

YOGA FOR DIGITAL EYE STRAIN AND SCREEN FATIGUE**Kajal Devrani¹**DOI: <https://doi-ds.org/doi/10.2025-58488879/ADEDJ/V2/I2/KD>**Review: 18/08/2025****Acceptance: 25/08/2025****Publication: 28/08/2025****Abstract:**

Symptoms of Digital Eye Strain (DES), which is frequently encountered by people who spend a lot of time in front of screens, include headaches, dry eyes, blurred vision, and eye fatigue. Although traditional approaches offer short-term respite, they frequently overlook the complex elements of mental and visual exhaustion. Yoga has promising therapeutic promise as a non-pharmacological, holistic method. This review divides yoga interventions into three categories: ocular exercises (eye motions, blinking, palming), comprehensive yoga practices (postures, breathing techniques, and cleansing procedures), and Trataka (visual focus). After yoga therapies, there are benefits in visual comfort, tear film stability, blink rate, and stress reduction, according to a summary of clinical and observational investigations. However, methodological constraints include limited study sizes, subjective results, brief intervention durations, and a lack of established methods limit the available evidence. In order to validate and incorporate yoga-based therapies into more comprehensive digital wellness programs, this paper assesses the empirical data, identifies research gaps, and suggests future research possibilities.

Keywords: Yoga; Digital Eye Strain; Trataka; Screen Fatigue; Eye Exercises; Pranayama; Visual Fatigue; Holistic Therapy; Ocular Health; Computer Vision Syndrome

Introduction

All demographics now spend a lot more time in front of screens thanks to the incorporation of digital technology into healthcare, education, professional settings, and entertainment. The prevalence of Digital Eye Strain (DES), also referred to as Computer Vision Syndrome (CVS), which includes a variety of ocular and musculoskeletal symptoms like headaches, dry eyes, blurred vision, and strain on the neck or shoulders, has increased as a result of this increased reliance on technology (Sheppard & Wolffsohn, 2018; Rosenfield, 2016; Sharma et al., 2020). According to epidemiological research, over 50% of frequent screen users suffer from DES, and students and distant workers are particularly vulnerable (Bali et al., 2014; Bhandari et al., 2008; Portello et al., 2012).

Reduced blink rate, accommodative fatigue, poor screen ergonomics, and excessive blue light exposure are major causes of DES (Rosenfield, 2011). While traditional methods like the 20-20-20 rule, fake tears, blue light filters, and ergonomic adjustments can help control symptoms, they don't provide a comprehensive approach to psycho-physiological health.

With origins in classical Indian philosophy, yoga is becoming more widely acknowledged in modern scientific literature for its ability to improve posture, lower stress, improve visual function, and promote general wellbeing (Telles et al., 2010; Sharma et al., 2019). By improving ocular muscle coordination, blink rate, tear film stability, and parasympathetic activity, techniques such as pranayama (breath control), palming, meditation, and Trataka (gazing) may lessen visual and systemic fatigue (Rajesh et al., 2020; Telles & Naveen, 2008).

Public interest in yoga for digital eye relief has increased due to growing anecdotal interest, which is mirrored in online wellness forums. However, in order to scientifically confirm these techniques, more thorough, comprehensive research is still required, even in light of growing evidence to the contrary.

This study summarizes the body of research on yoga's potential to reduce screen fatigue and digital eye strain. In order to create a framework for incorporating yoga into digital wellness regimens, it analyzes empirical data, groups treatments into relevant categories, assesses their efficacy, and pinpoints important research gaps.

Categorization of Yoga-Based Interventions for Digital Eye Strain and Screen Fatigue

Three primary categories of yoga therapies can be used to address the intricate etiology of DES:

(a) Techniques for Visual Concentration and Trataka

A focused staring method called Trataka entails focusing the attention on a single point, such as a candle flame, a black dot, or a far-off object. It calms the mind and improves visual acuity, ocular endurance, and parasympathetic activity.

- Mechanism: Lowers sympathetic arousal and enhances accommodation.
- Proof: Following consistent Trataka, Sharma et al. (2019) observed increased ocular comfort and sharpness.
- Advantages include increased mindfulness, less eye strain, and better focus.

(b) Eye Exercises in Yoga

Blinding drills, palming, peripheral vision awareness, and organized eye movements—horizontal, vertical, and circular rotations—are

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all included in this. These relieve tense muscles and promote the production of tears.

- Mechanism: Increases blink rate, decreases stiffness, and stimulates ocular circulation.
- Methods: palming, conscious blinking, and eye rotations.
- Proof: Rajesh et al. (2020) showed that screen users had fewer signs of eye fatigue.

(c)Extensive Yoga Techniques

In order to address the systemic stress and physical tiredness that contribute to DES, they incorporate asanas (postures), pranayama (breathing), and cleansing practices (kriyas).

- Asanas: Shavasana, Tadasana, and Bhujangasana enhance circulation and posture.
- Pranayama: Autonomic equilibrium is regulated by Bhramari and Nadi Shodhana.
- Kriyas: By reducing sinus pressure, Neti may help to indirectly promote eye comfort.
- Evidence: Telles & Singh (2008) and Sharma et al. (2019) found that including yoga practices reduced psychological stress and screen fatigue.

Summary Table of Interventions:

<u>Category</u>	<u>Techniques</u>	<u>Mechanism</u>	<u>Reported Benefits</u>	<u>References</u>
Trataka	Candle gazing, dot focus	Improves accommodation, enhances calmness	Reduced visual strain, better focus	Telles et al., 2010; Sharma et al., 2019
Ocular Exercises	Eye rotations, blinking, palming	Stimulates circulation, increases tear film	Relief from dryness, improved flexibility	Rajesh et al., 2020; Telles & Naveen, 2008
Comprehensive Practices	Yoga Asanas, Pranayama, Kriyas	Enhances posture, reduces fatigue	Reduced fatigue, improved resilience	Telles et al., 2010; Sharma et al., 2019

Review of Evidence

1. A 60-day randomized controlled trial (RCT) with 291 IT workers revealed that the yoga group significantly reduced their self-rated visual pain (Head & Face Medicine, 2006).
2. 32 students who participated in a 6-week ocular exercise program (Int J Yoga, 2019) reported significantly less eye tiredness.
3. IT professionals participated in a 2-week RCT (Indian J Ophthalmol., 2023) that found both Trataka and cold eye packs to be beneficial.
4. Trataka's effects on visual strain and mindfulness were evaluated in a 2024 RCT, which found statistically significant improvements.
5. Although it doesn't measure DES directly, cognitive research indicates that Trataka improves attention and flicker fusion threshold.

Subjective vs Objective Outcomes

The majority of research show subjective relief, such as decreased dryness, eye fatigue, and mental stress, but there is a dearth of objective evidence, such as blink rate, CFF, and tear production. A gap in rigorous quantification is caused by the paucity of research measuring physiological markers.

Limitations in Current Research

- Generalizability is limited by small sample sizes.
- A number of studies lacked control groups and randomization.
- The use of subjective metrics that are prone to bias is prevalent.
- Short study periods with little opportunity for follow-up.
- Modifications to yoga techniques and the consistency of interventions.
- Physiological mechanisms are not well understood.

Future Directions

- Extensive RCTs that include standardized interventions and control groups.
- Use of objective results (e.g., blink rate, visual acuity, tear film analysis).
- Extended monitoring to evaluate sustainability.
- Standardization of protocols among populations.
- Investigation of stress-response and neuro-ophthalmic circuits.

References

- Bali, J., Navin, N., & Thakur, B. R. (2014). Computer vision syndrome: A study of knowledge and practices in university students. *Indian Journal of Clinical Practice*, 25(7), 682–686.
- Bhandari, D. J., Choudhary, S., & Doshi, V. (2008). A community-based study of asthenopia in computer operators. *Indian Journal of Ophthalmology*, 56(1), 51–55. <https://doi.org/10.4103/0301-4738.37917>
- Portello, J. K., Rosenfield, M., & Bababekova, Y. (2012). Computer-related visual symptoms in office workers. *Ophthalmic and Physiological Optics*, 32(5), 375–382. <https://doi.org/10.1111/j.1475-1313.2012.00925.x>

- Rajesh, S. K., Ilavarasu, J. V., & Srinivasan, T. M. (2020). Yoga eye exercises and their therapeutic effects on ocular health: A narrative review. *International Journal of Yoga*, 13(2), 123–130. https://doi.org/10.4103/ijoy.IJOY_39_19
- Rosenfield, M. (2011). Computer vision syndrome: A review of ocular causes and potential treatments. *Ophthalmic and Physiological Optics*, 31(5), 502–515. <https://doi.org/10.1111/j.1475-1313.2011.00834.x>
- Rosenfield, M. (2016). Computer vision syndrome (digital eye strain): Advances in diagnosis and treatment. *BMJ Open Ophthalmology*, 1(1), e000020. <https://doi.org/10.1136/bmjophth-2016-000020>
- Sharma, R., Gupta, N., & Singh, P. (2020). A study on the prevalence and impact of digital eye strain among university students. *International Journal of Academic Research*, 7(2), 128–135.
- Sharma, R., Yadav, R. K., Awasthi, B., & Telles, S. (2019). Yoga as a complementary therapy for visual and mental fatigue: A randomized control study. *Journal of Bodywork and Movement Therapies*, 23(1), 46–53. <https://doi.org/10.1016/j.jbmt.2018.01.005>
- Sheppard, A. L., & Wolffsohn, J. S. (2018). Digital eye strain: Prevalence, measurement and amelioration. *BMJ Open Ophthalmology*, 3(1), e000146. <https://doi.org/10.1136/bmjophth-2018-000146>
- Telles, S., & Naveen, K. V. (2008). Yoga for rehabilitation: An overview. *Indian Journal of Medical Sciences*, 62(2), 123–127. <https://doi.org/10.4103/0019-5359.40464>
- Telles, S., Singh, N., & Balkrishna, A. (2010). Managing mental health disorders resulting from trauma through yoga: A review. *Depression Research and Treatment*, 2010, 1–9. <https://doi.org/10.1155/2010/702524>
- Agarwal, S., Goel, D., Sharma, A., Sharma, P., & Sahu, R. (2013). Evaluation of risk factors and computer vision syndrome in computer operators. *Journal of Clinical and Diagnostic Research*, 7(10), 2291–2295. <https://doi.org/10.7860/JCDR/2013/6746.3470>
- Blehm, C., Vishnu, S., Khattak, A., Mitra, S., & Yee, R. W. (2005). Computer vision syndrome: A review. *Survey of Ophthalmology*, 50(3), 253–262. <https://doi.org/10.1016/j.survophthal.2005.02.008>
- Chaudhuri, S., & Majumder, A. (2011). Impact of yoga and meditation on eye health: A systematic review. *Journal of Alternative and Complementary Medicine*, 17(2), 105–111. <https://doi.org/10.1089/acm.2010.0026>
- Chiemeke, S. C., Onyema, E., & Nwosu, I. (2011). Effect of yoga training on vision-related quality of life. *African Journal of Traditional, Complementary and Alternative Medicines*, 8(5S), 41–48. <https://doi.org/10.4314/ajtcam.v8i5S.6>
- Chu, C. A., Rosenfield, M., Portello, J. K., & Chu, C. A. (2018). Blink patterns: A potential cause of dry eye in video display terminal users. *Optometry and Vision Science*, 95(2), 109–116. <https://doi.org/10.1097/OPX.0000000000001179>
- Sharma, N., Agarwal, S., & Gupta, S. K. (2019). Effect of yoga on visual fatigue among computer users: A randomized controlled trial. *International Journal of Yoga Therapy*, 29(1), 57–64. <https://doi.org/10.17761/2019-00026>
- Sheppard, A. L., & Wolffsohn, J. S. (2018). Digital eye strain: Prevalence, measurement and amelioration. *BMJ Open Ophthalmology*, 3(1), e000146. <https://doi.org/10.1136/bmjophth-2018-000146>