Preventing Sports Injuries in Teenage Girls

Case for Action:

- Non-contact ACL injuries in high school girls are reported to be 6 - 9 times higher than males
- Studies show the majority of non-contact ACL injuries in female athletes are the result of a momentary loss of motor control resulting in forces in the knee which exceed the mechanical properties of the ACL
- Evidence-based research has studied the effects of improving flexibility, strength, and balance in high school girls and proven that injuries can be prevented through certain types of exercise programs

Description:

- Anterior Cruciate Ligament (ACL) tear prevention program in Monroe County high schools since 2004, expanding to Section V in 2009-2011.
- ACL Injury Prevention program aimed at the sports where ACL tears are most prevalent; Soccer, Basketball and Volleyball
- Exercise programs are easily assimilated into current athletic practices
- Recommend PEP (Prevent Injury, Enhance Performance) program developed by the Santa Monica Orthopedic and Sports Medicine Research Foundation
    - 20-minute sessions replace typical sports practice warm-up
    - 2-3 times per week
    - No special athletic equipment
    - Instruction in athletic posture provided by coaches who have been trained on technique and form by physical therapists and athletic trainers
- Currently expanding to all willing high schools in Section V.

Partners:

Strong Memorial Hospital
Department of Orthopaedics & Rehabilitation
University Sports Medicine
Section V High Schools and Coaches
Greater Rochester Health Foundation

Outcomes:

Virtually all studies performed on the effects of exercise programs have shown significant reductions in the frequency of ACL tears. The PEP program, studied broadly, demonstrated an effectiveness rate in reducing the frequency of ACL tears as high as 88%. Previous results of the University Sports Medicine program demonstrated:

1. The study contained enough athletes and sufficiently powered.
2. There was no significant difference between contact and noncontact injuries.
3. There was a significant difference in non-contact injury rates between soccer as compared to volleyball and basketball with more injuries occurring in soccer.
4. The injury rate observed in the University Study was comparable, neither better nor worse than the injury rate reported by Gilchrist et. al (Gilchrist J, Mandelbaurm BR, Melancon H, et al. A randomized controlled trial to prevent noncontact anterior cruciate ligament injury in female collegiate soccer players. *Am J. Sports Med*. 2008; 36: 1476-1483)

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