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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



(Courtesy Dr. Anjali Forber-Pratt)

- **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)

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:

Before Surgery	After Surgery (for ~ 6 months)
Manual wheelchair	Power wheelchair
Independent in transfers	Requires full assist
Independent with ADLs	Requires assist for dressing/bathing
Traveling, working	Limited to home-based activities



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 !





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