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0:00 Through the Arthroscope and Camera:
35 Years of Practice
October 16, 2019
33rd Annual Grice Day Boston, MA
0:33

Menu

- MLI Fellowship and research
- View and Lumiere
- Knee
- Other Joints
- Youth Elbow
- Advocacy
- Lyle Micheli MD

0:50

Shriner's Parade Boston 1984 Fellowship

1:32

Mentors

2:30

Lyle J. Micheli, MD

Author of over 300 scientific articles and reviews related to sports
injuries, especially:

- Sports Injuries in Children
- Scoliosis and other
- Medical problems of dancers disorders of the spine

2:50

books and textbooks including:

- Encyclopedia of Sports Medicine
- The Adolescent Athlete: A Practical Approach
- The Pediatric and Adolescent Knee
- The Sports Medicine Bible for Young Athletes
- Numerous issues of Clinics in Sports Medicine

3:20

Books

4:56

1984 Triathlons became popular. Let's do a survey

- Ireland, M.L. and Micheli, L. J. Triathletes: Biographic data,
training, and injury patterns. Annals of Sports Medicine 1987;3(2):
117-120.

- Ireland, M.L. Patellofemoral disorders in runners and cyclists.
Annals of Sports Medicine 1987;3(2):77-84

5:55

Boston Ballet

- Ireland, M.L. and Micheli, L. J. Bilateral stress fracture of the
lumbar pedicles in a ballet Dancer: A case report. J Bone Joint Surg
1987;69-A(1):140-142.
- Solomon, R., Micheli, L.J., and Ireland, M.L. Physiological

assessment to determine readiness for pointe work in ballet students.
Impulse 1993;1(1):21-38.

7:05

Calcaneal Apophysitis Soccer #1 Sport

Micheli, L. J. and Ireland, M.L. Prevention and management of calcaneal apophysitis in children: An overuse syndrome. Journal of Pediatric Orthopedics 1987;7:34-38.

7:55

Boston Marathon Finish Line Coverage

8:22

View Through the Lens: Reflections

8:44

View from the Sideline If you are not assessing an Athlete, Why not take pictures? Best View!

9:32

University of Kentucky Sideline View 1985-1996

10:08

We've come a long way from DSLRs to iPhones

10:38

Beginnings of Arthroscopy - East & West

WWII 1939-1945 - Stopped Advances in Arthroscopy

12:04

Arthroscopes and Shavers 35 Years Ago

12:43

ACL MCL Repair Left Knee

iPhone 11 Pro

13:38

Thomas Edison Kinetograph Patent Kinescope or Peep-Hole Viewer

1891

Auguste and Louis Lumière Cinematograph Patent

1895

First Film Makers

14:24

Soccer

Auguste and Louis Lumière

15:28

Medical Director, WUSA

Sun Wen, FIFA player of the year

Billie Jean King, p

women in sports

15:57

Acrobats

Auguste and Louis Lumière

17:28

ACSM

Lyle Micheli MD

18:53

Ben Wilson Presents at ACSM 2016 Boston

UK Ortho Grad 2019

Boston Children's Fellow

19:17

Rathbone Breakfast 2019

- Angela Smith MD
- Past Micheli Fellow
- Past ACSM President

20:06

Bag Race

Auguste and Louis Lumière

21:01

ACL Reconstructions

- 70s to Early 80s:
 - Extraarticular IT band tenodesis
 - Arthrotomy, open ACL reconstruction
- Mid-80s to Mid-90s:
 - Arthroscopic intraarticular ACL reconstruction
 - Single bundle
- Mid-90s:
 - Single / Double bundle
 - Anatomic ACL reconstruction
 - Improved fixation techniques
 - Understanding anatomic landmarks
 - Improvement in guides, reaming – all inside, inside-out

22:43

Capsular Ligament Injuries

- Pre-1975:

Capsular repairs, cut out the ACL

- Evolution to reconstruct ACL

Ignore the capsule

- 2000: The capsule is BACK!

Diagnose AMRI and PLRI

- PCL injuries reconstruct if associated with medial or lateral injuries

Flandry, F., et. al., Evaluation and Treatment of Acute and Chronic Injuries to the Capsular Ligaments of the Knee, AAOS Instructional Course Lectures, Vol. 58, 2009, 397-421.

23:53

Concept of Rotatory Instability, Not Cruciate-Deficient Knee

- Dr. Jack Hughston's legacy

Hughston JC, Andrews JR, Cross MJ, Moschi A: Classification of knee ligament instabilities Part 1. The medial compartment and cruciate ligaments. Part 2: The lateral compartment. J Bone Joint Surg Am 1976;58:173-179.

24:28

We've come a long way from extraarticular to intraarticular anatomic reconstruction . . .

20 years Ago Arthroscopic View: Debridement of Arthrofibrosis

25:28

Failed Goretex ACL Reconstruction

25:58

HT0 The Hughston Clinic way 1970-80s

26:33

Prior to 1985

Extraarticular reconstructions

Shoulder

Subscapularis transfer, Coracoid transfer, Capsular shifts

Knee

IT band tendodeses, Pes anserine transfer

Ankle

Peroneus brevis transfers

After 1985

Anatomic repairs/reconstructions

The arthroscope paved the way for advances in surgical techniques and understanding injury mechanisms

27:23

2 mo. later: arthroscopy

28:13

Knee "pack-years" as in smoking:

Additive effects of years of participation in basketball. . .

Pack-years of smoking on lungs Pack-yearsofactivityonknees

? Too many pack years of basketball ?

29:18

John Feagin

-Research with US Army

40 years ago

-Repair does not work

Martha Murray MD

2019 BEAR works in humans. 2 year follow up

30:28

Clinical Trials at Boston Children's are underway. Repair is possible!

Enhanced Primary Repair in Porcine Model

-Suturing enhanced with collagen and platelet rich plasma (PRP)

-Strength similar to that of

ACL Reconstruction at early time points

-Additional testing needed before clinical trial can be considered

30:53

Shoulder Pain in a Thrower

Biceps Tendon / Labrum

- Prior to 1980s, biceps tendinitis

- 1990s: SLAP lesion

Repair most

- 2005: SLAP lesion

- Repair less, no repair greater than age 40

Biceps tendon - leave alone, Tenodesis soft tissue, Tenodesis to bone,

Tenotomy

32:18

Biceps Glenoid Labrum Complex

- Pre-1985

Tenodesis, Many procedures, Originally described 1948: Hitchcock HH and Bechtol CP, "Painful shoulder: observation on a role of the tendon of the long head of the biceps brachii in its causation," JBJS 30-A:

263 (1948).

– Now 62 years later:

Biceps is still a pain generator

32:58

2000 Advances in Biceps Treatment?

–Repair no SLAPs over age 40

–Tenodesis open or arthroscopic

–Tenotomy

• Question if cutting the tendon anyway, why do surgery if cannot repair the SLAP?

Who NOT to operate on, not

Who to operate on . . .

33:34

Shoulder Instability

Extraarticular techniques

• Tendon transfers

• Coracoid transfer

Intraarticular techniques

• Capsular shifts

• Latarjet procedure

Combined intraarticular/extraarticular

Bankart ASB: Recurrent or habitual dislocation of the shoulder-joint. Br Med J: 2;1132, 1923.

Latarjet M: A propos du traitement des luxations recidivantes de l'épaule. Lyon Chir 49:994, 1954.

Modified Bristow-Latarjet procedure: Lombardo SJ: Anterior reconstruction. In Shields CL, Jr, editor: Manual of Sports Surgery, New York, 1987, Springer-Verlag.

33:18

Bristol Procedure-Coracoid Transfer

35:23

Rotator Cuff Repair

– Diagnosis: arthrogram pre-1980s, now MRI scan

– Treatment: repair deltoid detachment, now arthroscopic anchors and revolutionary bone troughs

– What goes around comes around!

36:29

Beware of New Products, Advances in Techniques . . .

37:24

Charles Dickens

37:43

Hip Pain in Athletes – Groin

– Prior to 1985:

• Most common dx was: Adductor strain

– 1985 to 1990: inguinal hernia

– 1990 to present: athletic pubalgia

• Rectus abdominus insertional

fibrocartilaginous plate injury Adductor longus, brevis avulsion

Differential Diagnosis

Intraarticular? Extraarticular? or Both?

38:20

Hip Pain in Athletes – Femoroacetabular Impingement

– Cam type

• Pistol-grip deformity?, Slipped Capital Femoral Epiphysis, Developmental Disorder, Premature Growth Arrest • Bill Harris, 1975

– Pincer type

• Acetabular side, Labral tear • Smith Peterson

38:56

Foot/Ankle: Posterior impingement and Haglund's syndrome

Open approach prior to 2000

Arthroscopy post 2000

– Prone arthroscopy

– Ballet dancers post ankle pain

– Os trigonum excision

– FHL tenosynovectomy

– Haglund syndrome

• Subacromial view of the foot

• Endoscopic calcaneoplasty

Medial ankle instability – Repair and Advance Deep Deltoid

39:42

Youth Elbow: Baseball Pitcher

– Little Leaguer's Elbow

• Described by Adams, 1964

– Medial humeral epicondyle stress fracture

• My definition of Little Leaguer's Elbow

– 1980s: osteochondritis dissecans

• Incidence reduced in US? from pitch count restrictions?

• Increased incidence in Japan

– 2000: ulnar collateral ligament tears • Epidemic

Need Injury Registry for childhood sports injuries

40:40

12 YO boy

– Little Leaguer injured while pitching 5 months prior

– Felt pop in medial elbow

– Did not seek medical attention

– Sat out rest of season, got better

– Played football -- no problems

Rapid growth phase, medial elbow pain when started pitching again

Case courtesy of Dr. Adam Smith

42:18

BB Bullet Appearance to medial epicondyle fracture

May heal if you don't allow pitching too early

May take long time to heal, but UCL is intact

42:48

14 YO Pitcher, medial elbow pain for a year, open medial humeral epiphysis torn UCL Stress Views

UCL reconstruction performed, baseball career ended

43:13

Conclusion:

13 YO "Big Pitcher" Syndrome

-Skeletally and mentally immature

-Fast growth

-Poor pitching mechanics

- Hip weakness

= UE overuse injury

Protect our young athletes

- Reduce rate of Rotator Cuff and UCL tears in young pitchers

43:42

Be an Advocate

Protect Young Athletes

44:23

Should the "STOP" program really be the "GO and PARTICIPATE in activities" program?

We all should encourage our youth to be physically active, fit, and healthy . . .

44:48

The importance of medical and sports advocacy for athletes at all levels

AOSSM

45:52

Orthopaedics, Advocacy, Action

Seth Leopold MD

46:33

This is Advocacy

Dr. Allen Anderson Testifying before Congress.

Result: passage of Sports Medicine Clarity Act.

47:18

Unique Aspects – Young athletes:

48:22

Educate coaches and parents

<https://safesport.org>

49:02

www.ue.org

49:58

Take this Test

www.edurisksolutions.org/learn-to-protect-children/

@ukawhi

50:39

Sports Medicine Specialists for Youth

- Be a . . .

- Counselor

- Communicator

- Practice – Citizenship, Compassion

- Dare to Care

Do the Right Thing Forever and Always

- Protect and Comfort

50:58

CHANGE, CONTROL

CHARACTER

Embrace Change

51:44

The End...

Thank you for your attention