Rehabilitation from Double Sports Hernia Surgery

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Background

- **Sports Hernia**
  - "an occult hernia caused by weakness or tear of the posterior inguinal wall, without a clinically recognizable hernia, that leads to a condition of chronic groin pain".
- **Causes**
  - "athletic activities that involve cutting, pivoting, kicking and sharp turns, such as those that occur during soccer, ice hockey or football".
  - Pelvic imbalances that lead to shearing forces across the pubic symphysis.
- **Incidence in athletics**
  - Affects about 5% of the athletic population.
  - This number is growing as we get better at diagnosing this injury.
- **Treatment Recommendations**
  - Non-operative should be tried first but if that is unsuccessful after 6-8 weeks, operative treatment should be explored.

Case Background

- Occurred over Fall 2005, Spring 2006 and Summer 2006
- 3 separate injury events
  - Event 1: Training Camp in August 2005
  - Event 2: Late Season, October 2005
  - Event 3: May 2006

Injury Event 1

- **Subjective History**
  - 18 y.o. true freshman running back
  - No PMHx of hip or groin pain on either side
  - MOE: reactive cut
  - Localized p! to lower abdominal region at midline
  - p! w/ raising from seated position, curls and rotation
  - PQ: 6/10
  - Decreased trunk AROM
  - Decreased trunk strength
  - Mild “discomfort” w/ Valsalva

- **Objective Exam**
  - (-) tenderness at symphysis
  - (+) mild tenderness over rectus abdominus
  - No palpable hernia
  - Decreased trunk AROM
  - Decreased trunk strength

- **Differential Diagnosis**
  - Assessed as lower abdominal strain
  - Not referred to Team Physician

- **Plan**
  - Remove from practice
  - Treatment and rehab 2x a day for 45-60 minutes

- **Progression of Case**
  - Days 1-5: pain management only
  - Days 6-12: basic abdominal flexibility and strength as well as cardio
  - Day 14: resumes limited practice w/ limitations
  - Day 16: resumes light contact w/ limitations
  - Day 20: resumes full contact w/ limitations
  - Day 32: unrestricted and self discharges
Injury Event 1

- **Outcome**
  - Stated that he was pain free and functional when he returned to full practice
  - Only complaint was that he lacked “explosion”
    - Complaint eventually subsided

Event 2

- **Subjective History**
  - c/o “burning” pain
  - c/o p! and “instability” with cutting and change of direction
  - Localized to midline at pubic symphysis and ~2-3cm to the right of midline
  - Did not recall specific MOI this time

- **Objective Exam**
  - Mild swelling
  - Focally point tender over pubic symphysis
  - No palpable hernia
  - Full trunk AROM w/ slight discomfort
  - (+) SLR w/ resistance
  - (-) Valsalva

- **Differential Diagnosis**
  - Abdominal strain re-injury
  - Osteitis Pubis
  - Pubic Stress Fracture
  - Sports Hernia

- **Plan**
  - Referred for x-rays to r/o osteitis pubis
    - (-) x-ray
  - Shut down for remainder of season
  - Conservative treatment
    - Rest, pain management, core strengthening
    - 1x a day for 60 to 90 minutes

Event 2 (continued)

- **Progression of Case**
  - No improvement after 1 month of rest and core strengthening
  - Referred back to Team Physician
    - MRI ordered
  - Athlete goes home for winter break w/ HEP
  - Returns from winter break still in continuous p!
    - Bone Scan Ordered and resumes rehab with staff

- **Progression (continued)**
  - Participates in winter conditioning w/ team but is restricted
    - Still rehabbing and still having pain
  - Prior to Spring Practice athlete is still no better
    - Referred to General Surgeon to r/o Sports Hernia
  - Has RIH direct repair w/ Marlex mesh in April 2006
  - Begins post-op rehab program
    - 1 session/day for 60-90 minutes

Event 2

- **Outcome**
  - Does well with post op rehab program
  - @ 1 month post op, begins to have left sided pain similar to what he had on the right side
  - Was having no problems on repaired side
Event 3

- Occurs ~ 2 months post RIH direct repair
- c/o left sided inguinal pain that mimics previous right sided symptoms
- d/c rehab and is referred back to General Surgeon
  - Initial feeling is that this is related to rehab not another Sports Hernia
  - Recommends to keep rehabbing
- Pain worsens over the next month
- Referred back to General Surgeon
- Has LIH direct repair w/ Marlex mesh in June 2006

Event 3

- Outcome
  - Rehabs uneventfully
  - Misses the start of training camp
  - Returns to full practice by the end of August
  - Plays remainder of season with no problems
  - Finishes career with no other groin or hip related problems

Rehabilitation

- Specifics to this case
- What we do now

Rehabilitation

- First event
  - 2 phases
  - Focused solely on abdominals
- Second event
  - Pre-surgical period
  - Post-surgical period
- Third Event
  - Mimicked the post surgical program from Injury Event #2

First Event Rehab

- Initial Phase
  - Basic lower body stretching
  - Strengthening
    - Crunches, back extensions, supermans, twists, chops
  - Cardio
  - 3 sets of 10-12 reps
- Sport Specific Phase
  - Continued flexibility
  - Progressed strengthening
  - Cardio came from sport specific program
  - Done for time as opposed to sets and reps
Event 2
Pre-Surgical
- Phase 1 – Prior to winter break
  - Basic flexibility, strengthening and cardio
  - Less focus on abs, more on overall core
  - Added a pelvic tilt progression and multifidus progression
  - 3 sets of 10 to 12 reps
- Phase 2 – after winter break
  - Advanced exercises to make them tougher
  - Done for time as opposed to sets and reps
  - Cardio included change of direction

Event 2
Post-Surgical
- Designed to be 6 weeks long
- Flexibility
- Strengthening
  - Abdominal, Pelvic Tilt Progression, Multifidus Progression, Hip and Groin
- Cardio
  - Used Swim-Ex as soon as wounds were healed
  - Dry land progressed from bike to elliptical to treadmill to change of direction to sport specific running

Event 3
- Was only post surgical
- Mimicked the plan for Event 2

Towson University’s Current Rehab Program

Flexibility and Mobility
- Front Split
- Back Split
- Hamstring
- Butterfly
- Massage Stick
- Foam Roller

5 components
- Flexibility / Mobility
- Core Strengthening
- Hip and Groin Strengthening
- Cardio / Running Progression
- Sport and Position Specific Work
**Core Strengthening**

- Abdominal Strengthening
  - Crunches, Supermans, Aquaman, Oblique Crunches, Twists, Chops
- Pelvic Tilt Progression
- Multifidus Setting Progression
- Quadruped Progression
- Abdominal Isometric Program

**Hip and Groin Strengthening**

- Seated March in Place
- Ball Squeeze
- Sartorius / Gracilis Strengthening
- Weighted Butterfly
- 4 direction hip
- Lunges

**Cardio / Running Progression**

- UBE
- Pool / Swim-Ex
- Bike
- Elliptical
- Straight Ahead Running (treadmill / flat ground)

**Sport / Position Specific**

- Should focus on movements the athlete will need once they return to activity
  - Cutting, change of direction, jumping etc

**Notes**

- Not every patient gets EVERY exercise
  - Based off of a thorough evaluation of deficits / imbalances
- Can be done for sets and reps OR for time
- Criteria for moving to next step in progression
  - Doing it right with proper form
  - Pain free during, after and next day

**Take Home Points**
Injury is easy to dismiss / hard to diagnose
May not present itself right away
Advanced imaging to r/o other pathologies
Period of conservative treatment is needed

Basis for all exercises is a good, well maintained pelvic tilt
Form is VITAL
- Tight core
- Good posture
Comprehensive rehab program
Needs to constantly challenge the core

Works Cited

Thank You!

Questions??