

## Title

A complication not to be forgotten:

Fentanyl induced chest wall rigidity following rapid sequence intubation

## Authors

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## Introduction

Fentanyl induced chest wall rigidity, also known as 'wooden chest syndrome' (WCS), is an uncommonly reported complication. Fentanyl is often used as an agent for pretreatment during rapid sequence intubation to blunt the sympathetic response during laryngoscopy. We report a case of WCS following rapid sequence intubation.

## Case description

A 68-year-old male presented to us with a history of gradual reduction in consciousness over a period of two weeks together with cough and breathlessness. He had underlying anaplastic meningioma with extensive history of neurosurgical and oncological interventions. He underwent rapid sequence intubation for airway protection and intravenous fentanyl was given as premedication. Subsequently, the patient developed WCS. He was given intravenous naloxone and recovered spontaneous breathing.

## Discussion

Several risk factors are thought to be associated with WCS including administration of fentanyl at a high dose, rapid rate of intravenous injection and presence of neurologic conditions. Although the patient was given a low dose of fentanyl at a slow rate, his underlying condition predisposed him to WCS.

Treatments for WCS include administering a neuromuscular blocking agent, giving naloxone as a reversal agent for opioids and cessation of fentanyl. In this case, despite receiving succinylcholine as a paralytic for intubation, the patient developed chest wall rigidity. We postulate that this is due to the patient receiving a lower dose of succinylcholine. The patient recovered spontaneous breathing shortly after administration of intravenous naloxone.

## Conclusion

Although fentanyl induced chest wall rigidity is an uncommon phenomenon, clinicians who routinely employ the agent as part of rapid sequence intubation should always consider risk factors for its development before intubation to aid in prompt recognition and management of this condition.

## Keywords

fentanyl, chest wall rigidity, wooden chest syndrome