An Analysis of Concussion Management within the Lehigh Valley Health Network Emergency and Pediatric Departments: Needs Assessment and Provider Based Educational Handout

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An Analysis of Concussion Management within the Lehigh Valley Health Network Emergency and Pediatric Departments: Needs Assessment and Provider Based Educational Handout

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**Background**

- 1.1-1.9 million sports and recreation related concussions occur annually in children less than or equal to 18 years of age
- Adolescents can take longer to recover from concussions than adults
- Differences exist in management of pediatric concussions between Pediatric and Emergency Medicine Providers
- Education can lead to an increase in balance assessments, standardized diagnosis and management

**Problem Statement**

To assess how Emergency Medicine and Pediatric Providers manage pediatric concussions and use that assessment to create an evidence based educational handout to aid in diagnosis and recommendations

**Methods**

- A post-educational, pilot survey was created based on a lecture given to ED providers
- A needs assessment survey was created and distributed to Pediatric and Emergency Physicians
- Survey was adapted from Zonfrillo et al 2012 with a focus on vestibular testing and follow up practices regarding the LVHN Concussion Clinic
- Two-sample t-tests were performed using the mean response choice between the two groups for each question
- An educational handout was created based on the responses from the surveys and an extensive literature search

**Results**

<table>
<thead>
<tr>
<th>Self Identification</th>
<th>Pediatrics</th>
<th>Emergency Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending/Physician</td>
<td>14</td>
<td>24</td>
</tr>
<tr>
<td>Resident</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Did Not Decline</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 1: Self-identified role of those who responded to the survey from each group. Of note, two attendings of the Emergency Medicine group self-identified as Pediatric Emergency Physicians.

**Conclusions**

- Similarities in comfort with vestibular exam, return to play, and a call for diagnostic algorithms and guidelines for management
- Differences in recommendations for rest and follow up.
- Educational handout focuses on vestibular exam, return to play recommendations, return to school, and utilization of the LVHN Concussion Clinic.
- Future work includes implementation of a diagnostic algorithm and a multimodal educational program.
- Explored SELECT principles of health systems, leadership, and values-based care

**Educational Handout**

**Recommendations and Guidelines**

1) No same day return to play if a concussion is suspected
2) Strict limits with NOT indicated
   - Prolonged rest may be detrimental
   - 24-48 hours is recommended
3) Although typical recovery is 7-14 days, can be up to 1 month in children, factors such as age, female sex, and comorbid conditions such as depression, anxiety, and migraine can be associated with longer recovery
4) Concussion is treatable and a multi-disciplinary approach to treatment includes vestibular therapy and cognitive rehabilitation
5) Students need accommodations for school and return to play is not recommended until full return to school
   - Although sensitivity and specificity are not known, balance, dizziness, and fatigue are the most common symptoms among children
7) Loss of consciousness is NOT needed for diagnosis, and not always a predictor of severity
8) Follow up at the LVHN Concussion Clinic is generally within a couple of days