

Citations:

1. Anne R. Wright, Xiaoyan A. Shi, Jan Busby-Whitehead, Joanne M. Jordan & Amanda E. Nelson (2015) The Prevalence of Neck and Shoulder Symptoms and Associations with Comorbidities and Disability: The Johnston County Osteoarthritis Project, *MYOPAIN*, 23:1-2, 34-44, DOI: 10.3109/10582452.2015.1132026
2. Brosseau. (2012). Ottawa panel evidence-based clinical practice guidelines on therapeutic massage for neck pain. *Journal of Bodywork and Movement Therapies.*, 16(3). <https://doi.org/10.1016/j.jbmt.2012.04.001>
3. Meier, M., Unternaehrer, E., Dimitroff, S.J. et al. Standardized massage interventions as protocols for the induction of psychophysiological relaxation in the laboratory: a block randomized, controlled trial. *Sci Rep* 10, 14774 (2020). <https://doi.org/10.1038/s41598-020-71173-w>