Title: Science meets practice: Clinical decision making for examination, surgery, rehabilitation and return to sports for patients with shoulder instabilities

Course/session: Shoulder instabilities are a common cause of injuries in active individuals including recreational, competitive and tactical athletes. There is a wide spectrum of instabilities ranging from microinstability to macroinstability. Traumatic anterior glenohumeral dislocation is a common clinical entity. There are several new classification systems which help provide the appropriate surgical and rehabilitation interventions. There are many new concepts in understanding shoulder instabilities including the significance of glenoid bone loss, evolving concept of bipolar bony lesions, significance of the Hill-Sachs lesion, and the newest concept of the glenoid track "engaging/non-engaging" lesion to the "on-track/off-track" lesions. Furthermore, there have been many innovative surgical procedures that are becoming more widely used to address specific instability pathologies. Examples of the surgical procedures to be discussed include: capsular shifts, arthroscopic Bankarts, Remplissage, and Latarjet procedures. Most importantly, since there is limited high level evidence demonstrating the most effective techniques for rehabilitation of these unique conditions and surgeries, specific rehabilitation interventions for the different surgical procedures, and criteria for return to sports will be presented by master clinicians with over a 100 years of combined clinical experiences.

Course session learning objectives: The course participants will:

1. Learn the current classification systems for shoulder instabilities, and the newer concepts of the glenoid track and its influence on bipolar bony lesions
2. Analyze the indications for the different surgical procedures used for treatment of shoulder instabilities
3. Develop specific rehabilitation interventions based on the surgical procedures performed
4. Synthesize the results of the surgeries and rehabilitation programs and the optimum outcome measures

Bibliographic references:


Timed outline of content:

0:00-0:05 Introduction and overview of the course, speakers and objectives (GJD)
0:05-0:30 Selected surgical procedures (capsular shift, arthroscopic Bankart reconstruction, Latarjets, Remplissage procedure ) (James Andrews, MD)
0:30-0:45 Specific Rehabilitation of Capsular shift surgeries (TE)
0:45-0:60 Specific Rehabilitation of arthroscopic Bankart reconstructions (TE)
0:60-0:75 Specific Rehabilitation of Latarjets (KW)
0:75-0:90 Specific Rehabilitation of Remplissage procedure (KW)
0:90-1:10 Research Abstracts (Moderator-GJD)
1:10-1:20 Questions & Answers (ALL)

Content related to differential diagnosis: 30 minutes

Speaker information:

1. George J. Davies
2. Kevin Wilk
3. Todd Ellenbecker
4. James Andrews, MD

Biographic information:

Keywords: Shoulder, surgeries, rehabilitation

Teaching and Learning assessment methods: Participants’ self-assessment

Recommended participant level: Multiple

Conflict of interest disclosure:

1. George J. Davies. Associate Editor-Sports Health
2. Kevin Wilk
3. Todd Ellenbecker
4. James Andrews, MD
Rehabilitation Following Shoulder Stabilization Surgery

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I. Introduction:
A. Most Commonly Dislocated Joint Human Body
   1. General population
   2. In Sports
      a. Football players
      b. Hockey players
      c. Other sports
      d. Work environment
   3. injuries appear to be increasing
      a. shoulder joint

B. Glenohumeral Joint Dislocations
   1. numerous types of injuries
      a. capsule
      b. osseous
      c. muscle
      d. neurologic
   Different Structures Injured Require Different Management

II. Rehabilitation Programs
A. Rehab Must Match the Surgery
   1. Different types of surgery
   2. Specific time frames based on surgery & healing constraints
B. Rehab Must Match the Patient
   1. Functional goals
   2. Status of the shoulder
   3. Patient’s response to surgery

III. Specific Rehabilitation Programs/Guidelines:
  a. Laterjet Procedure:
     An et al: J Shoulder Elbow Surg ’16
     Wahl & Laterjet: Ann Instr Pasteur (Paris) ’47
     i. Shoulder in sling for 4-6 weeks
     ii. Sleep in shoulder sling 4-6 weeks
     iii. Promote osseous healing
     iv. Immediate limited restricted PROM
        1. Flexion to 90 deg 2-4 weeks
        2. ER/IR at 45 deg abduction: easy light motion (do not ER)
        3. Progress PROM
4. Full PROM 6-8 weeks post-op
5. Loss of ER
   v. Scapular muscle training immediate in sling (NM control drills manual)
   vi. Isometrics initiated at 2 weeks
   vii. Isotonics limited ROM & light at 3-4 weeks
   viii. Isotonic lifting program 12 weeks
   ix. Return to sports (collision sports) (4 months)

b. Remplissage Procedure:
   Buza et al: JBJS ‘14
   Boileau et al: JBJS ‘12
   Garcia et al: AJSM ‘16

   i. Usually performed with another surgery (anterior stabilization Bankart)
   ii. Performed for Hills Sachs Lesion
   iii. Precautions: over stressing posterior capsular stretching & anterior surgery precautions
   iv. Motion Precautions: Horizontal adduction, IR, pushing motions
   v. Immediate PROM – very restricted & limited
   vi. Initiate IR at 6 weeks
   vii. Full PROM 8-12 weeks (limited IR & Horz adduction)

IV. Summary & Key Points:
   a. Shoulder instability – common lesion
   b. Surgery is often indicated to restore functional stability
   c. Rehab Must Match the Surgery
   d. Rehab Must Match the Patient
   e. Team Approach to Treat

   Physician ----------- Rehab Team
   Communications is the Key

KEW: 11/17
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Todd S. Ellenbecker, DPT, MS, SCS, OCS, CSCS
Clinic Director, Select Physical Therapy Scottsdale Sports Clinic
Vice President Medical Services, ATP World Tour

I. Specific Rehabilitation of Capsular Shift Procedures
   A. Basic science of anterior capsular stress
      1) Black et al (Effect of external rotation based on degree of capsular shortening)
      2) Penna et al (Effect of ER vs ABER) on anterior capsular loading
   B. Progression of ROM following Capsular Shift
      1) Weeks 1-6 (0-30 ER at 45 ABD)
      2) Weeks 6-12 (progression of ER > 30 deg / ABD from 45 to 90 degrees)
   C. Importance of Scapular stabilization in rehabilitation of shoulder instability
      1) EMG evidence of serratus anterior inhibition with anterior instability
      2) McMahon et al, J Shoulder Elbow Surgery
   D. ER/ IR Muscle Balance with Anterior Instability
      1) Cain et al AJSM

II. Specific Rehabilitation of Arthroscopic Bankart Procedure
   A. Knowledge of Surgical procedure and its effect on initial ROM progression
   B. Precautions based on management of the soft tissue structures
      1) Limit ER during the first 6 post-operative weeks
      2) Rehabilitation guidelines will be presented for this procedure


