Pediatric Trauma:
Dell Children’s
Role in the Community

Level 1 Pediatric Trauma Center

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Burden of Pediatric Trauma

- The injury **burden on children is far greater** than for adults
- There is a **substantial need** for a pediatric trauma center in Central Texas
- It takes **many resources** to provide comprehensive care to pediatric trauma patients
- The **Level 1 Trauma Center** at Dell Children’s Medical Center is a rare community commodity
The Injury Burden

- 22 million children seek medical care for injuries yearly
- 22,000 die annually
- Traumatic injury is the most common cause of childhood mortality from ages 1 to 14 years
Nationwide, traumatic injury kills more people between the ages of 1 & 44 than any other disease or illness
**Mechanisms of Injury**

- Most common pediatric injuries – car crashes and falls.

- Highest pediatric mortality – car crashes and homicide (child abuse).

- Over 50% of pediatric injuries involve head injuries.
Most common pediatric **injuries** – car crashes and falls

Highest pediatric **mortality** – car crashes and homicide (child abuse)

Over 50% of pediatric injuries involve head injuries
Why a Level I Pediatric Trauma Center in Central Texas?

- Injured Patients Fare Better at Designated Trauma Centers
  - Care at a Trauma Center lowers the risk of death by 25%
  - compared to non-Trauma Centers
  - Pediatric Trauma Centers
- Pediatric trauma patients treated in pediatric trauma centers had a lower mortality, lengths of stay and hospital charges
- Mortality rates were 0.9% in pediatric hospitals; 1.4% in adult hospitals and 2.4% in children’s units within adult hospitals
- Halo Effect

BLUNT CEREBROVASCULAR INJURY IN CHILDREN: UNDER REPORTED OR UNDER RECOGNIZED?

Level 1 ACS Verified Pediatric Trauma Centers
Pediatric Population - Texas

- 25 million people
- 27.6% are children under 18 years (6.9 million)
- Central Texas – 1.7 million people
- Central Texas – approximately 469,000 children
- DCMC has 85% of the market for children <18 years
The Market

- DCMC receives 85% of the pediatric trauma patients in Central Texas
- 1,400 pediatric trauma evaluations per year by the service
- 12,000 trauma patients visit the ED per year
- 74,000 ED patient visits
The Trauma Service at Dell Children’s

- July 2007 – DCMC opened new facility and injured children <15 years were accepted

- 144 licensed beds
  - 44 ER
  - 24 PICU
  - 9 Surgical suites
  - 18 PACU
  - 26 NICU
## Patient Demographics DATA

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
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</thead>
<tbody>
<tr>
<td>Trauma Activations</td>
<td>284</td>
</tr>
<tr>
<td>Blunt</td>
<td>88%</td>
</tr>
<tr>
<td>Penetrating</td>
<td>9%</td>
</tr>
<tr>
<td>Burn</td>
<td>3%</td>
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<tr>
<td>Transfer Out</td>
<td>21</td>
</tr>
<tr>
<td>Mortality Rate</td>
<td>1%</td>
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<tr>
<td>Total Trauma Volume</td>
<td>1407</td>
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<tr>
<td>Transfers in From OSH</td>
<td>40%</td>
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</table>
Trauma Admissions to Dell Children’s Medical Center

- 0 - 1 yr: 16%
- 1 yr: 3%
- 2 - 4 yrs: 23%
- 5 - 7 yrs: 26%
- 8 - 10 yrs: 18%
- 11 - 13 yrs: 14%
- 14 yrs: 3%
Trauma-Related Pediatric Deaths

- MVC: 41%
- Child Abuse: 21%
- MPC: 14%
- Bike: 6%
- GSW: 6%
- ATV/RV: 6%
Why do we need a Level 1 Pediatric Trauma Center?
Injured Patients Fare Better at Designated Trauma Centers

- Care at a Trauma Center lowers the risk of death by 25% compared to non-Trauma Centers

- Pediatric Trauma Centers
  - Pediatric trauma patients treated in pediatric trauma centers had a lower mortality, lengths of stay and hospital charges
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Increased Throughput

- Time required for definitive treatment of a trauma patient decreases and survival increases
  - Pediatrics 1999 Jan; 103(1):20-4  Salt Lake

- Time from ED to Radiology, OR, ICU and Floor all decreased after trauma verification

- Nursing documentation in ED improved after verification
Level 1 Pediatric Trauma Centers

- Optimal *clinical care* to improve pediatric patient outcomes

- **Education** to care providers and community

- **Research** to address best practice and to improve patient outcomes

- **Injury Prevention** programs focused on pediatric issues
The Trauma Service at Dell Children’s

- 9 Pediatric Surgeons
- 1 Program Director
- 1 Trauma Program Manager
- 4 Nurse Practitioners
- 2 Trauma Nurse Coordinators
- 2 Registrars
- 1 Social Worker
- 3 Injury Prev. Coordinators
- 2 PhD Research Scientists
- 2 Research Coordinators
- 1 Grants Administrator
- 1 Department Assistants
THANK YOU!