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## INTRODUCTION

Trauma is the first cause of death and disability in young people. Although with the development of emergency department thoracotomy (EDT), the mortality after EDT is reducing, the proper use of EDT after thoracic and abdominal trauma is controversial. The objective of this review is to understand the indication for EDT.

## MATERIALS & METHODS

A systematic search using the PubMed, SCOPUS and ScienceDirect databases. Patients were grouped by type of injury mechanism (blunt versus penetrating). Outcomes assessed were survival rate.



## RESULTS

1. There were 139 studies involved 21,951 EDT cases showed that an overall survival rate of 7.98 percent (1,752 survivors). 2. The lower survival rate of the blunt injuries was 1.86 percent (5,768 thoracotomies with 107 survivors), compared with the penetrating injuries was 10.82 percent (10,896 thoracotomies with 1,179 survivors). 3. When the location of major injury was the heart, the penetrating cardiac injury survival rate was 22.28 percent. 4. The patients (both penetrating injury and blunt injury) who underwent EDT with signs of life had more favorable survival rate 15.7 percent (2,146 thoracotomies with 337 survivors). The patients who underwent EDT were limited with signs of life or without signs of life had dismal survival rate 3.94 percent (3,200 thoracotomies with 126 survivors).

## CONCLUSION

1. The patients who suffering from penetrating injuries or the location of major injury is the heart with signs of life are strongly considered to EDT. 2. The patients who suffering from blunt injuries with signs of life are conditionally considered to EDT. 3. However, the patients (both penetrating injury and blunt injury) who are limited with sings of life or without signs of life are not considered to EDT. 4. The blunt injury patients with more than 10 minutes of prehospital CPR and penetrating injury patients with more than 15 minutes of CPR (both without signs of life) should not to be considered to EDT.



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