

**Soft-tissue Injuries of the Cervical Spine
15-year Follow-up**

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FROM ABSTRACT:

Forty patients with a whiplash injury who had been reviewed previously 2 and 10 years after injury were assessed again after a mean of 15.5 years by physical examination, pain and psychometric testing.

Twenty-eight (70%) continued to complain of symptoms referable to the original accident.

Neck pain was the commonest, but low-back pain was present in half.

Women and older patients had a worse outcome.

Radiating pain was more common in those with severe symptoms.

Evidence of psychological disturbance was seen in 52% of patients with symptoms.

Between 10 and 15 years after the accident 18% of the patients had improved whereas 28% had deteriorated.

THESE AUTHORS ALSO NOTE:

“Soft-tissue injuries of the cervical spine may give persisting symptoms.”

Studies show that “most patients reach their final state after two years,” and a small percentage improve after 2 years.

These authors wanted to establish whether there was an improvement in symptoms between 10 and 15 years after injury.

The following was used to classify the severity of symptoms:

- A) Asymptomatic
- B) Mild symptoms not affecting work or leisure activities
- C) Intrusive symptoms interfering with work or leisure;
frequent use of analgesics, orthosis or physiotherapy
- D) Severe problems: lost job, continual reliance on analgesics, orthosis

In this study, the original accident had been a rear-end vehicle collision in 90% of the patients.

RESULTS

At follow-up (15 years after injury):

30% of the patients were asymptomatic (group A)

28% had mild symptoms (group B)

33% complained of intrusive symptoms (group C)

10% were unable to work and relied heavily on analgesics or alternative therapy (group D)

At the 15-year follow-up, neck pain was present in 65% and low-back pain was present in 48%.

80% of women and 50% of men continued to have symptoms at 15 years.

Patients with continued symptoms had stiffer necks.

Paraesthesia occurred in 35% of patients.

Radiating pain was eight times more common in patients with intrusive or severe symptoms.

Severity of symptoms by percentage at ten and 15 years after whiplash injury

Symptoms	10 years	15 years
Neck pain	74	65
Paraesthesia	45	33
Back pain	42	48
Headache	33	20
Dizziness	19	10
Tinnitus	14	28

[NOTE: back pain and tinnitus statistically increased between years 10 to 15].

"Symptoms had remained static in 54%, improved in 18% and deteriorated in 28%."

"The patients who had deteriorated were on average five years older than the rest of the group."

"80% of the patients who had deteriorated in the last five years had degenerative changes, compared with 67% of those whose symptoms had stayed the same and 50% of those who had improved." **[Indicating that degenerative changes are associated with a worse prognosis for recovery.]**

"Of patients who were symptomatic, 60% had not seen a doctor in the previous five years, mostly stating that they felt that doctors had nothing to offer them." **[Interesting]**

18% had taken early retirement due to health problems which they related to the whiplash injury.

DISCUSSION

"70% of the patients still had symptoms 15 years after a whiplash injury."

"Although some (18%) had improved over the last five years, a greater number (28%) had deteriorated."

"Older patients were more likely to continue to experience symptoms, and only 5% of those who were aged over 40 years at the time of the accident were free from symptoms at follow-up."

Symptoms did not improve after settlement of litigation, which is consistent with previous published studies.

"Radiating pain is associated with more severe disability."

"The distribution of the pain conforms more closely to radiation from the facet joints rather than dermatomes." **[Important]**

"The radiating pattern was much more common in patients with intrusive or severe symptoms."

Studies have found that patients were psychologically normal at the time of injury will develop abnormal psychological assessments if their symptoms persisted for three months. **[Important]**

This study showed an "abnormal psychological profile in patients with symptoms after 15 years suggesting that this is both reactive to physical pain and persistent." **[Important]**

33% of asymptomatic patients (group A) had cervical degeneration at 11 years after injury.

78% of patients with mild symptoms (group B) had cervical degeneration at 11 years after injury.

77% of patients with intrusive symptoms (group C) had cervical degeneration at 11 years after injury.

100% of patients with severe ongoing problems (group D) had cervical degeneration at 11 years after injury.

KEY POINTS FROM DAN MURPHY

- 1) At a mean of 15.5 years post whiplash trauma, 70% of patients continued to complain of symptoms referable to the original accident.
- 2) Long-term symptoms from whiplash injury include neck pain, arm paraesthesia, back pain, headache, dizziness, and tinnitus.
- 3) Women and older patients have a worse outcome from whiplash injuries.
- 4) Radiating arm pain is more common in those with severe symptoms.
- 5) Between 10 and 15 years after the accident 18% of the patients had improved whereas 28% had deteriorated.
- 6) Soft-tissue injuries to the cervical spine may give persisting symptoms.
- 7) Most whiplash-injured patients reach their final state by two years after being injured, but this study shows ongoing symptom fluctuation between years 10 to 15.
- 8) At the 15-year follow-up, neck pain was present in 65% and low-back pain was present in 48%.
- 9) 80% of women and 50% of men continued to have symptoms at 15 years.
- 10) Back pain and tinnitus increased between years 10 and 15.
- 11) Symptoms remained static in 54%, improved in 18% and worsened in 28%.
- 12) Degenerative changes are associated with a worse prognosis for recovery.
- 13) 60% of symptomatic patients had not seen a doctor in the previous five years because the doctors were unable to help them.
- 14) 18% had taken early retirement due to health problems which they related to the whiplash injury.
- 15) Whiplash symptoms do not improve after settlement of litigation.
- 16) Most radiating pain is referral from the facets, and not radicular.
- 17) Chronic whiplash symptoms will cause an abnormal psychological assessment after 3 months.
- 18) In this study, 100% of patients with severe ongoing problems had cervical spinal degeneration.