Safety Profile of Children in an Enclosure Bed  
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Introduction
- Children with cognitive impairment often require hospitalization.
- The safety of the child and nurse can be impacted by cognitive impairment and behavioral manifestations, including:
  › Motor agitation
  › Physical outbursts
  › Wandering
  › Confusion
  › Fall risk
- Multiple approaches to managing behavior:
  › Behavior program
  › Chemical restraint
  › Physical restraint
- One approach to ensuring safety while managing behavior has been the enclosure bed

Aims
- Identify children utilizing an enclosure bed in the inpatient setting including:
  › Age
  › Length of stay
  › Cognitive impairment, and
  › Use of behavioral medications
- Examine safety issues related to a child being cared for in an enclosure bed

Methods
- Retrospective descriptive chart review
- 154 patient charts with 207 patient encounters

Results
Three groups of children emerged:

![Enclosure Bed Groupings](image)

<table>
<thead>
<tr>
<th>Population Description (*p&lt;.05)</th>
<th>No Impairment (n=16)</th>
<th>New Impairment (n=27)</th>
<th>Congenital Impairment (n=165)</th>
<th>Sample Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>81%</td>
<td>71%</td>
<td>71%</td>
<td>72%</td>
</tr>
<tr>
<td>Age 6 yrs*</td>
<td>12 yrs*</td>
<td>11 yrs</td>
<td>11 yrs</td>
<td>Children without developmental impairment (none) were significantly younger.</td>
</tr>
<tr>
<td>Length of Stay</td>
<td>4 days</td>
<td>32 days*</td>
<td>10 days</td>
<td>12 days</td>
</tr>
<tr>
<td>Length of Bed Use</td>
<td>4 days</td>
<td>16 days*</td>
<td>5 days</td>
<td>6 days</td>
</tr>
<tr>
<td>Fall Risk</td>
<td>83%</td>
<td>86%</td>
<td>75%</td>
<td>77%</td>
</tr>
<tr>
<td>Falls 0%</td>
<td>18%*</td>
<td>2%</td>
<td>4%</td>
<td>Children with brain injury (new) had more falls than the other groups of children.</td>
</tr>
<tr>
<td>Injuries 0%</td>
<td>4%</td>
<td>1%</td>
<td>1%</td>
<td>There were very few injuries across all groups.</td>
</tr>
<tr>
<td>Skin Breakdown 0%</td>
<td>25%*</td>
<td>2%</td>
<td>5%</td>
<td>Children with brain injury (new) had more skin breakdown potentially due to more ongoing motor agitation than intermittent agitation.</td>
</tr>
<tr>
<td>Restraints 17%</td>
<td>39%</td>
<td>23%</td>
<td>25%</td>
<td>There was no difference between the three groups of children regarding restraints.</td>
</tr>
<tr>
<td>Sitter 22%</td>
<td>36%</td>
<td>27%</td>
<td>27%</td>
<td>No difference between groups of children regarding sitter usage.</td>
</tr>
<tr>
<td>Medications 22%</td>
<td>71%*</td>
<td>32%</td>
<td>37%</td>
<td>Children with brain injury (new) required more medication related to behavior management.</td>
</tr>
</tbody>
</table>

Nursing progress notes were examined to understand the patient behavior requiring use of the enclosure bed.
- “fall risk and behavior challenge”
- “concern for injury of self”
- “restless and agitated”
- “confused and climbed out of bed”
- “fighting and screaming”
- “dad requesting the enclosure bed”
- “disrobing and urinating in public”
- “seizures”
- “parent requested enclosure bed”

Conclusions
- The enclosure bed can be used as a safety measure for:
  › Intermediate intervention to prevent falls
  › Manage wandering behavior in the pediatric population
  › Intervention to manage aggressive behavior
- Children with new developmental disability (e.g. traumatic brain injury)
  › Utilized bed for longest period of time
  › Experienced the most falls
  › Greater rate of skin breakdown
  › Received the most medication for behavior
- Children without developmental impairment
  › were younger and
  › may not require the enclosure bed if:
    1. Parents were present or
    2. Alternative monitoring methods available
- Children with congenital developmental impairment used the enclosure bed during hospitalization to maintain safety. This may have resulted in:
  › Less falls and less medication usage
  › A feeling of a safe environment in this population

Implications
- Findings led to a review of safety issues when the enclosure bed is used, and identification of appropriate indications for use when caring for children with behavioral challenges in the non-psychiatric inpatient setting.
- To maintain safety, the enclosure bed is a reasonable intermediate intervention for children with fall risk and cognitive impairment.