

# Cervical Spondylosis: Epidemiology, Risk Factors, And Clinical Implications

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**Abstract**—Cervical spondylosis (CS) is a degenerative condition of the cervical spine associated with aging and lifestyle factors. While often asymptomatic, CS can contribute to neck pain, radiculopathy, and myelopathy, imposing significant individual and societal disease burden. This study synthesizes recent epidemiological data, elucidates associated risk factors, and explores clinical presentations and outcomes with statistical evidence derived from recent global research.

**Index Terms**—Cervical spondylosis, prevalence, epidemiology, degenerative cervical spine, risk factors, neck pain

## I. INTRODUCTION

Cervical spondylosis refers to age-related degenerative changes of the cervical vertebrae, intervertebral discs, ligaments, and facet joints. Radiographic evidence of spondylotic change becomes increasingly common with advancing age and is detectable even in asymptomatic individuals. NCBI

## II. EPIDEMIOLOGY AND PREVALENCE

### AGE-RELATED TRENDS

Radiographic cervical spondylotic changes have been reported across age groups:

- Approximately 25% of individuals under 40 show spondylotic changes.
- Around 50% of those over 40 show signs.
- Up to 85% of people over 60 have evident degeneration on imaging. NCBI

### PREVALENCE IN SPECIFIC POPULATIONS

- A community-based Chinese study observed a 13.76% prevalence among adults aged  $\geq 18$  years, with variation by urbanization. PubMed
- Another hospital-based study reported lumbar spondylosis was most common, with 28.6% of spondylosis patients exhibiting cervical involvement at a tertiary center. PubMed
- In an orthopedic ward study, CS represented 5.23% of admissions, predominantly affecting adults aged 40–60, with a female predominance (66.37%). Stat Person

### DEMOGRAPHIC PATTERNS

- Prevalence demonstrates a female predominance in several studies, though this varies by cohort and region. SpringerLink

## III. PATHOPHYSIOLOGY

Degenerative progression in CS originates from:

- Loss of hydration and elasticity in intervertebral discs.
  - Formation of osteophytes and ligamentous thickening.
  - Reduced disc height and facet joint arthropathy.
- These changes may lead to mechanical neck pain, nerve root compression, or spinal cord impingement, though many individuals remain asymptomatic. NCBI

## IV. RISK FACTORS

### NON-MODIFIABLE RISKS

- AGE: Primary predictor; degeneration begins as early as age 40 and increases with age. NCBI

- GENETIC Predisposition: Familial tendencies may influence early onset. Apollo 24|7
- SEX: Some studies suggest higher symptomatic prevalence in females. SpringerLink

#### MODIFIABLE RISKS

- SMOKING & ALCOHOL: Linked with increased CS risk. PubMed
- OCCUPATION: Repetitive neck motions and poor ergonomics contribute to degeneration. Mayo Clinic
- LACK OF PHYSICAL ACTIVITY & POSTURE: Sedentary lifestyle and sustained forward head posture elevate risk. Apollo 24|7

#### V. CLINICAL MANIFESTATIONS

Common symptoms include:

- Chronic neck pain and stiffness.
- Radiculopathy: pain radiating to shoulders or arms.
- Numbness/weakness when nerve roots are affected.
- Rare associations such as dizziness have been reported (10.2% incidence in one cohort). JAMA Network

Despite high radiographic prevalence, many individuals remain asymptomatic or develop symptoms gradually.

#### VI. STATISTICAL ANALYSIS

Recent findings indicate:

- 85% prevalence of imaging changes in older adults (>60 years). NCBI
- 13.76% community prevalence in Chinese adults, with urban/rural differences. PubMed
- Female predominance noted in hospital and population studies. SpringerLink
- 1-year incidence of cervical dizziness in CS patients: ~10.2%. JAMA Network

#### VII. DISCUSSION

Cervical spondylosis represents a major degenerative condition linked to aging and lifestyle factors. Epidemiological variation across studies highlights the need for population-specific screening and

prevention strategies. High prevalence of asymptomatic imaging changes suggests clinical evaluation should integrate symptomatology and functional impact rather than relying solely on radiography.

#### VIII. CONCLUSION

Cervical spondylosis is prevalent globally, particularly in older adults, and is influenced by multiple demographic and lifestyle factors. Given the high burden of neck pain and associated disability, focused preventive strategies, ergonomic interventions, and longitudinal cohort research are recommended.

#### REFERENCES

- [1] Stat Pearls. Epidemiology of Cervical Spondylosis. *NCBI Bookshelf*. NCBI
- [2] Prevalence of cervical spondylosis among adults at a tertiary hospital. *PubMed*. PubMed
- [3] Community-based prevalence in Chinese adults. *PubMed*. PubMed
- [4] Prevalence study in orthopedic wards. *International Journal of Recent Trends in Science and Technology*. Stat Person
- [5] Risk of cervical dizziness post-diagnosis. *JAMA Otolaryngology*. JAMA Network
- [6] Risk factors overview in Apollo247 article. Apollo 24|7