A Novel Sports Medicine Clinic for Young Athletes: Focus on Injury Prevention

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Outline

• A “how-to” guide for adoption of an integrated sports medicine clinic
  – Rationale for increase in clinical services
  – Nuts and bolts of implementation
  – Research integration
  – Injury prevention implications
  – Vision for the future
Rationale for Services
- Underserved Athletes

• Para-athletes remain an underserved population

• Causes are multifactorial
  – Less connected at the local level
  – Incorrectly seen as rehab patients, not sports medicine patients
  – Less likely to complain (Derman, Sports Medicine 2011)

(Courtesy Dr. Anjali Forber-Pratt)
Rationale for Services
- Injury Prevalence

• Injuries are prevalent

• Paralympic Injury and Illness Surveillance (Willick BJSM 2013)
  – Top three body regions: shoulder (17.7%), wrist/hand (11.4%), elbow (8.8%)
  – Pattern of injury onset: acute traumatic (51.5%), chronic overuse (31.8%), acute on chronic (16.7%)

• Very few studies tracking injuries in community athletes
Rationale for Services  
- Clinical Need

• Meeting the needs of community-based athletes
• Injury prevention key
  – Sustained performance
  – Quality of life
• Direct conduit for clinical referrals
  – Large para-sport program (n = 900)
• Feeds into integrated longitudinal research over time
  – Guides further training/treatment paradigms
Injury Implications

• **Athletes who utilize their shoulders for mobility AND sport participation require a unique approach**
  – Heightened focus on conservative management and injury prevention

• **Functional implications of shoulder arthroscopy:**

<table>
<thead>
<tr>
<th></th>
<th>Before Surgery</th>
<th>After Surgery (for ~ 6 months)</th>
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</thead>
<tbody>
<tr>
<td>Manual wheelchair</td>
<td></td>
<td>Power wheelchair</td>
</tr>
<tr>
<td>Independent in transfers</td>
<td></td>
<td>Requires full assist</td>
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<tr>
<td>Independent with ADLs</td>
<td></td>
<td>Requires assist for dressing/bathing</td>
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<tr>
<td>Traveling, working</td>
<td></td>
<td>Limited to home-based activities</td>
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</tbody>
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Clinical Approach

- Multidisciplinary assessment to ensure integration
  - Medical doctor
  - Physical therapy (2 per clinic)
  - Sports equipment expert
- Enables evaluation of the athlete/equipment interface
**Clinic Model**

- **Initial Flow**
  - Monthly evening sessions (convenient for athletes)
  - Athletes pre-screened for appropriate referral
    - Already engaged in sport, presence of sports injury/illness
    - Initial focus on handcycling and wheelchair racing
    - Referred by para-sport program staff
  - If referral appropriate, patient scheduled and insurance verified
Clinic Model

- **Athlete Evaluation**
  - Appointment 1.5 hours in length
    - 30 minutes – combined MD/PT evaluation
    - 60 minutes – combined PT/sports equipment evaluation
    - PT provides continuity
  - At end of visit, team huddle to develop treatment plan
Clinic Model

• Follow-Up
  – Athlete follow-up in 1-2 months (individualized)
    • Sooner if intervention required (example – US guided injection)
  – Ensuring equipment modifications/technique sustained
  – Feedback from athlete on symptoms and performance
  – Follow-up communication with rehabilitation team if applicable
    • Example – SCI, cerebral palsy, stroke
Research/Education Integration

- **Outcomes management**
  - All athletes complete baseline outcomes measures
    - Obtained at baseline at each follow-up
    - Examples – Visual Analog Scale, SF-12, DASH, WUSPI
- **Residents in training integrated into clinic**
  - Ensuring adequate training of the next generation of clinicians
Future Growth

- Evolving into a broader mandate
  - Sports performance assessment with VO2/lactate testing
  - Nutritional assessment and counseling
  - Expanding to other sports
  - Integration of sports equipment vendors
Summary and Conclusions

- Early symptom reduction is critical for young athletes
  - Sustained performance
  - Quality of life

- Integration of clinical services enables evaluation of the athlete/equipment interface
  - Research integration
  - Training integration
Thank You

- Colleagues participating in this sports medicine session
- Colleagues – International Paralympic Committee
- Leadership at Spaulding Rehabilitation Hospital/Harvard Medical School, Department of Physical Medicine and Rehabilitation
- All of the athletes!