Injury Prevention in Youth Soccer

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To make specific injury recommendations...

Define the injuries Understand how they occur



Lower Extremity Injuries

Muscle strains
Tendinitis
Stress fractures
Ankle sprains
Knee injuries



Muscle Strains

Hip flexor
Hamstring
Quadriceps
Gastrocnemius





Optimize strength/conditioning Functional movement optimization Proper warm-up and cool down Nordic hamstring exercise



Tendinitis/Tendinopathy

Hip flexor Patellar Achilles











Stress Fractures

B

Tibia Foot Wide variety

Recommendations

Avoid overtraining Adequate diet



General Recommendations

Offseason training Proper warm-up Avoid overtraining



General Recommendations

Sleep Sleep Sleep





Ages 6-13... 9-11 hours Ages 14-17... 8-10 hours





MCL sprains Patellar dislocations Meniscus tears ACL tears



Knee Anatomy







Patella







Why focus on the ACL?

Significant injury rates F>M Necessitates surgery Long recovery



Functions of ACL

Anterior translation Rotational stability





How do ACL injuries occur?

Contact Noncontact







ACL reconstruction surgery Approximate 6 month rehab



ACL Injury Prevention Research



Plethora of ACL injury prevention research over last two decades... incremental steps



War man damages man a relation

Initial Work

Landing mechanisms Jumping mechanisms Focused on non-contact

















Development of ACL Injury Prevention Programs

Taking this research and trying to address deficits to decrease ACL and other injuries...



Two Main Types of Programs

Single training period (6 weeks) Continuous (warm-ups)



PEP Program





1. Slow running & stretching (8 minutes)

2. Strength, plyometrics, agility (10 minutes)

3. Fast running & cutting (2 minutes)



Large number of clinical studies over the last decade...

Countrywide Campaign to Prevent Soccer Injuries in Swiss Amateur Players

Astrid Junge,** PhD, Markus Lamprecht,* PhD, Hanspeter Stamm,* PhD, Hansruedi Hasler,[§] Mario Bizzini,[†] PhD, Markus Tschopp,^{||} MD, Harald Reuter,[¶] Dipl P Heinz Wyss,# Chris Chilvers,# and Jiri Dvorak,1** MD, PhD

> Comprehensive warm-up programme to pr in young female footballers: cluster randor controlled trial

Risk of Secondary Injury in Younger Athletes After Anterior Cruciate Ligament Reconstruction

A Systematic Review and Meta-analysis

Amelia J. Wiggins,* DO, Ravi K. Grandhi,^{††} MBA, Daniel K. Schneider,^{†§} Denver Stanfield,^{||} MD, Kate E. Webster,[¶] PhD, and Gregory D. Myer,^{§#++} PhD

Torbjørn Soligard, PhD student, ¹Grethe Myklebust, associate professor 1 Kathrin Stoffen, research follow Ingar Holme, professor,¹ Holly Silvers, physical therapi: associate professor,3 Jiri Dvorak, professor,3 Roald Bah professor

The Effects of an Injury Prevention Program on Landing Biomechanics Over Time

Lindsay J. DiStefano,** PhD, ATC, Stephen W. Marshall,* PhD, Darin A. Padua,[§] PhD, ATC, Karen Y. Peck,^{II} MEd, ATC, Anthony I. Beutler,[¶] MD,

MA, ATC. 1,^{II} PhD, MPH, ATC emy, West Point, New York, USA

Fatigue Alters Landing Shock Attenuation During a Single-Leg Vertical Drop Jump

Akihiro Tamura,* PT, MS, Kiyokazu Akasaka,*** PT, PhD, Takahiro Otsudo,** PT, PhD, Yutaka Sawada,[†] PT, MS, Yu Okubo,^{*†} PT, PhD, Jyunya Shiozawa,[‡] PT, Yuka Toda,[§] PT, and Kaori Yamada,^{II} PT

A meta-analysis of meta-analyses of the effectiveness of FIFA injury prevention programs in soccer

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IN SPORTS

Wesam Saleh A. Al Attar¹ 💿 \mid Mansour Abdullah Alshehri^{1,2} 💿

4 meta-analyses of 15 primary studies 34% risk reduction for all injuries 29% risk reduction for LE injuries

Evidence-Based Best-Practice Guidelines for Preventing Anterior Cruciate Ligament Injuries in Young Female Athletes

A Systematic Review and Meta-analysis

Erich J. Petushek,*^{††} PhD, Dai Sugimoto,^{§||¶} PhD, ATC, Michael Stooimiller,[#] PhD, Grace Smith,*^{*††} BA, and Gregory D. Myer,^{§‡‡§§} PhD Investigation performed at Michigan State University, East Lansing, Michigan, USA



18 studies (multiple sports) NMT programs Decreased odds of ACL tear - 1:54 to 1:111 Greater effect for middle school &

high school ages











Considerations

Overtraining
Offseason program
Nutrition
Sleep
FIFA 11 type program









