“Bows to Toes”
Cheerleading and Rehab

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Do I have your attention yet? 😊
OBJECTIVES

- Understand the physical demands required for cheerleading
- Understand epidemiology of injury within the sport
- Take home treatment strategies to return these athletes to full level of competition
What is Cheerleading?

Gymnastics

Dance

Cirque du Soleil
The Age Old Debate…
Is Cheerleading a Sport?

- 29 states acknowledge high school Cheerleading as a sport however CT and the NCAA do NOT
  [National Federation of State High School Associations]

  - So why do we care?
    - “Activities” are not regulated to the same degree sports are
      - Cheerleading is year-round - no limitations on hours of practice or season length
      - “Qualified” coaches or adequate facilities are not required
    - Steady growth in number of participants; ~3.6 million across the US with 96% of them being female
    - Increase in physical demands of the sport to stay competitive
      - Incorporation of more complex skills including tumbling, pyramids of 15 ft or higher, and partner stunts with lifting/tossing/catching (inversion at collegiate level)

  - All of these factors are contributing to an increase in injury rates within the cheer community
Stats and Epidemiology

- Steady rise in ER visits since
  - Up 400% since 1980 [Shields et al]

- Most Common injuries: [Shields et al]
  - Sprains/strains = 53%
  - Abrasions/contusions/hematomas = 13-18%
  - Fractures/dislocations = 10-16%
  - Concussion/head injuries = 3.5-4%

  - Although the overall incidence rate of injury is lower compared to other high school girls sports, the risk of direct catastrophic injury is considerably higher accounting for 65% of these injuries at a high school level and 70% at a college level
What’s With all the Boring Stats??

- These athletes are participating in a physically demanding, high contact "activity" causing them to sustain the same injuries our "sport" participants are.

- It is important for us as clinicians to understand their physical demands so we can effectively treat them and get them back to competition.
  - Greatest difference from traditional sports in rehab process is “return to sport” component.
    - Barbado et al concluded “sport-specific training induces specific trunk stability adaptations, which are not revealed through non-specific tests.”
Do we need a quick picture break yet?
<table>
<thead>
<tr>
<th>Role</th>
<th>Physical Demands</th>
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<tbody>
<tr>
<td>Topper/Flier</td>
<td>• Excellent Core Stability&lt;br&gt;• Extreme Flexibility&lt;br&gt;• Sustained dynamic SLS&lt;br&gt;• Vertical height</td>
</tr>
<tr>
<td>Base/Back Spot</td>
<td>• Excellent Core Stability&lt;br&gt;• Heavy OH lifting&lt;br&gt;• Dynamic lift/carry&lt;br&gt;• Floor to OH lift&lt;br&gt;• Toss and Catch</td>
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<tr>
<td>Jumper/Tumbler</td>
<td>• Excellent Core Stability&lt;br&gt;• Vertical Height&lt;br&gt;• Extreme Flexibility&lt;br&gt;• Ability to invert&lt;br&gt;• Absorb high impacts (UE and LE)</td>
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Behm et al concluded that for athletes, ground-based free-weight exercises with moderate levels of instability should form the foundation of exercises to train the core musculature.
Laudner et al found cheerleaders who participated in a 6 week shoulder strength and conditioning program developed less GH laxity than control group. This may be beneficial in preventing shoulder injuries.
“I lift things up and put them down”
More UE Ideas
Ambegaonkar et al found that rather than using isolated core endurance-centric training, clinicians may encourage “dancers” to use training programs that incorporate multiple muscle to improve balance and reduce injury.
Sheppard et al found assisted jumping may promote the leg extensor musculature to undergo a more rapid rate of shortening, and chronic exposure appears to improve jumping ability.
In Conclusion…

- Whether or not you consider cheering a sport, appreciate the athleticism required to complete task demands.
- Be creative and think “outside of the box” for these athletes. Cookie cutter exercises won’t properly prepare them for return to sport.
- And finally… Be Aggressive, B-E Aggressive, B-E-A-G-G-R-E-S-S-I-V-E!!!

Behm DG, Drinkwater EJ, Willardson JM, Cowley PM. The use of instability to train the core musculature. Appl Physiol Nutr Metab. 2010. 35(1): 91-108

Barbado D, Barbado LC, Elvira JL, Dieen JH, Vera-García FJ. Sports-related testing protocols are required to reveal trunk stability adaptations in high-level athletes. Gait Posture. 2016. 49; 90-96


National Federation of State High School Associations. Available at: www.nfhs.org/content.aspx?id=3282


THANK YOU!!