JCSMS Lightning Round

COLUMBUS, OH 2017

Order of presentations

- Amanda Carlson-Phillips
- Paul Roetert
- Amol Saxena
- Erin Wasserman
- Rob Franks
- Tatiana Jevremovic
- Cassidy Hallagin
- Monica Forquer
- PRIVIT
- Walk with a Doc
- Dutra/Forcum
- Randy Dick (time allowing)

Evolving Nutritional Care for the Athlete:

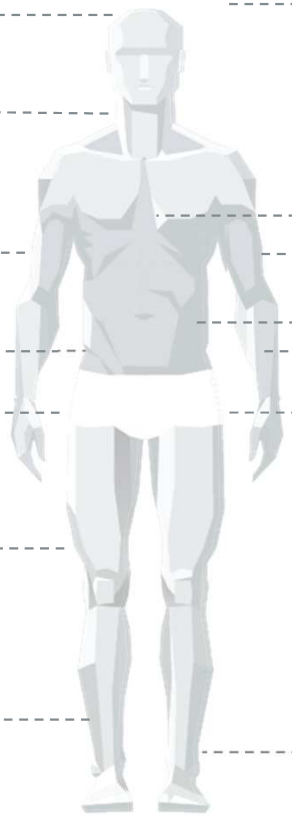
Beyond Healthy Eating to Personalized Nutrition

Amanda Carlson-Phillips, MS, RD, CSSD
Vice President
Collegiate and Professional Sports Dietitians Association

FUELING VICTORY

·C·P·S·D·A· Leveraging Diagnostic to Advance Nutritional Programming

FUELING VICTORY

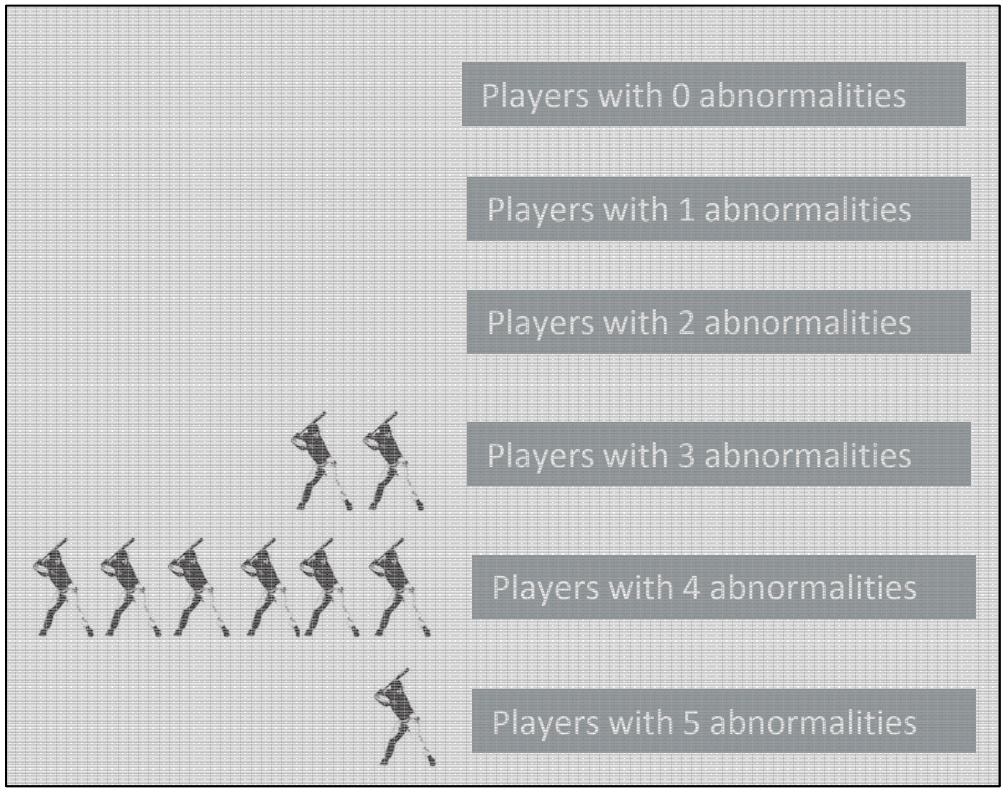


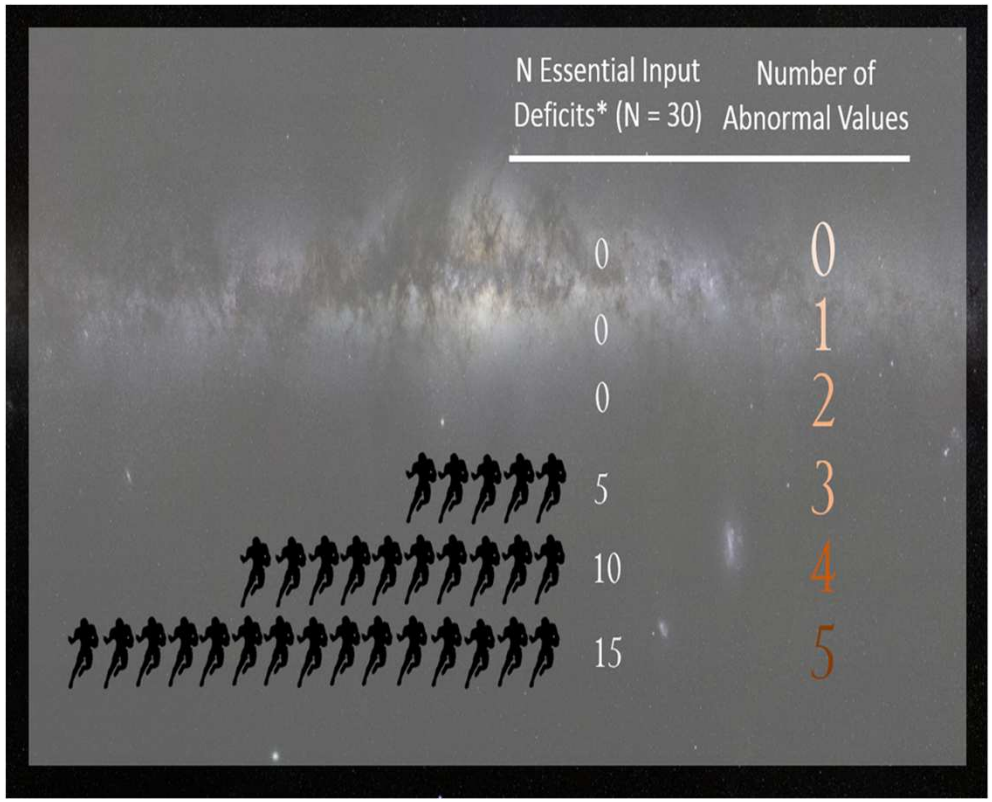
- GOALS
- HORMONAL PROFILE
- ANTHROPOMETRICS
- SUPPLEMENT HISTORY
- HYDRATION STATUS
- HABITS
- TRAINING INFORMATION
- GENOME
- MEDICAL HISTORY
- ALLERGIES & SENSITIVITIES
- MICROBIOME
- DEFICIENCIES
- MICRONUTRIENT
- INJURY HISTORY

·C·P·S·D·A·
FUELING VICTORY

Are athletes fed, but undernourished?

Vitamin D | Magnesium | Omega 3 |Homocysteine | AA: EPA





CRITICAL MILESTONES: Past · Present · Future
Evolving Nutritional Care for the Athlete

2004

NSF Certified for Sport Supplementation

NFL hires first full time RD

2012

CPSDA member Amy Freel becomes first dietitian to serve on the NCAA committee on Competitive Safeguards and Medical Aspects of Sport

2014

NCAA De-regulation of feeding

2016

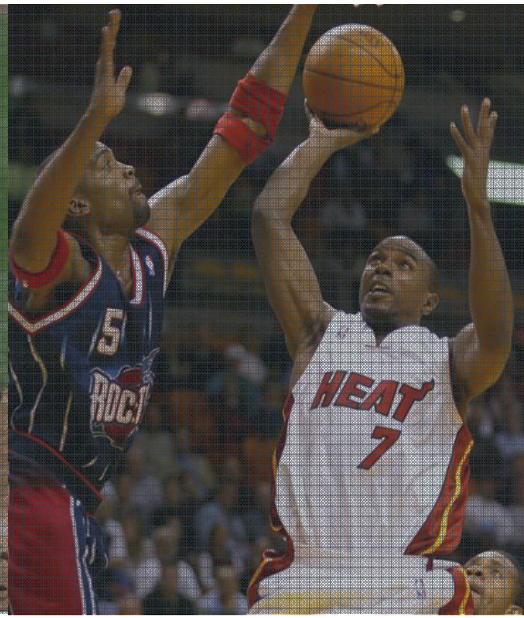
NBA hires first Chef RD

2017

30% Rule Dissolved (schools can now provide products that are higher than 30% protein)

2018



01

NCAA

~90% The Power 5 Conference teams have a full time RD

02

NFL

~45% of teams with full time RD support

03

MLB

10% of teams with full time RD support

04

NBA

10% of teams with full time RD support

Sports Nutrition is advancing as a part of the integrated performance team, but still has a long way to go

Preparing for a Physically Literate Life

- Aunt Mary
- History
- Early sport specialization

“The ability to move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person.”

Mandigo, Francis, Lodewyk and Lopez (2012)

SHAPE America SOCIETY OF HEALTH AND PHYSICAL EDUCATORS

health. moves. minds.

SHAPE America Standards for K-12 Physical Education

- Standard 1 - The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.
- Standard 2 - The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.
- Standard 3 - The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.
- Standard 4 - The physically literate individual exhibits responsible personal and social behavior that respects self and others.
- Standard 5 - The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

- SHAPE America, 2014

SHAPE America SOCIETY OF HEALTH AND PHYSICAL EDUCATORS

health. moves. minds.

Physical Literacy Training Concepts

- Spatial Awareness
- Strength
- Balance

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health. moves. minds.

Summary Comments:

- Attain motor skill competency with a focus on lifetime physical activities
- Develop a proper understanding of motor patterns and teaching age-appropriate skills is imperative for a full understanding of the benefits of physical literacy
- Expose youth to a variety of movement patterns to ensure that a child can competently perform a breadth of movement skills in a range of different activities and environments before specializing in specific movement patterns within a single sport

High-Energy/Low-Energy

- OLD Terminology!!!
- **Current Terminology** (since 2006): **Focused** aka "ESWT" (true shockwaves) and **radial** (RSW, SWT,rESWT) "sound/pressure" waves
- **WORKS BY:**
- Causing pain, release & depletion of Substance P
- Creating micro-trauma, releases growth factors, neovascularization, re-introduces a healing response
- Can induce stem cell release in bony & fatty areas

Chronic Plantar fasciitis (6+ mos)

- Gollwitzer et al (2015) Multicenter RCT. Focused ESWT vs. Placebo showed favorable VAS and RM outcome of ESWT[3]. **Level I**
- Saxena et al (2013) Case-controlled study on athletes. Comparing endoscopic plantar fasciotomy (EPF) vs. Focused ESWT. EPF with better outcome but ESWT preferable since they can remain active during treatment[4]. **Level II**
- Gerdesmeyer et al (2008) RCT. Radial ESWT vs. Placebo. Radial ESWT with superior VAS and RM results[5]. **Level I**
- Malay et al (2006) RCT. ESWT vs. Placebo with better VAS outcome of ESWT[6]. **Level I**
- **NOTE: Tx < 3mos vs >6 mos works better (Saxena et al)**

Achilles Tendinopathy

- Saxena et al (2011). Prospective study. RSW for para, proximal, and insertional Achilles tendinopathy. Significant improvement in RM score for Achilles tendinopathy[7]. 75% effective **Level III**
- Rompe et al (2009). RCT. RSWT vs. Eccentric + ESWT with favorable outcome for the combined group[8]. **Level I**
- Rompe et al (2008). RCT. RSWT vs. eccentric loading. Better outcome for ESWT[9]. **Level I**
- Rasmussen et al (2008). RCT. ESWT vs. Placebo ESWT. Better outcome with the ESWT[10]. **Level I**
- Furia (2008). Case control study. RSWT vs. Control (traditional conservative method). Better outcome with ESWT[11]. **Level III**

Medial Tibial Stress Syndrome (Shin Splints)

- Rompe et al (2010) Retrospective cohort study. Radial ESWT + home training program vs. Home training program only. ESWT combined group out performed the other group[12]. **Level II**
- Moen et al (2012) Prospective study comparing ESWT w a gradual RTRunning program. RTA sig faster (P=.008, 60 vs 92days) [15] **Level II**

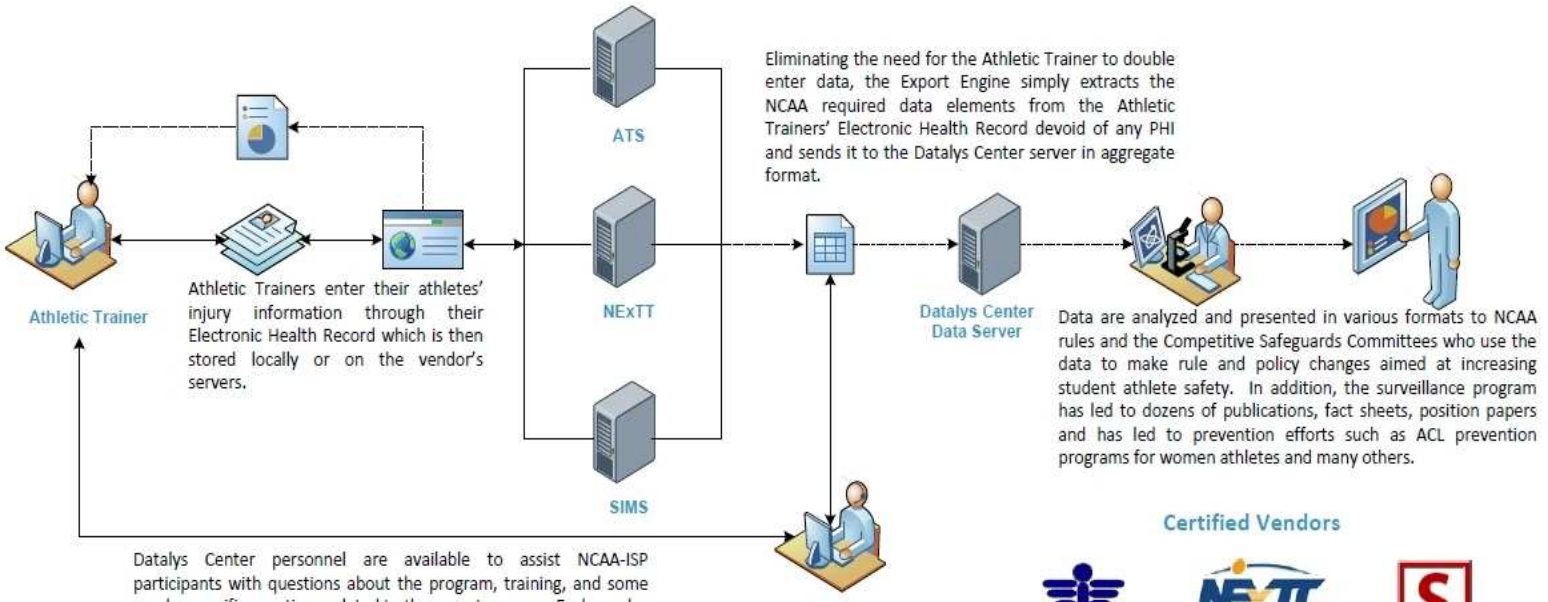
Medial Tibial Stress Fracture: 17 Wks later, Olympic Gold

Comparison of Pitching Injuries between NCAA Softball and Baseball Pitchers, 2009/10 – 2014/15

- Differences in body site, diagnoses, and time loss of pitching injuries between NCAA baseball and softball

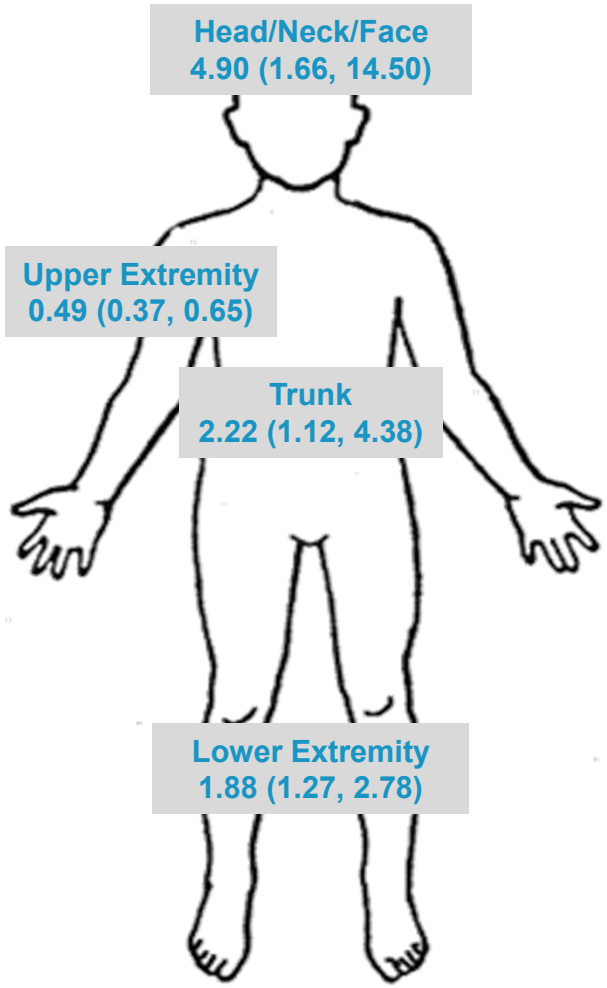
Erin B. Wasserman, PhD **Director, NCAA Injury Prevention Program**

NCAA Injury Surveillance Program



Certified Vendors

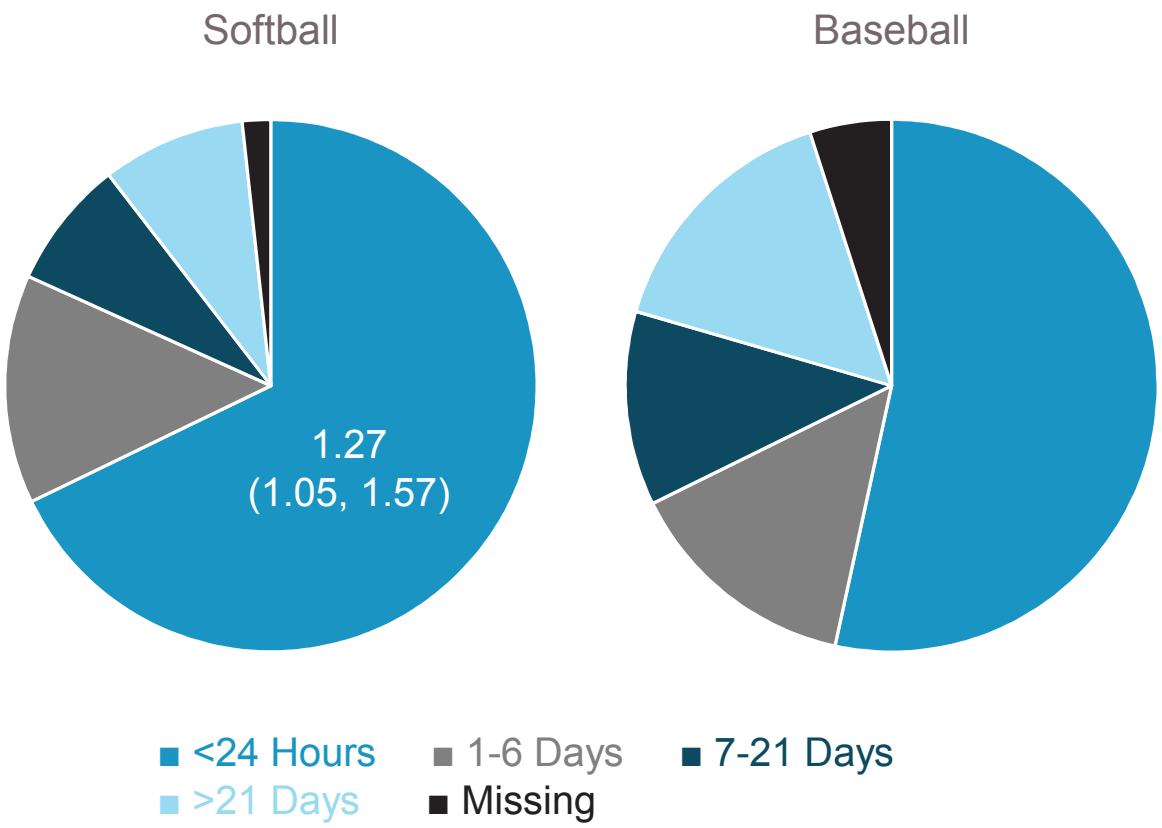
Softball vs. Baseball IPRs



Most common diagnoses:

- Softball
  - Shoulder inflammation (8.7%)
  - Trunk strains (7.0%)
  - Lower leg contusions (6.1%)
- Baseball
  - Shoulder strains (10.6%)
  - Elbow inflammation (10.6%)
  - Shoulder entrapment (8.1%)

Time Loss



Common mechanisms:

- Softball
  - Overuse (41%)
  - Non-contact (28%)
  - Ball contact (22%)
- Baseball
  - Overuse (52%)
  - Non-contact (28%)
  - Ball contact (15%)

Conclusions

- Baseball pitchers sustain a higher proportion of upper extremity injuries than softball pitchers
- Softball pitchers report a higher proportion of lower extremity injuries than baseball pitchers
- Further examination of biomechanics needed for injury prevention

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@ebwasserman @datalyscenter

Epidemiology

- National Federation of High School Sports 2013-14 survey found 7.8 million students participate in sports.
- Overuse injuries account for 46-50% of all athletic injuries.
- No epidemiological data for number of young athletes who play year-round in same sport or on multiple teams at the same time.
- NFHS 2015-16 study showed specialized athletes had twice the frequency of lower extremity injuries than those that did not specialize.
- Same study showed specialization led to twice as many overuse injuries than those who did not specialize controlling for gender, grade, sport and previous injury status.
- Same study showed 50 % of student athletes participated in club team in addition to high school team.

Definition

Sports Specialization

- Athlete focuses on only one sport
- Athlete often plays same sport year round
- See increased frequency at earlier age as select/travel teams begin with athletes as young as 7.

Differentiation

- Early Specialization - Begins before puberty
- Late Specialization with Early Diversification – Sampling

- Reasons for above - scholarships, desire to be professional or Olympic athlete, self image as elite as defined by media, sporting industry, coaches, family, or society.
- Only 3.3 to 11.3 % of high school athletes compete at NCAA level with only 1% receiving an athletic scholarship.
- Only 0.03 to 0.05 % of high school athletes achieve play at the professional level.
- Athletes who participate in a variety of sports have less injuries and play sports longer than those who specialize before puberty.
- Parents are greatest influence on choosing a particular sport.
- Coaches influence the decision to train more intensely and specialize.

Effects of Early Specialization

- Consideration of decision for specialization should include development of sports related motor skills, sport specific knowledge, motivation and socialization.
- Affectation on health is seen in areas of cardiac, nutrition, maturation, musculoskeletal, and physiologic effect on athlete.
- Cardiovascular - No adverse effects.
- Nutrition - Emphasis on caloric intake to meet demands of sport in those in high intensity or endurance sports.
- Maturity - Menarche often 1 to 2 years later than in those who are non – athletes.
- Musculoskeletal - Increased risk of stress fractures, lower bone density, female athlete triad, overuse injuries.

Early Evidence Concerning Sports Specialization

- There is little evidence that specialization before puberty is necessary to reach elite status and is more likely to be detrimental to the health of the athlete.
- Delaying sports specialization until after puberty decreases risk of injury and leads to higher propensity for success. Delay and participation in multiple sports allows increased diversity of athlete's skills.
- Early specialization before puberty leads to risk of physical, emotional, and social issues. Risk of injury is multifactorial and can include training volume, competition level and pubertal maturation stage. Staleness of skill development and burnout are also significant issues with early specialization.
- Exact amount of training to be successful has yet to be determined.
- No data exists to show sports enhancement programs are successful.
- National ranking of athletes should be discouraged before athlete's later years of high school.

Questions for the Future

- Is there a genetic predisposition/s that may predict success or failure with specialization of sport?
- Need for longitudinal data on early sports specialization and injury and burnout rates
- Need for data as to when to begin sports specialization, if at all.

Don’t prescribe opiates as first line treatment for tendinopathies.

CASEM ACMSE

Don’t prescribe opiates as first line treatment for tendinopathies.

CASEM ACMSE

Don’t order an MRI as an initial investigation for suspected rotator cuff tendinopathy.

Don’t prescribe opiates as first line treatment for tendinopathies.

Don’t order orthotics for asymptomatic children with pes planus (flat feet).

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CASEM ACMSE

Don’t immobilize ankle inversion sprains with no evidence of bony or syndesmotic injury.

Don’t order an MRI as an initial investigation for suspected rotator cuff tendinopathy.

Don’t prescribe opiates as first line treatment for tendinopathies.

Don’t order orthotics for asymptomatic children with pes planus (flat feet).

Don’t order an MRI for suspected degenerative meniscal tears or osteoarthritis (OA).

CASEM

ACMSE

Don’t order an MRI as an initial investigation for suspected rotator cuff tendinopathy.

Don’t immobilize ankle inversion sprains with no evidence of bony or syndesmotic injury.

The relationship between pre-operative and twelve-week post-operative Y balance and quadriceps strength in athletes with an ACL tear

Cassidy Joseph Hallagin PT, DPT

Co-Authors:
J. Craig Garrison, PhD, PT, ATC, SCS
Jim Bothwell, MD
Shiho Goto, PhD, ATC
Joseph Hannon, PT, DPT, SCS, CSCS
Kalyssa Pollard, MS

Background

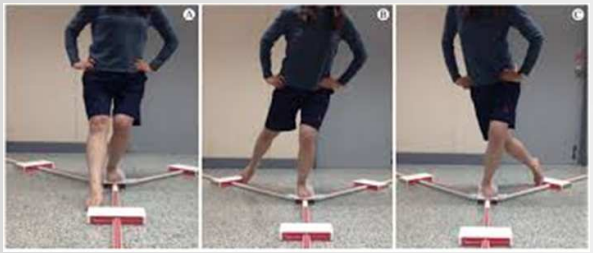
- Decreased quadriceps strength pre-operatively → decreased quadriceps strength post-operatively
- YBT ANT asymmetry >4 cm at 12 weeks did not meet criteria to RTS for the single and triple hop test for distance
- PURPOSE: Examine the relationship between Y Balance Test scores and isokinetic quadriceps strength at pre-operative ACL-R and 12 weeks post-operative following ACL-R

Methods

Inclusion	• **Involved in/plan to return to Level 1 sport** • **Physical therapy (2-3x/wk for at least 12wks)**
Exclusion	• Previous ACL tear and/or reconstruction on either side • Any other ligamentous injuries to the knee • Associated chondral defect requiring surgical intervention

- Biodex Multi-Joint Testing and Rehabilitation System
  - Quadriceps muscle strength @ 60˚/sec
  - Average of 5 trials

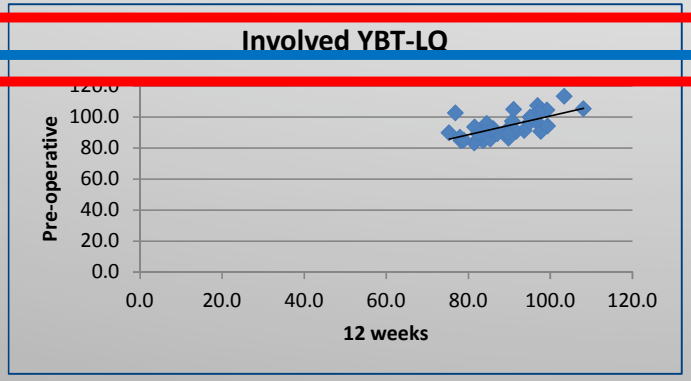
- YBT-LQ assesses ROM, strength, and neuromuscular control
  - Anterior (ANT), Posteromedial (PM) and Posterolateral (PL)
  - 3 test trials each leg, each direction

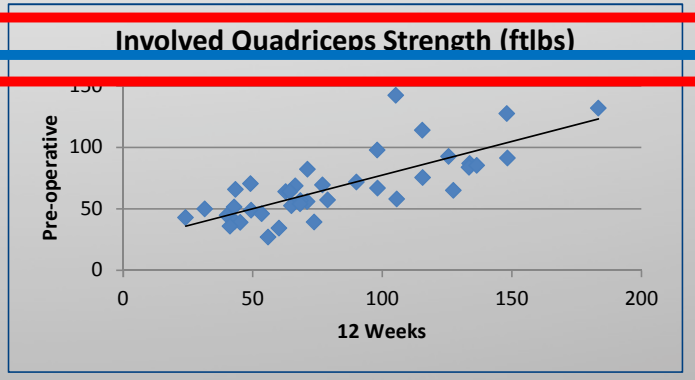


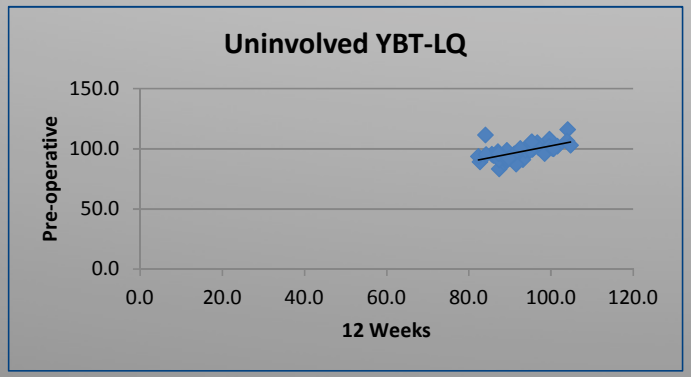
Texas Health
Ben Hogan Sports Medicine℠
Research & Education

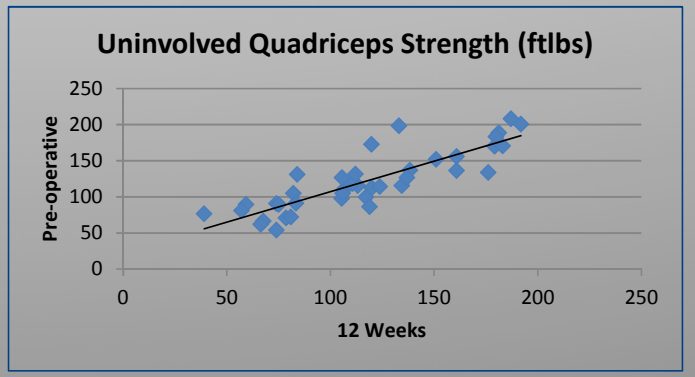
Results

Age (yrs)	Gender		Height (cm)	Weight (kg)	Dominant Side		Injured Side	
	Male	Female			Right	Left	Right	Left
15.6±1.5	21	18	172.1±9.6	72.1±16.8	37	1	20	19



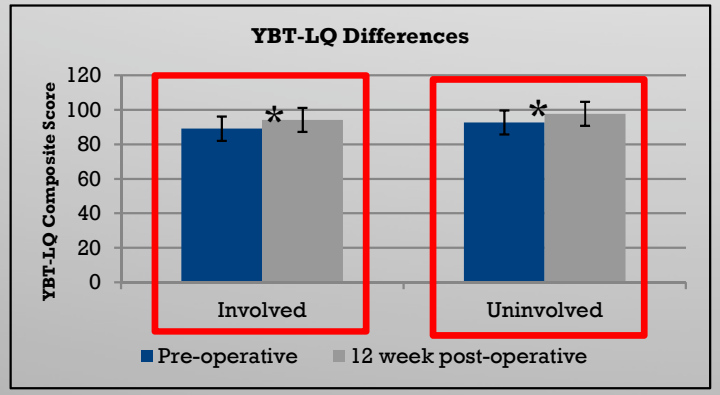


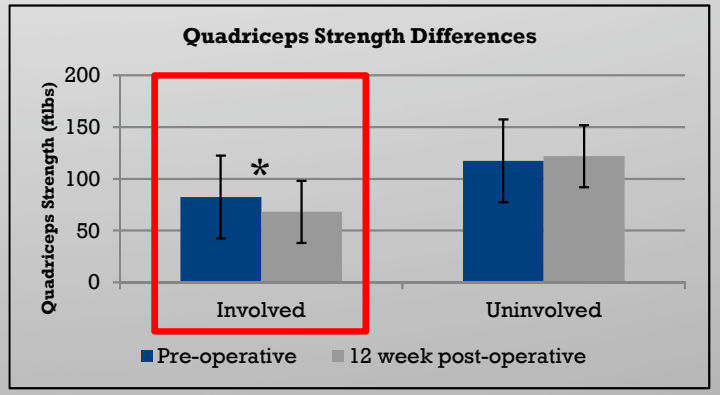




Results

	YBT-LQ		Quadriceps Strength (ftlbs)	
	Involved*	Uninvolved*	Involved*	Uninvolved
Pre-operative	89.0 ± 7.7	92.6 ± 6.2	82.3 ± 38.6	117.3 ± 42.0
12 Weeks post-op	94.1 ± 7.1	97.6 ± 6.8	67.9 ± 27.4	121.7 ± 41.5





***17% DECREASE FROM PRE-OPERATIVE TO 12WKS**

30% DEFICIT AT PRE-OPERATIVE →
44% DEFICIT AT 12WKS

Discussion

- Previous research has demonstrated that poor pre-operative QS correlates with decreased QS and poorer performance on RTS measures post-operatively
- Increase in involved limb YBT-LQ at 12 weeks but decrease in quadriceps strength at same time point
- HUGE 44% quadriceps strength deficit at 12 weeks (INV vs UNINV)
- QUESTION: Is 12 weeks an appropriate time point to begin plyometric/jogging progressions?

de Jong, Arth, 2007
Hartigan, J App Biomech, 2012

Texas Health
Ben Hogan Sports Medicine℠
Research & Education

The Case for Inclusive Fitness

Monica Forquer, Manager of Fitness
mforquer@specialolympics.org

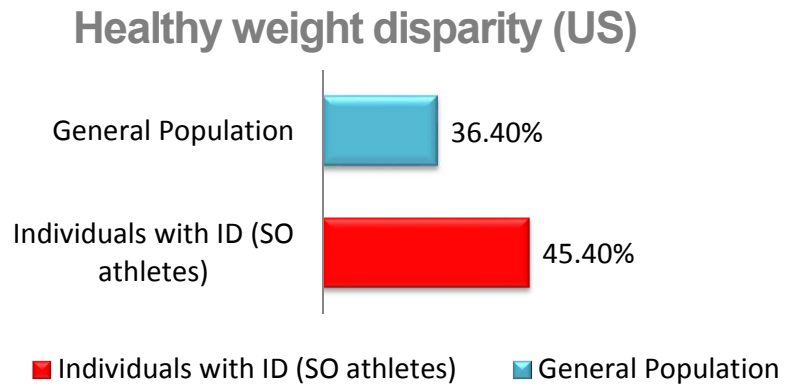
Special Olympics Health

MADE POSSIBLE BY: Golisano FOUNDATION


6
2013 Spring Games

And yet, the health of our athletes is poor….

- 46.5% Exercise less than 3 days most weeks
- 91% Flexibility Problems Identified
- 83% Strength Problems Identified
- 45% Obese



Special Olympics

A Multi-Tiered Approach…

Special Olympics

Here's what Inclusion looks like…

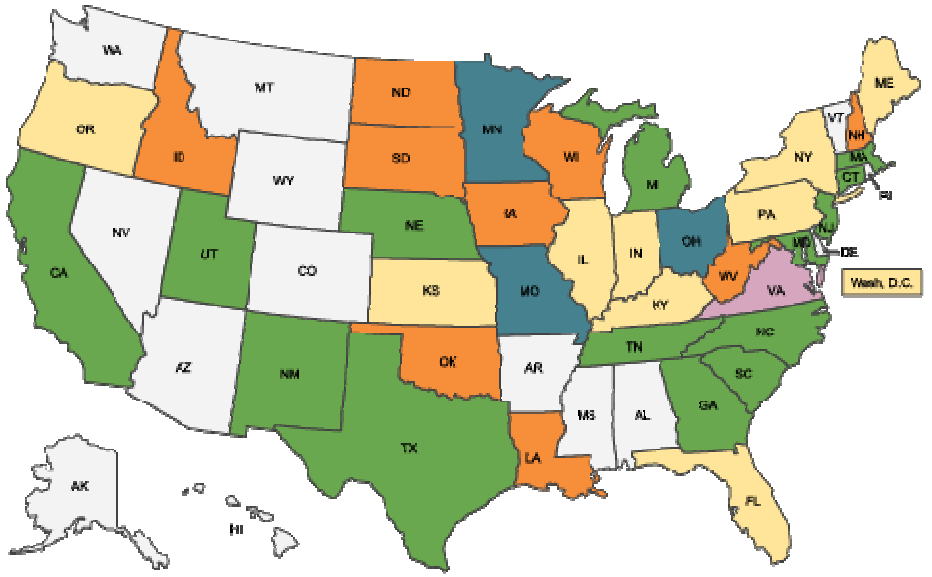
PRIVIT

Joint Commission for Sport Medicine and Science

February 18, 2017

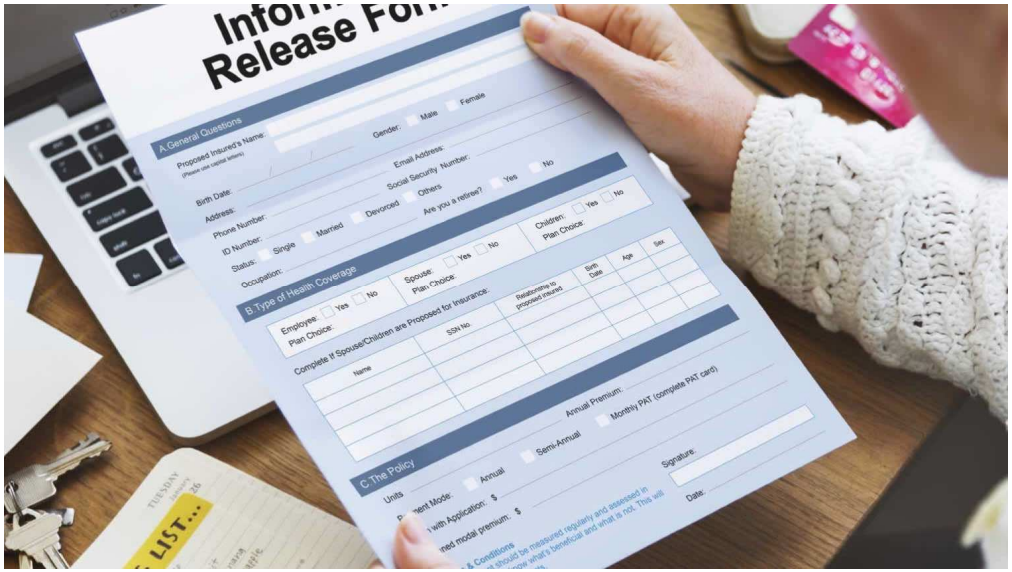
PRIVIT® Summary

- #1 provider of e-PPE solutions throughout North America
- Serving…
  - — State High School Athletic Associations
  - — Colleges & Universities
  - — Sporting Organizations
  - — Middle and High Schools
- 3.5 Million PPE Snapshots



Problems We Solve

- Shorten a difficult and time-consuming process
- Provide the ability to “manage” the entire process
- Eliminate concerns of privacy to athletes and parents
- Provide compliance to organizations and staff members

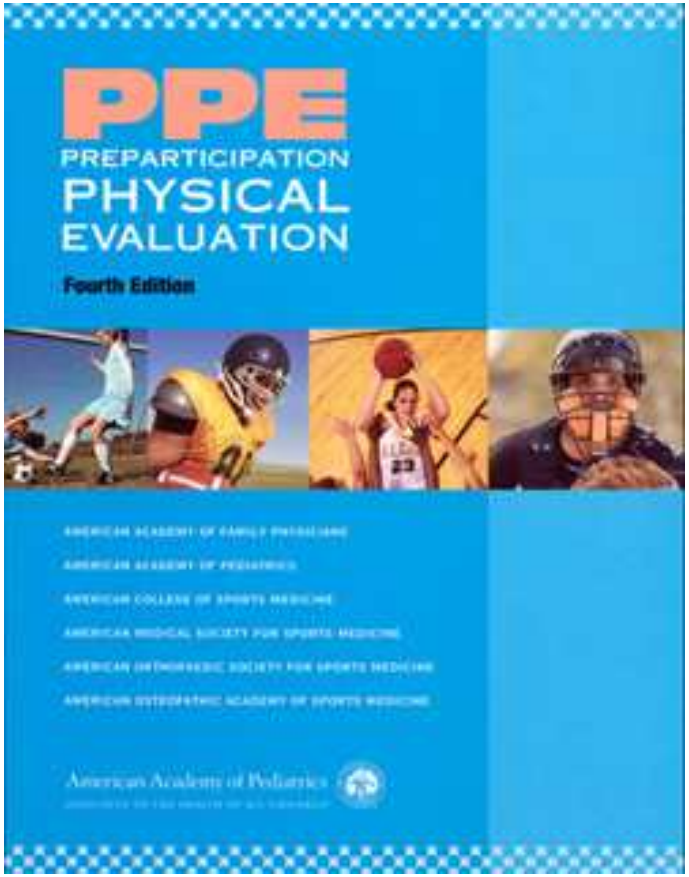


Compliance

- Clear majority of PPE processes are not completed in a compliant process
- Protecting PHI at all times is a requirement
- PPE Physicians and Organizations are trusting the organizations that carry out the PPE process
- The decision to not adopt to a compliant process is often left to the Athletic Director

What We've Learned About the Future of PPE

- Organizations want flexibility of content not another monograph
  - — Medical professionals want as much detail as possible
  - — Parents and students want the shortest history form possible
  - — Every top-level organization has their own Medical Advisory Group
  - — The mid-level organizations that complete the process don't want change



What We've Learned About the Future of PPE

- Most organizations don't know or care if they aren't compliant
- Flexibility without sacrificing comprehensiveness can only be done with a platform
- Record retention, Document Management, and PHI security requires automation
- Most contract medical professionals assume that the PHI is protected…It's not


Questions
Contact:
Greg Miller, President
gmiller@privit.com | 614.360.1152
PRIVIT

Walk with a Doc

Guests: ***Ted Forcum & Tim Dutra***

Host: ***Bill Feldner***

Which is better, kinesiology tape or athletic tape?

1:00

PTI

PTI

RUNDOWN

Does Cost Matter?

3:00	2:00	30sec	Pause	Stop	GO!

Which is better, kinesiology tape or athletic tape?

1:00

PTI

PTI

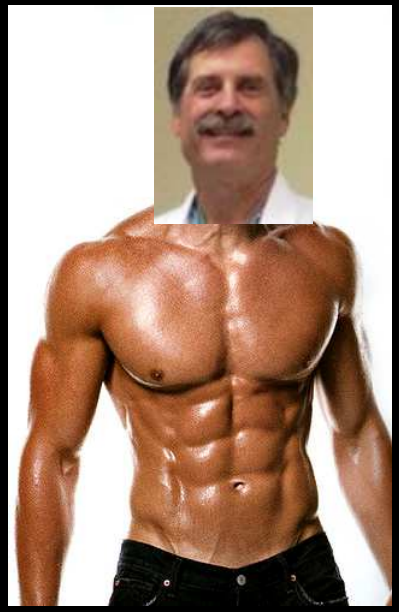
RUNDOWN

Does Cost Matter?

Ease of use

3:00 | 2:00 | 30sec | Pause | Stop | GO!

1:00



Kinesiology tape or athletic tape?

RUNDOWN

- Does Cost Matter?
- Ease of use
- Mobility vs Stability

3:00 | 2:00 | 30sec | Pause | Stop | GO!

Kinesiotape or Athletic tape?

1:00

RUNDOWN
Does Cost Matter?
Ease of use
Mobility vs Stability
Proprioception

3:00 | 2:00 | 30sec | Pause | Stop | GO!

CRIME SCENE DO NOT CROSS

Does kinesiotape or athletic tape hold up better?

1:00

RUNDOWN
Does Cost Matter?
Ease of use
Mobility vs Stability
Proprioception
Durability

3:00 | 2:00 | 30sec | Pause | Stop | GO!

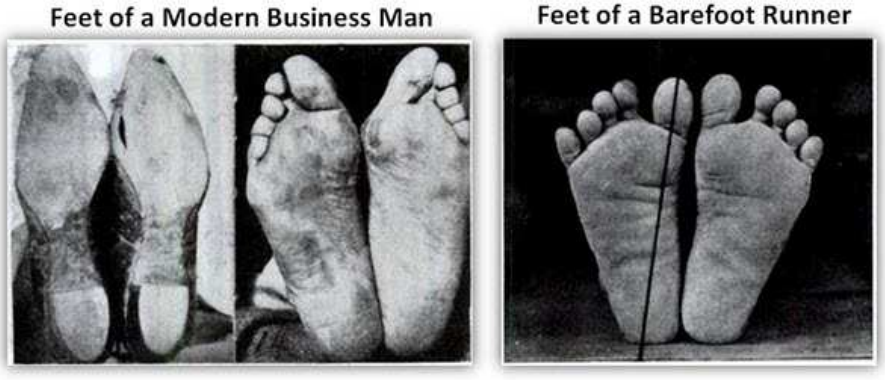
1:00

Is max or min shoe better for running (or no shoes)?

RUNDOWN

- Does Cost Matter?
- Ease of use
- Mobility vs Stability
- Proprioception
- Durability
- **Run Forrest!**

3:00 | 2:00 | 30sec | Pause | Stop | GO!



Even horses wear shoes, right?

1:00

RUNDOWN

- Does Cost Matter?
- Ease of use
- Mobility vs Stability
- Proprioception
- Durability
- Run Forrest!
- **Nature vs Nurture**

3:00 | 2:00 | 30sec | Pause | Stop | GO!

Everyone wants to be in control these days.

1:00

RUNDOWN

- Does Cost Matter?
- Ease of use
- Mobility vs Stability
- Proprioception
- Durability
- Run Forrest!
- Nature vs Nurture
- **Leveraging control**

3:00 | 2:00 | 30sec | Pause | Stop | GO!

Do your feet need cushioning?

1:00

RUNDOWN

- Does Cost Matter?
- Ease of use
- Mobility vs Stability
- Proprioception
- Durability
- Run Forrest!
- Nature vs Nurture
- Leveraging control
- **Cushion?**

3:00 | 2:00 | 30sec | Pause | Stop | GO!

Mechanical engineering and sports science?

1:00

RUNDOWN
Performance

3:00 | 2:00 | 30sec | Pause | Stop | GO!

Thank You!

TBDBITL


Mary Ruth Weigel


Homecoming 2011


UTUS


UM 1932 (static)
evidence of possibly the first formation of a Script Ohio was provided by George N. Hall, member of t
Michigan band, who participated in the October 15, 1932 formation (above photo).

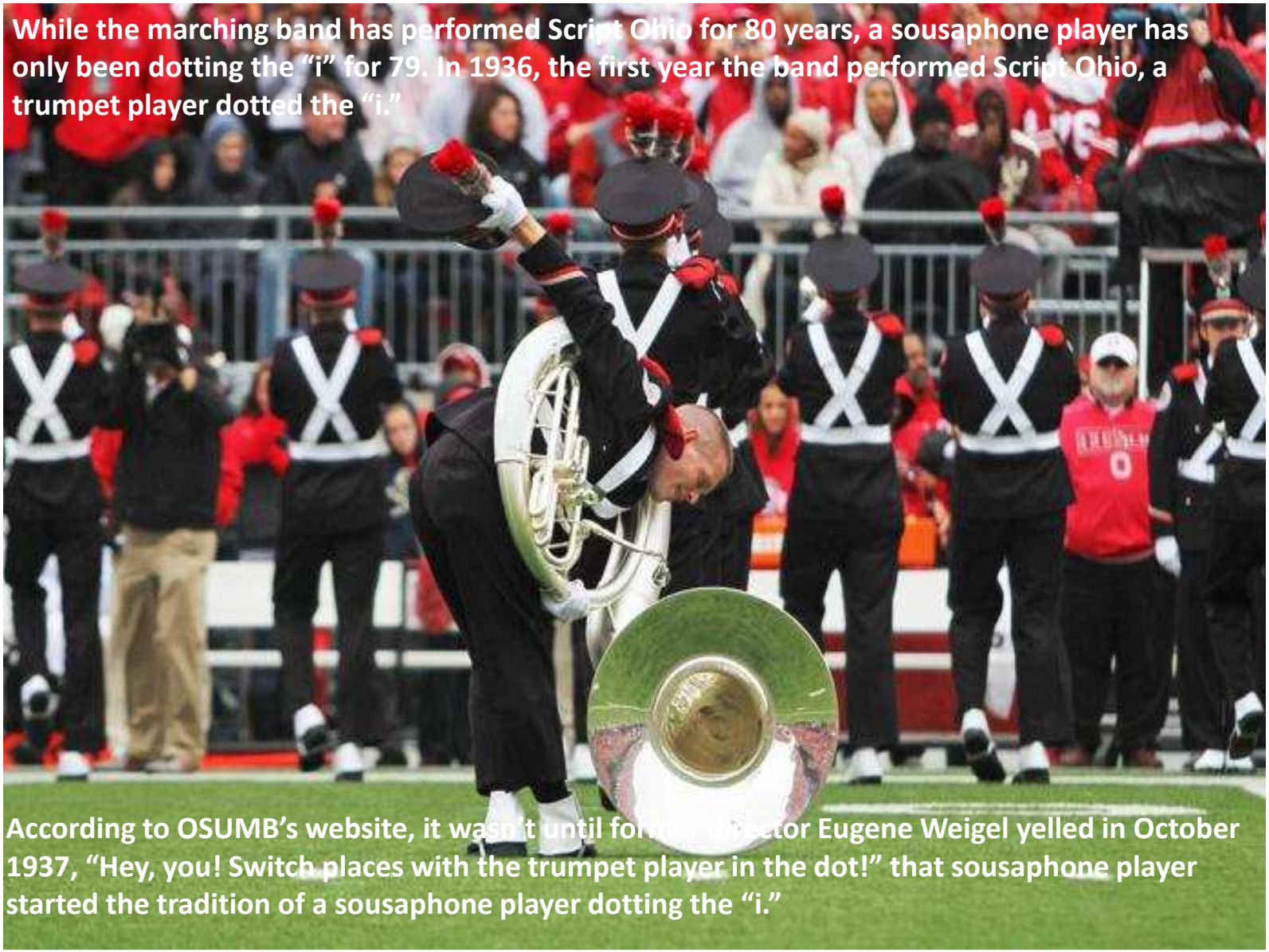

The Incomparable
Script Ohio
OSU 1936 (dynamic)

- All

Le Regiment de Sambre et Meuse – WW I

Le Regiment de Sambre et Meuse

All Brass



While the marching band has performed Script Ohio for 80 years, a sousaphone player has only been dotting the "i" for 79. In 1936, the first year the band performed Script Ohio, a trumpet player dotted the "i."

According to OSUMB's website, it wasn't until former director Eugene Weigel yelled in October 1937, "Hey, you! Switch places with the trumpet player in the dot!" that sousaphone player started the tradition of a sousaphone player dotting the "i."

- https://www.youtube.com/watch?v=4SkeBH0jbYo