

## Yoga Intervention for Tech-Neck Syndrome in Smartphone Users: A Case Report

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### Abstract

An developing musculoskeletal disorder called “tech-neck syndrome” is brought on by extended forward head posture when using a smartphone. It causes stiffness, decreased movement, neck pain, and functional difficulties. These kinds of concerns are commonly seen among office workers and students as screen time increases. Yoga is a comprehensive, non-pharmacological method that enhances posture, flexibility, muscle strength, and stress response. The impact of a structured yoga intervention on a young smartphone user with tech-neck syndrome is discussed in the current case study. For three months, a 24-year-old female postgraduate student complained of stiff neck ache and limited cervical mobility. She participated in a four-week yoga program that included relaxation, strengthening, and stretching exercises. The Neck Disability Index (NDI), cervical range of motion, and the Visual Analog Scale (VAS) for pain were among the outcome measures. Significant improvements in neck mobility, functional capacity, and pain severity were noted after four weeks. According to this case, yoga might be a safe, affordable, and successful remedy for smartphone users who suffer from tech-neck syndrome.

**Key words :** Yoga intervention, Tech-neck syndrome, Smartphone.

**T**ech-neck syndrome is a new postural ailment brought on by the extensive usage of smartphones. Chronic neck pain, muscle tension, and changed cervical alignment as a result of extended forward head posture during device use are its defining characteristics<sup>1</sup>. Studies have shown that excessive smartphone use is linked to postural imbalance, neck pain, and decreased mobility, especially in young adults and students. When the head tilts forward while using a smartphone, the load on cervical structures increases significantly, placing excessive stress on muscles, ligaments, and intervertebral discs<sup>2</sup>. Prolonged exposure to such mechanical strain may result in muscular fatigue, stiffness, reduced range of motion, and degenerative changes<sup>3</sup>. Analgesics, physiotherapy, ergonomic adjustment, and exercise therapy are examples of traditional therapeutic methods<sup>5</sup>.

Yoga has been extensively researched for musculoskeletal diseases as a comprehensive system of mental and physical activities. In addition to lowering stress and pain perception, it enhances posture, muscle strength, flexibility, and neuromuscular coordination<sup>6</sup>. Research indicates that yoga may be useful in treating back and neck discomfort<sup>7</sup>. The current case study assesses how well a structured yoga intervention works for a patient who has tech-neck syndrome as a result of using a smartphone excessively.

*Case presentation :*

*Patient information :*

A female postgraduate student, age 24, complained of the following to the outpatient

department:

Pain in the neck for three months.

The cervical area is stiff.

Rotation of the neck is difficult.

Headache following extended use of a smartphone.

She claimed to spend six to eight hours a day using her smartphone for social and academic objectives.

*Clinical findings :*

A physical examination showed:

- Head posture forward
- Tenderness in the cervical paraspinal muscles and upper trapezius
- A decreased range of motion in the neck
- Tightness in the muscles

*Diagnostic assessment :*

A clinical diagnosis was made based on:

- Postural evaluation
- The pattern of pain
- History of smartphone usage

Tech-neck syndrome was the diagnosis made.

*Baseline outcome measures :*

Parameter	Baseline Value
Pain (VAS)	7/10
Neck Disability Index (NDI)	38%
(moderate disability)	
Cervical flexion	35°
Cervical extension	40°
Lateral flexion	25°
Rotation	50°

*Therapeutic intervention :*

*Yoga protocol (4 weeks) :*

Duration:

- 30 minutes daily
- 5 days per week

*Asanas :*

1. Neck rotation exercises
2. *Greeva Sanchalana* (neck movements)
3. *Tadasana*
4. *Bhujangasana*
5. *Matsyasana*
6. *Marjariasana*

*Pranayama :*

1. *Anulom Vilom*
2. *Bhramari*

*Relaxation :*

- *Shavasana* (5 minutes)

*Rationale of Yoga practices :*

- Tight cervical muscles are stretched
- Increasing postural muscular strength
- Better alignment of the spine
- A decrease in tense muscles
- Breathing techniques for stress reduction

*Follow-up and outcomes :*

Parameter	Base-line	Week 2	Week 4
VAS (pain)	7	4	2
NDI (%)	38%	22%	10%
Cervical flexion	35°	45°	55°
Cervical extension	40°	50°	60°
Lateral flexion	25°	35°	45°
Rotation	50°	60°	70°

*Patient-reported outcomes :*

Four weeks later :

- Pain was greatly lessened
- A reduction in neck stiffness
- A greater awareness of posture
- Less discomfort associated with smartphones

The patient reported feeling more at ease while studying and going about their everyday business.

Long-term forward head posture and smartphone use are contributing factors to the rise in tech-neck syndrome<sup>1</sup>. According to biomechanical research, the cervical spine is subjected to increasing loading with each degree of forward head tilt<sup>2</sup>. Chronic pain and dysfunction are caused by muscle exhaustion, ligament tension, and changed spinal alignment<sup>3</sup>. Because of their heavy smartphone use, young adults are especially at risk<sup>4</sup>. Postural correction and exercise treatment are regarded as primary interventions<sup>5</sup>. Yoga is a holistic method since it incorporates relaxation, strengthening, and stretching.

Yoga has been shown in studies to enhance functional results, flexibility, and neck pain<sup>6</sup>. Additionally, it enhances neuromuscular coordination and lowers stress<sup>7</sup>.

In this instance:

- VAS 7 pain decreased to 2.
- Disability decreased to 10% from 38%.
- A notable improvement in cervical mobility

These findings corroborate earlier studies showing yoga's beneficial effects on musculoskeletal conditions.

The current case study shows how an organized yoga program can help people with tech-neck syndrome by reducing pain, increasing cervical mobility, and improving functional capacity. Yoga might be a safe, affordable, and all-encompassing treatment for neck issues brought on by smartphones. To confirm these results, more research with bigger sample sizes is advised.

#### Tables

Table-1. Baseline clinical findings

Finding	Observation
Posture	Forward head posture
Muscle tenderness	Present
Range of motion	Reduced
Smartphone use	6–8 hours/day

Table-2. Yoga intervention schedule

Week	Duration	Practices
Week 1	20–25 min	Gentle neck movements, breathing
Week 2	25–30 min	Added asanas for strengthening
Week 3	30 min	Full yoga protocol
Week 4	30 min	Full protocol with improved holds

#### Patient perspective :

Following two weeks of yoga practice, the patient reported a discernible decrease in pain and stiffness. She felt more at ease using her smartphone and going about her everyday business by the end of the intervention.

#### Ethical clearance statement

The intervention was carried out in compliance with the ethical standards of the institution. Patient privacy was upheld at all times.

#### Informed Consent

Written informed consent was obtained from the patient for publication of this case report.

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