

# THE IMPORTANCE OF PROMPT PREHOSPITAL DIAGNOSIS OF TRAUMATIC PNEUMOTHORAX IN OUT-OF-HOSPITAL EMERGENCY MEDICAL SERVICES

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12.-14. svibnja 2023.  
OSIJEK

## Introduction:

- Approximately 25% of trauma lethal outcomes result from thoracic trauma.
- Pneumothorax (PTX) is defined as air accumulation between pleural layers which causes mediastinum shifting.
- This review aims to help EMS professionals develop a strong index of suspicion for this infrequent, but potentially fatal condition.

## Review:

- Pneumothorax is typically divided into two types according to its causes - traumatic and spontaneous PTX
- Both penetrating or blunt trauma can cause a traumatic PTX by developing communication between intrapulmonary or atmospheric air and the pleural cavity.
- Careful clinical examination is typically used to make a diagnosis.
- Initial symptoms include chest pain, dyspnea, tachycardia, chest wall hyper resonance, and reduced respiratory sound both on the affected side.
- Late discoveries are decreased level of consciousness, dilated neck veins, contralateral tracheal deviation, cyanosis, and hypotension.
- A relative breakthrough is the use of focused assessment with sonography in trauma (FAST) in out-of-hospital EMS. Ultrasonic findings like pleural line, lung-sliding and comet-tail artifacts have 94% sensitivity and 100% specificity compared with spiral CT scanning.
- Other imaging studies such as chest X-Ray and CT scanning are not available in out-of-hospital care and therefore are not discussed in this review.

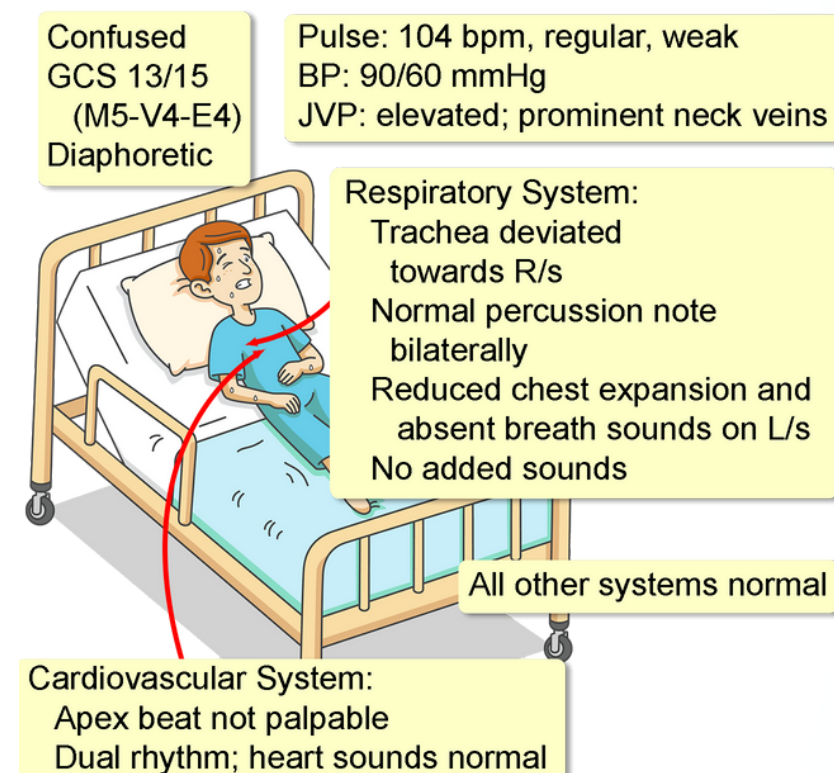


Figure 1: Clinical example of pneumothorax signs and symptoms by *Clinical Odyssey* by *Medical Joyworks, LLC*

## Conclusion:

- Pneumothorax is common following trauma, therefore, it is crucial to suspect this condition. However, in out-of-hospital conditions diagnosis cannot always be made easily.
- For favorable patient outcomes, there must be clear criteria for adequate diagnosis and immediate management of PTX.

## Reference list:

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