Paediatric Trauma
-Penetrating Injuries

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Injury 2006 Auckland 3 August
Management II

Hemodynamically stable

- Acute haemorrhage
- Pleural space collection
- Suspected intrathoracic organ injury
- Suspected diaphragmatic injury
- Recurrent pneumothorax
- Intrathoracic FB

- Major vascular injury
  - Thoracotomy

VATS

Conclusions

- Stab injury to the paediatric spinal cord is rare
- ABC approach
- MRI of spine
- Indications for operation remain controversial
- Spinal injury care starts at time of injury
- A hopeful outlook is appropriate as a degree of recovery will occur in most patients
SUMMARY
PENETRATING TRAUMA (Paediatric)

- Most are single system and simple
  - Feet/eye: needles/sticks

- Occasionally life threatening
  - Need a rapid response gear – code crimson

- Small subset of penetrating trauma are very tricky
  - Few signs: anatomy means thin external tissues
  - History, History, Examination; History in notes, Re-examination
SUMMARY

PENETRATING TRAUMA (Paediatric)

Documented history and examination

Tests
- MRI for spinal

Explore any penetrating injury unless the consultant has personally managed 10 similar cases
- Glass, knives: the internal injury is always much greater than appears from the surface lesion
PENETRATING TRAUMA
(Paediatric)

AIMS
1. Detail the dimension of the problem
2. Describe injuries and treatment
3. Discuss the mental approach
PENETRATING TRAUMA (Paediatric)

Definition: to pierce – sharp
- Not motor mowers or machinery
- Not dog bites

Data
- Jan 1988 to Dec 2000 (13 years)
  - 34 cases {2.6 per year}  
- Jan 2001 to June 2005 (5.5 years)
  - 125 cases {22.7 per year}
    - More complete data collection
    - Increased services (eye)
    - Peripheral Hospitals refer increasing numbers of minor cases
Trauma care
Model of Philosophical approach

When you enter the ED department to assess and then provide definitive care to a trauma patient do you feel like:

1. an Airline pilot: walking to plane with protocol checklist
2. a Cricketer strolling to the batting crease

It’s not airlines it’s cricket
It's not airlines it's cricket
Penetrating injury - CHW data
Jan 2001- June 2006 (5.5 years)

- 125 patients (1.2% of admission)
- 4 ISS>15 (2.63% of serious injuries)
- 1 death
- 65% male

Even distribution throughout childhood
- 0-4y: 46; 5-10y: 44; 11-16y: 35

Location
- Home 83%, Park 4%, School 3%

Assailant
- Self 80%, Known 12%, Stranger 7%
Penetrating injury - CHW data
Jan 2001- June 2006 (5.5 years)

- Penetrating Objects
  - Needles/Pins 38
  - Wood/Stick 16
  - Sharp Metal 15
  - Knife 10
    - Stab 5
    - Accidental 5
  - Glass/ceramic 7
  - Gun 5
    - Firearm 1
    - Air/slug gun 2
    - Nail gun 1
    - Spear gun 1
  - Pencil/pen 4
  - Umbrella 3
Penetrating injury - CHW data
Jan 2001 - June 2006 (5.5 years)

Injury type (n = 114)
- Foot 38
- Eye 34
- Hand 9
- Leg 8
- Mouth 6
- Thorax 5
- Perineal 3
Management I

Assessment & resuscitation

Tube thoracostomy

Persistent drainage
- Hemodynamically unstable
  - Thoracotomy

Hemodynamically stable
- No major vascular injury
  - VATS*
- Major vascular injury
  - Thoracotomy

Non persistent drainage
- Observation

*VATS: Video Assisted Thoracic Surgery