

# **Prevalence of Pain in Patients 1 Year After Major Trauma**

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### FROM ABSTRACT

#### Objectives

To describe the prevalence of pain in a large cohort of trauma patients 1 year after injury and to examine personal, injury, and treatment factors that predict the presence of chronic pain in these patients.

#### Setting

Sixty-nine hospitals in 14 states in the United States.

#### Patients

There were 3,047 patients (10,371 weighted) aged 18 to 84 years who were admitted to the hospital because of acute trauma and survived to 12 months after injury.

#### Main Outcome Measure

Pain 12 months after injury measured with the Chronic Pain Grade Scale.

#### Results

At 12 months after injury, 62.7% of patients reported injury-related pain.

Most patients had pain in more than 1 body region, and the mean severity of pain in the last month was 5.5 on a 10-point scale.

The reported presence of pain varied with age and was more common in women and those who had untreated depression before injury.

Pain at 3 months was predictive of both the presence and higher severity of pain at 12 months.

Lower pain severity was reported by patients with a college education and those with no previous functional limitations.

#### Conclusions

Most trauma patients have moderately severe pain from their injuries 1 year later.

Earlier and more intensive interventions to treat pain in trauma patients may be needed.

## THESE AUTHORS ALSO NOTE:

“Pain is a natural accompaniment of acute injury to tissues and is expected in the setting of acute trauma.”

These authors cite studies to support the following concepts:

- 1) Prior trauma is the cause of pain in 18.7% of patients seeking treatment.
- 2) Long-term follow-up of trauma revealed that 5 to 7 years after injury, chronic pain was present in most patients who sustained pelvic fractures and serious lower extremity injuries.
- 3) Post-traumatic chronic pain is an important contributor to disability, post-traumatic stress disorder, and depression.

This study is a prospective cohort study of patients treated in 18 trauma centers and 51 large non-trauma centers in 15 metropolitan statistical areas from 14 states in the United States.

At the 12-month follow-up, patients were asked about pain in the previous 4 weeks using questions from the Chronic Pain Grade Scale. They were asked to rate the pain in various body areas on a scale of 0 (none) to 10 (worst possible pain), and using the 36-Item Short-Form Health Survey to assess pain intensity and its interference with activities.

## RESULTS

Data were available for 3,047 patients 12 months after injury.

Pain persistence was most common among those 35 to 44 years of age and least common among those 75 to 84 years of age. **[Important]**

The most common painful areas were:

44.3%	Joints and extremities
26.2%	Back
11.5%	Head
6.9%	Neck
4.4%	Abdomen
3.8%	Chest
2.8%	Face

“Only 37.3% of patients with injury-related pain had a single painful body area.”

“59.3% of those with pain had 3 painful areas or more.”

"Patients 75 to 84 years of age reported the fewest number of injury-related sites of pain, and those 35 to 44 years of age reported the greatest number."

"The severity of the pain was similar across sex and age groups."

The prevalence of pain at 12 months after injury was related to several sociodemographic and pre-injury characteristics.

Pain was more common among those who were:

- 1) Poor
- 2) Smokers
- 3) Intravenous drug abusers before sustaining their injury
- 4) Depressed at baseline

Pre-injury alcoholic beverage drinking status did not influence pain.

"Three-fourths of the patients with moderate to severe injuries to their neck or spine had injury-related pain at 12 months." **[Very Important]**

"Patients with injuries in more than 1 body area were significantly more likely to have pain than those without multiple injuries."

"Patients who reported that their health was fair or poor before their injury reported more severe pain than those with good, very good, or excellent preinjury health status."

The severity of pain at 12 months was related to the pain score at 3 months and the number of painful body areas.

#### COMMENT FROM AUTHORS

"In this study of trauma patients admitted to hospitals across the United States, most had pain 1 year after their injury."

"The prevalence of chronic pain found in our study is substantially higher than the 30% to 50% reported after amputation or thoracotomy."

"Conversely in patients with chronic pain, trauma is an important cause."

"Patients with chronic spinal pain are more likely to be female, have lower educational attainment, and have a history of depression than are patients without such pain"

"The mean pain severity score of 5.5 on a 10-point pain scale reported by patients in this study is at a level where patients would likely have moderate to severe interference with activities because of pain."

"Patients with low back pain or osteoarthritis pain severity scores of 5 or higher report interference in activities." **[Important]**

"The findings of this study suggest that interventions to decrease chronic pain in trauma patients are needed."

#### KEY POINTS FROM DAN MURPHY

- 1) This was a very large study, looking at the incidence of chronic pain (12 months after injury) from 69 hospitals in 14 states in the USA.
- 2) "At 12 months after injury, 62.7% of patients reported injury-related pain."
- 3) "Most patients had pain in more than 1 body region, and the mean severity of pain in the last month was 5.5 on a 10-point scale."
- 4) "Most trauma patients have moderately severe pain from their injuries 1 year later."
- 5) "Pain is a natural accompaniment of acute injury to tissues and is expected in the setting of acute trauma."
- 6) Post-traumatic chronic pain is an important contributor to disability, post-traumatic stress disorder, and depression.
- 7) Pain persistence was most common among those 35 to 44 years of age and least common among those 75 to 84 years of age. **[Important: this indicates that chronic pain is not primarily the result of degenerative joint disease, which is more common in the elderly.]**
- 8) The most common painful areas are:
 

44.3%	Joints and extremities
26.2%	Back
11.5%	Head
6.9%	Neck
4.4%	Abdomen
3.8%	Chest
2.8%	Face
- 9) "Only 37.3% of patients with injury-related pain had a single painful body area." "59.3% of those with pain had 3 painful areas or more."
- 10) "Three-fourths of the patients with moderate to severe injuries to their neck or spine had injury-related pain at 12 months." **[Very Important]**
- 11) "Patients with injuries in more than 1 body area were significantly more likely to have pain than those without multiple injuries."

- 12) "Patients who reported that their health was fair or poor before their injury reported more severe pain than those with good, very good, or excellent pre-injury health status."
- 13) The severity of pain at 12 months was related to the pain score at 3 months and the number of painful body areas.
- 14) "In this study of trauma patients admitted to hospitals across the United States, most had pain 1 year after their injury."
- 15) "In patients with chronic pain, trauma is an important cause."
- 16) "Patients with chronic spinal pain are more likely to be female, have lower educational attainment, and have a history of depression than are patients without such pain"
- 17) "The mean pain severity score of 5.5 on a 10-point pain scale reported by patients in this study is at a level where patients would likely have moderate to severe interference with activities because of pain."
- 18) "Patients with low back pain or osteoarthritis pain severity scores of 5 or higher report interference in activities." **[Important]**
- 19) "The findings of this study suggest that interventions to decrease chronic pain in trauma patients are needed."

#### COMMENTS FROM DAN MURPHY

We have reviewed similar results, especially in patients injured in motor vehicle collisions. This further supports my opinion that injured patients require intensive treatment in the first 3 months following trauma in an effort to reduce chances of developing chronic pain.