

# **Rib Fractures and Pain Management**

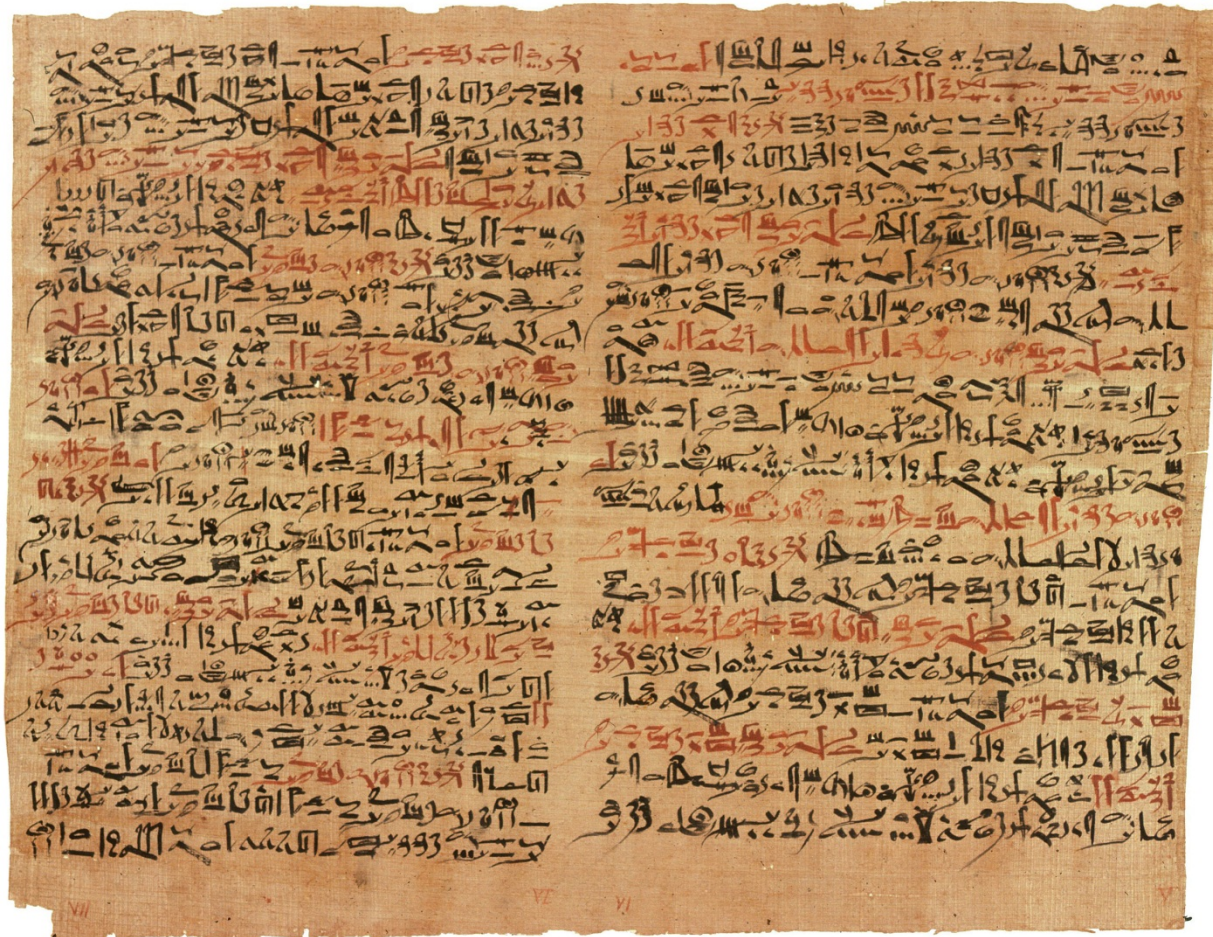
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**GENESYS**

# Edwin Smith Papyrus



# Edwin Smith Papyrus

- 27 head injuries (cases #1-27)
- 6 throat and neck injuries (cases #28-33)
- 2 injuries to the clavicle (collarbone) (cases #34-35)
- 3 injuries to the arm (cases #36-38)
- 8 injuries to the sternum (breastbone) and ribs (cases #39-44)
- 1 tumor and 1 abscess of the breast (cases #45-46)
- 1 injury to the shoulder (case #47)
- 1 injury to the spine (case #48)

## Case Forty-Two:

### **Instructions concerning a sprain in the ribs of his breast.**

- Examination: If thou examinest a man having a sprain in the ribs of his breast, (and) he suffers in the ribs of his breast, not having a dislocation, (and) it is not broken while that man continues to suffer with it and shudders exceedingly.
- 
- Diagnosis: Thou shouldst say concerning him: "One having a pain in the ribs of his breast. An ailment which I will treat."
- Treatment: Thou shouldst bind it with ymrw; thou shouldst treat it afterwards with honey every day until he recovers.

## Case Forty-Three:

Instructions concerning a dislocation of the ribs of his breast.

- Examination: If thou examinest a man having a dislocation of the ribs of his breast, (and) thou findest that the ribs of his breast are projecting and their heads are ruddy, while that man suffers continually with swellings in his two sides.
- Diagnosis: Thou shouldst say concerning him: "One having a dislocation in the ribs of his breast. An ailment which I will treat."
- Treatment: Thou shouldst bind it with ymrw; thou shouldst treat it afterwards with honey every day, until he recovers.

## Case Forty-Four:

### **Instructions concerning a break in the ribs of his breast.**

- Examination: If thou examinest a man having a break in the ribs of his breast, over which a wound has been inflicted; (and) thou findest that the ribs of breast crepitate under thy fingers.
- Diagnosis: Thou shouldst say concerning him: "One having a break in the ribs of his breast, over which a wound has been inflicted. An ailment not to be treated."

# RIB FRACTURES

- PEOPLE DIE FROM RIB FRACTURES
- **PEOPLE DIE FROM RIB FRACTURES**
- **PEOPLE DIE FROM RIB FRACTURES**



Fig 2

[Rib Fractures in the Elderly](#)

Bulger, Eileen M.; Arneson, Matthew A.;  
Mock, Charles N.; Jurkovich, Gregory J.  
The Journal of Trauma. 48(6):1040-1047,  
June 2000.  
doi:

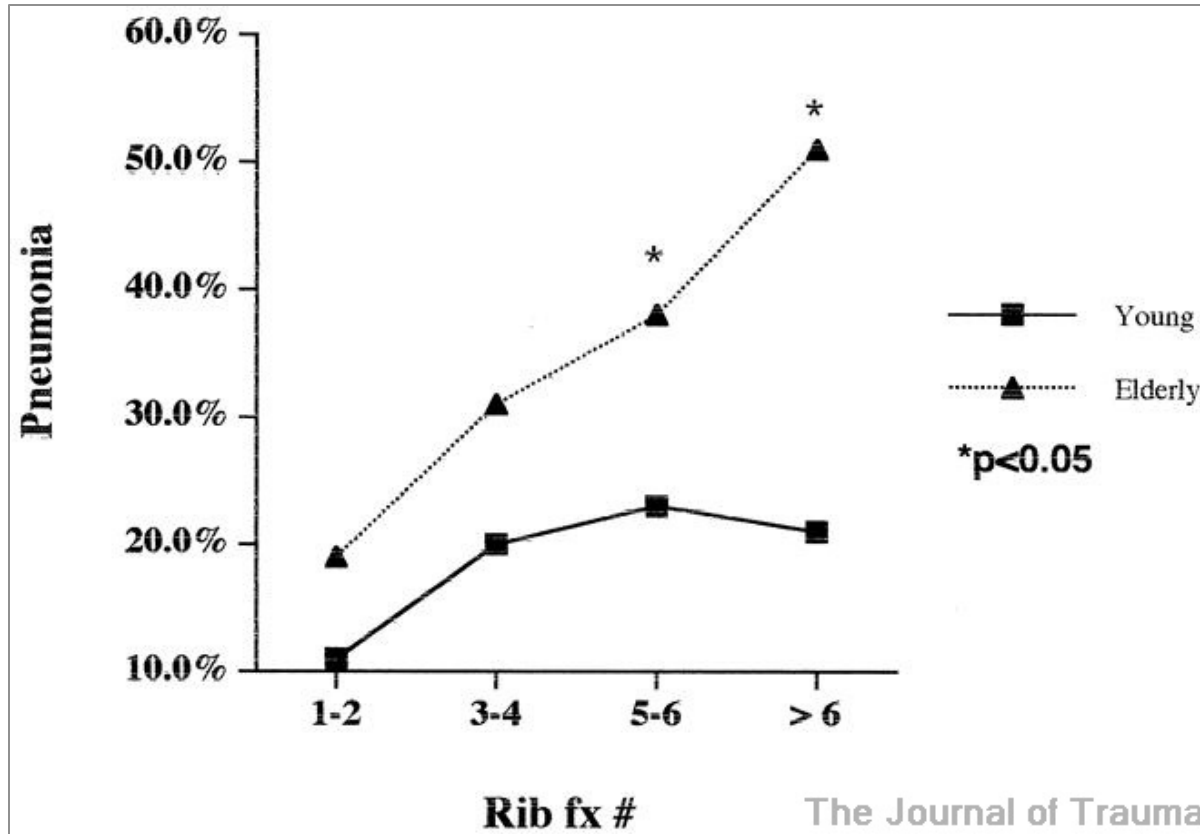


FIG 2. Relationship between pneumonia and number of rib fractures. Increasing pneumonia rates as the number of rib fractures increased were most notable for the elderly group.

Fig 3

[Rib Fractures in the Elderly](#)

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Mock, Charles N.; Jurkovich, Gregory J.

The Journal of Trauma. 48(6):1040-1047,  
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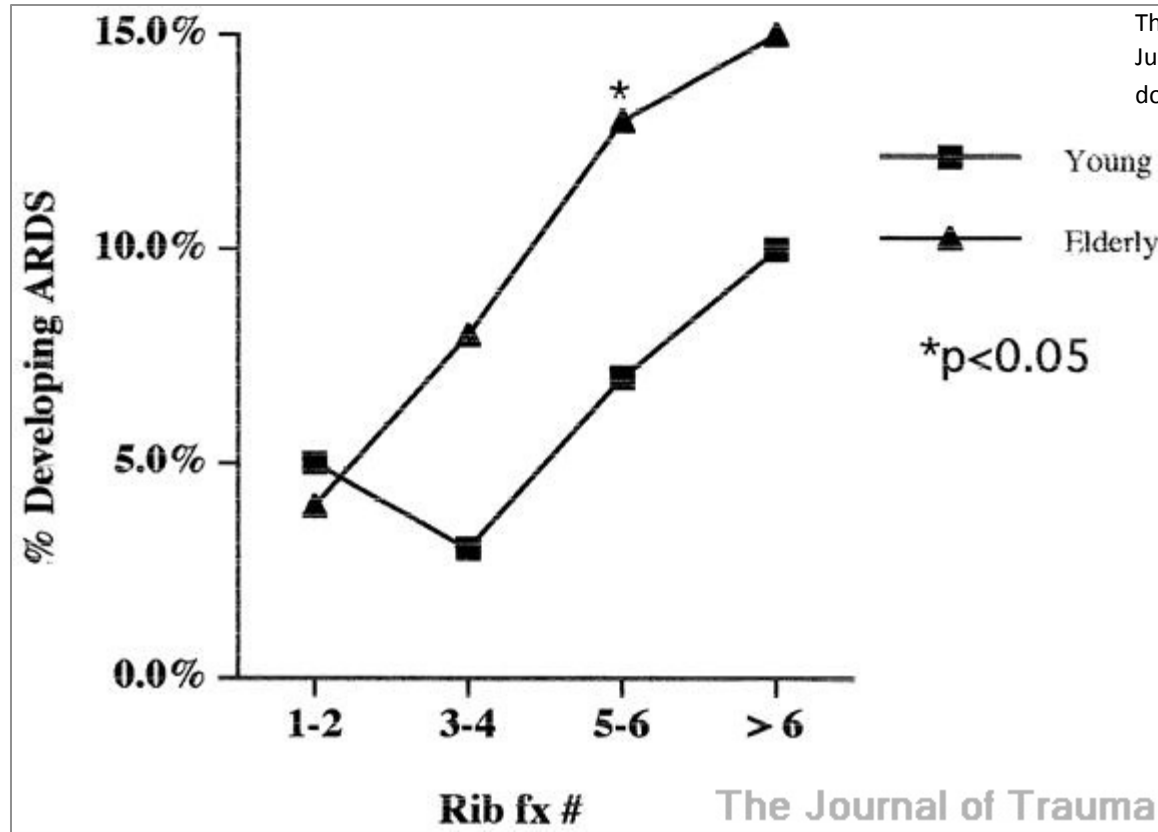


FIG 3. Relationship between development of ARDS and number of rib fractures.

Fig 4

[Rib Fractures in the Elderly](#)

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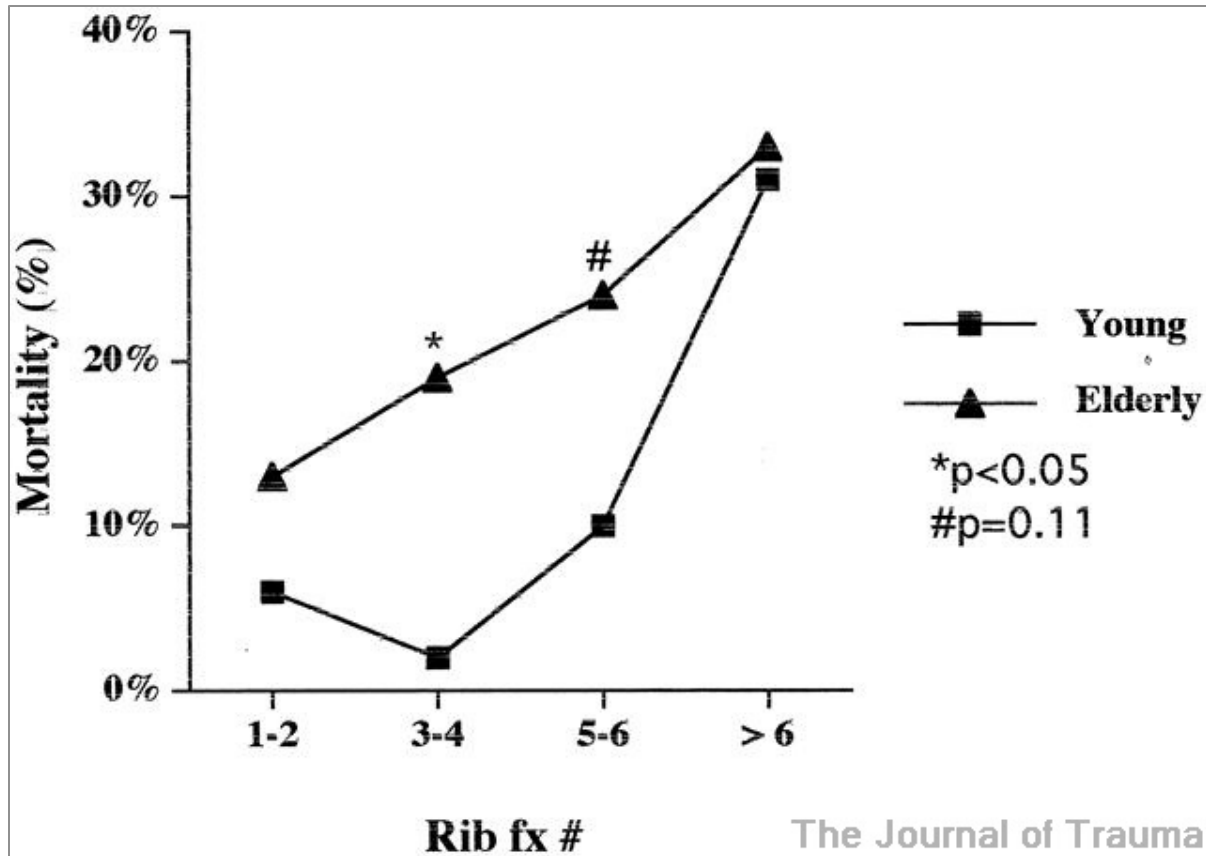
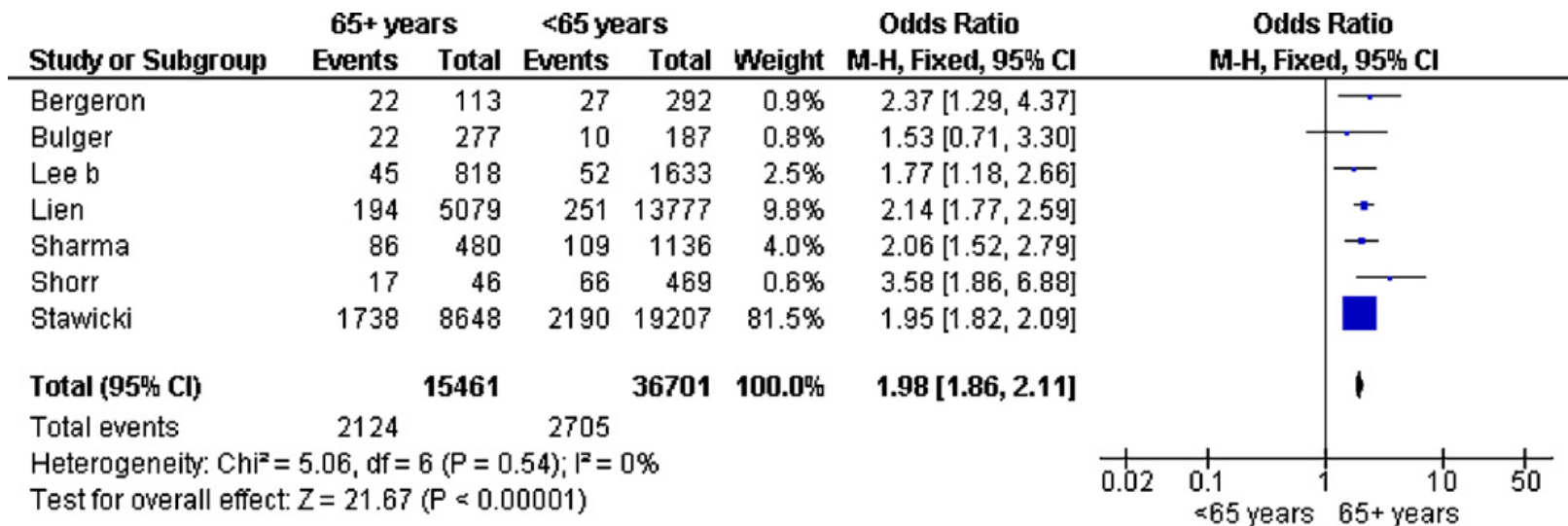


FIG 4. Relationship between mortality and number of rib fractures. Increasing number of rib fractures was associated with increased mortality in both groups with a nearly linear increase in the elderly group.

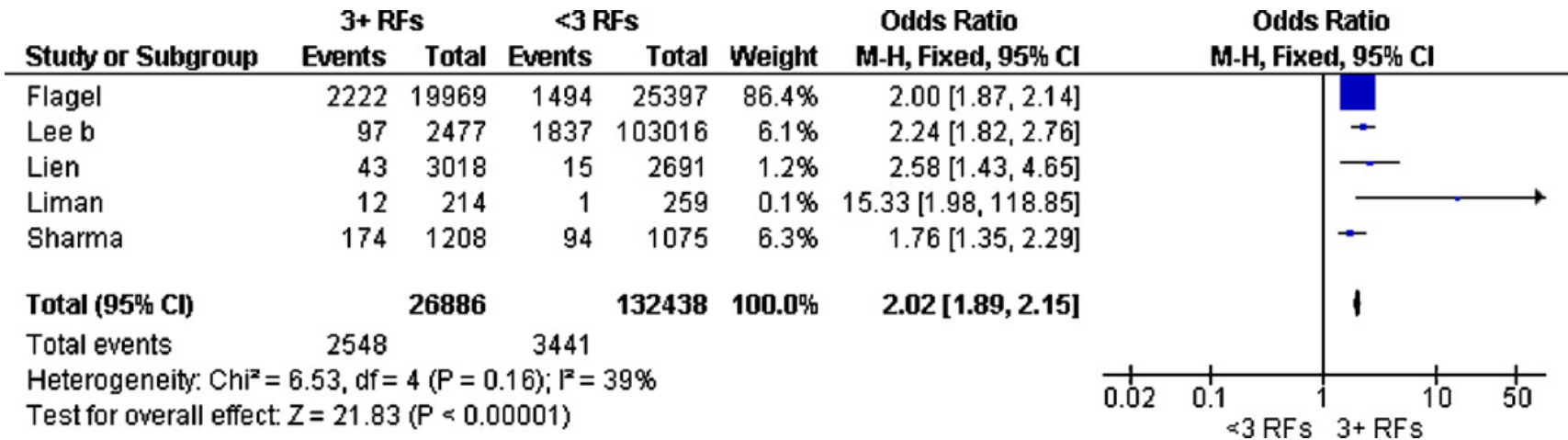
# Rib Fracture Mortality and Age

Injury 43 2012



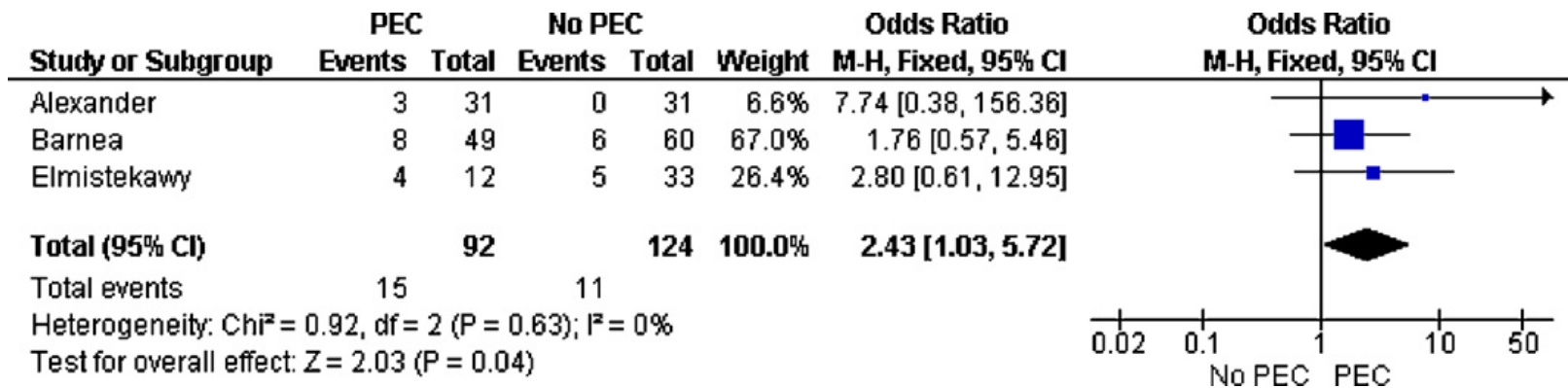
# Rib Fracture Mortality 3 or more RFs

Injury 43 2012



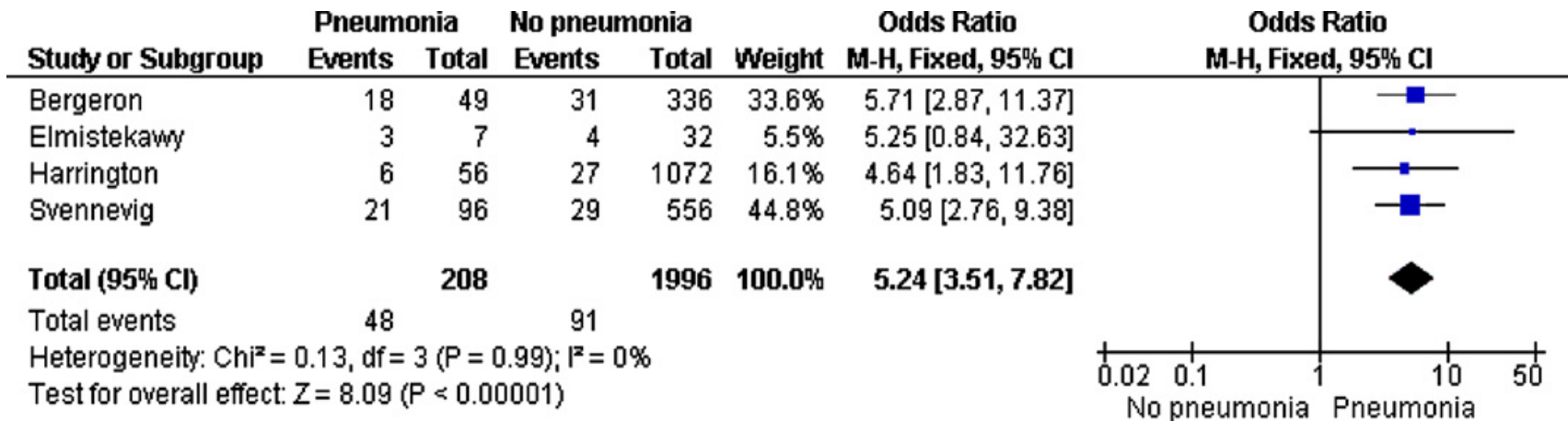
# Mortality with Preexisting condition

Injury 43 2012



# Mortality with Pneumonia

Injury 43 2012



# Treatment Rib Fractures

- **Rib Blocks** PNTX rate 8.5% per patient [J Trauma](#). 2001 Sep;51(3):536-9.
- **Epidural analgesia improves outcome after multiple rib fractures.** [Surgery](#). 2004 Aug;136(2):426-30
- **Extrapleural bupivacaine for amelioration of multiple rib fracture pain.** [J Trauma](#). 1995 Jan;38(1):22-7



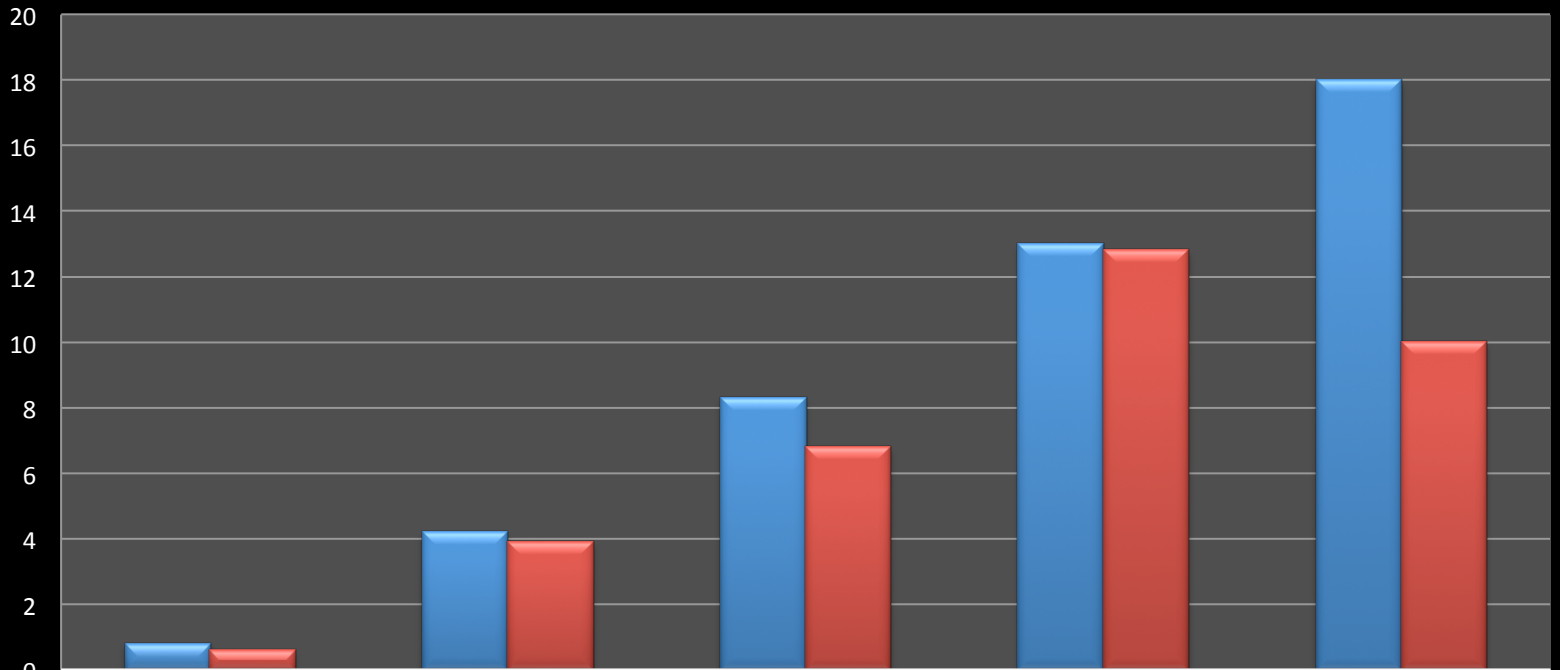
# Genesys Trauma Services

	2009-2010	<b>2009-2010 Epidural</b>	2011-2012	<b>2011-2012 ON-Q</b>
Vent Days	0.7	<b>0.8</b>	0.2	<b>0.6</b>
ICU Days	2.6	<b>4.2</b>	1.8	<b>3.9</b>
Hospital Days	6.3	<b>8.3</b>	4.5	<b>6.8</b>
Average ISS	11.8	<b>13</b>	11	<b>12.8</b>
Average Age	64	<b>64</b>	66	<b>70</b>
Pneumonia Rate	3%	<b>18%</b>	2%	<b>10%</b>
Total Patients	180	<b>33</b>	214	<b>46</b>
ICU Admissions	101		117	

\* Above Data Reflects All Trauma Patients With 2 Or More Rib Fractures

# Genesys Trauma Services

## EPIDURAL V. ON-Q



	VENT DAYS	ICU DAYS	HOSPITAL DAYS	ISS	PNEUMONIA RATE (IN PERCENT)
EPIDURAL	0.8	4.2	8.3	13	18
ON-Q	0.6	3.9	6.8	12.8	10