VISIBLE SPECTRUM – BRIEF REVIEW R – O - Y - G – B – I - V

 ULTRA – VIOLET end of the spectrum has: Blue-Violet wavelengths - 415 to 455 nm (believed to be the most harmful to the retina) AND Blue-Turquoise wavelengths (positive effects on the body – regulating sleep / wake cycle

VISUAL SYSTEM MECHANISMS

WHEN LOOKING FROM FAR TO NEAR, 3 THINGS HAPPEN;

- 1. Pupil Constriction
- 2. EOM Convergence
- 3. Crystalline Lens Accommodative

Response (Focusing)

These mechanisms can vary widely from person to person. And can vary widely in the efficiency with which the physiological events occur.

SCREEN USE STATISTICS (The Vision Council.org) • COMPUTER USE: Average of Survey Respondents Use Computer to: 1. 75.6 % research things 2. 54.2 % to shop online 3. 36.2% to check social media 4. 26.7 % to play games SMART PHONE USE: Average of Respondents Use Smart Phone to: 1. 58.2% to get directions 2. 56.6 % to check social media

3. 25.8% to play games

% OF ADULTS REPORTING SYMPTOMS AFTER 2 HOURS OF SCREEN USE

- 1. 32.6 % Report Eye Strain
- 2. 22.7 % Report Dry Eyes
- 3. 21.4 % Report Headache
- 4. 22.0 % Report Blurred Vision
- 5. 30.8 % Report Neck and Shoulder Pain

ATHLETES USE OF VARIOUS SCREENS -- PRE EVENT

- Very Exacting methods can be used to determine accommodative and convergence fatigue and inefficiency. Usually not done in conventional eye health and refractive exams.
- Rule of thumb re. sleep disruption quit screen use up to 1 hour before sleep.
- And for now that may be the best rule of thumb for athletes in visually demanding sports – eg, baseball, hockey, tennis, etc.

Walt Thompson President, American College of Sports Medicine



9-18 March 2018

670 athletes, a 24% increase on the 539 athletes that competed 2014 Sochi (44% increase in the number of female athletes)

- Alpine Skiing
- Biathlon
- Cross-Country Skiing
 - Ice Sledge Hockey
 - Snowboarding
 - Wheelchair Curling





IPC Medical Committee

Dr. Cheri Blauwet (USA) Chairperson Dr. Jaap Stomphorst (NED) Dr. Wayne Derman (RSA) Dr. Nick Webborn (GBR) Dr. James Kissick (CAN) Dr. Jan Lexell (SWE) Dr. Yetsa Tuakli-Wosornu (GHA) Dr. Guzel Idrisova (RUS)

IPC Sports Science Committee

Dr. Yves Vanlandewijck (BEL) Chairman Dr. Walt Thompson (USA) Dr. Osnat Fliess-Douer (ISR) Dr. David Legg (CAN) Dr. Raymond So (HKG)





Jan. 17 (UPI) -- South and North Korea agreed to **march together under a unified flag** during the opening ceremony for the 2018 PyeongChang Winter Olympics [and Paralympics]. The countries' delegations marched together at the opening ceremony of the 2000 Sydney Olympics. They have marched together 9 times including 2004 Athens and 2006 Turin Winter Olympics. The two Koreas last marched together in the Asian Winter Games of 2007.



The "Unifying Games"?



The "Unifying Games"... or NOT!

On Tuesday 19 December, the IPC Governing Board decided to maintain the **suspension of the Russian Paralympic Committee** with an interim measure for Russian athletes to compete as neutrals in qualification events across four winter sports: alpine skiing, biathlon, cross-country skiing and snowboard.

Anti-Doping Rule Violations:

2009 (1) with 1 sanction (2 years ban) 2016 (13) with 10 sanctions (disqualification to 4 years ban)

Lack of a Legacy Program: Each Games is supposed to have a Legacy Program but it is often not fully realized (conveyer to Parthenon, accessibility to Forbidden City and Great Wall all dismantled when the Games were over).

Call to Action by Joint Commission Members: Join ACSM and IPC in a **Global Call to Action for Disability Inclusion** in all that we do, including grassroots physical activity and sports programs for people with disabilities.

Watch the over 50 hours of television coverage on





000

Paralympic

Training and Coaching the Paralympic Athlete

3





EDITED BY Yves C. Vanlandewijck Walter R. Thompson

WILEY Blackwell



10

1797 SAMSUNG

http://www.wiley.com



An IOC Medical Commission Publication

General Bike Fit Objectives

- Ball of Foot :
 - Closer to the 5th
- Knee flexion : Between
 Between 27° to 37°
- Saddle fore-aft
 Knee over pedal spindle
- Shoulder θ: ~90°
- Elbow θ : > 15°
- Neutral Wrist Position
- General balance of cyclist on the bike



Saddle Adjustments



Knee Flexion Angle ~30°

METHODS

- Measure: knee flexion
- Take measurement at BOTTOM of downstroke***
- Potential changes
 - Seat $\uparrow \downarrow$
 - Seat \leftrightarrow





Quick Fix Tips

Painful Area	Possible Adjustment
Front of Knee	Saddle 🛧 & 🗲 (backward)
Back of Knee	Saddle 🕹 & maybe 🗲 (forward)
Outside of Knee (lateral)	Foot out or away <-> (cleat in)
Inside of Knee (medial)	Foot in or closer → ← (cleat out)
Achilles	Foot forward (cleat back)
Arch	Foot backward
Pressure on bottom/outside of foot	Wedge to the inside (varus wedge)

What is a Compendium of Physical Activities?

- A list of values noting energy cost of various physical activities
- Currency = Metabolic Equivalent (MET)
- MET values are presented as multiples of resting metabolic rate
- Created for adults (1993)
- Youth-based version published later (2008)

Youth Compendium Workshop Participants 2012

Research Group – Barbara ٠ Ainsworth, PhD, MPH (Arizona State University); David Bassett, PhD (University of Tennessee); David Berrigan, PhD (National Cancer Institute); Nancy Butte, PhD (Baylor College of Medicine); Scott Crouter, PhD (University of Tennessee); Janet Fulton, PhD (CDC); Steve Herrmann, PhD (Sanford Health Organization); Kate Heywood (Ridley), PhD (Flanders University, Australia); Robert McMurray, PhD (University of North Carolina); Karin Pfeiffer, PhD (Michigan State University); Stewart Trost, PhD (Queensland University of Technology); and Kathleen Watson, PhD (CDC)



- Imputation Issa Zakeri, Zekarias Berhane, Alexander Long (Drexel)
 - FHI 360 Staff Todd Phillips, LaVerne Canady, Amanda Samuels, Adee Kennedy
- Data and Bibliography Penny Randall-Levy, Kyle Sprow

What is a MET for Children?

Relationship Between Resting Metabolic Rate (RMR) and Age in Youth



Hermann, McMurray, et al. J Human Biol. 2017

Youth Compendium Resources

- Youth Compendium of Physical Activities: Activity Codes and Metabolic Intensities – Butte et al. 2017 MSSE (published ahead of print)
- Online Resource: NCCOR Youth Compendium of Physical Activities 2017 <u>nccor.org/youthcompendium</u>







Acknowledgments



Methods

Background

How to Access These Data

FAQS

MET_v Values (Smoothed) ~

MET, Values (Observed/Imputed) ~

Downloads

Q

YOUTH COMPENDIUM of PHYSICAL ACTIVITIES

The Youth Compendium of Physical Activities provides a list of 196 common activities in which youth participate and the estimated energy cost associated with each activity. It can be used by a wide variety of people-including researchers, health care professionals, teachers and coaches, and fitness professionals-and in a variety of ways-including research, public health policy making, education, and interventions to encourage physical activity in youth.

The Youth Compendium provides energy cost values for:

- Sedentary activities, such as lying down or watching TV
- Standing, doing household chores, and playing active video games
- · Playing and participating in games and sports activities
- Walking and running

SEARCH THE 7 Youth Compendium

Website Search Tips

- 1. Search the Youth Compendium to view the smoothed data for all activities or activities within a specific category.
- 2. Go to How to Access These Data for tips and guidance to make the most of your search.

For questions and comments, contact: nccor@fhi360.org

The youth MET (MET_v) values in the Youth Compendium were derived from literature reviews, data analysis, and imputation (Butte et al., 2017).

The efficacy of custom foot orthoses in the protection from non-contact injuries of the anterior cruciate ligament of the knee.

Tim Dutra, DPM, MS Biomechanics Faculty, California School of Podiatric Medicine @ Samuel Merritt University Podiatric Consultant, Intercollegiate Athletics, University of California Clinical Director, Healthy Athlete Fit Feet Program, Special Olympics Northern California

ACL Injuries: how can we help prevent them?

Non-contact anterior cruciate ligament (ACL) rupture in sports is a serious and prevalent injury in young athletes. It is estimated that 80,000 to more than 250,000 ACL injuries occur each year, more than half occurring in athletes 15–25 years old

MARC Motion Analysis Research Center



SAMUEL MERRITT UNIVERSITY



Study design

- establish a direct relationship between a foot orthotic and decreased ACL strain
- Pilot study with 15 females with flat feet
- Using stability court shoe
- Using semi-flexible polypropylene custom foot orthotic in court shoe

Statistical analysis

- Internal tibial rotation, relative internal rotation (with respect to the femur), and kinetics will be calculated using motion of body landmarks from the three-dimensional motion-capture software.
- Five trials of cross-over acute turn maneuvers and five trials of single-legged jump will be captured during running will be recorded per direction (left, right) per condition (original insole, custom foot orthotic).
- Repeated measures ANOVA will be used with an alpha level of 0.05 to determine whether there is a statistically significant difference between original insole and custom foot orthotic for each measure.

Instruments to be used in MARC

• visits 1 & 2:

The Neurocom Smart EquiTest Balance Manager (Natus Balance & Mobility) platform will be used to administer the Sensory Organization Test (SOT). The participant stands on a platform, wearing a safety harness vest, eyes open or closed, either with the platform or visual surround stationary or sway-referenced (can pitch forward or backward as the participant naturally sways and pressure moves either forward or backward). The SOT will evaluate how well a participant uses three related sensory systems: somatosensory, vision, and vestibular. For the motion analysis during locomotion, hypoallergenic two-sided adhesive tape will be used to affix twenty-two (22) reflective markers to typically boney landmarks on the participant's hips, legs and feet, bilaterally (Appendix J.10). The three-dimension locations of the reflective markers will be tracked by the ninecamera Qualisys (Gothenburg, Sweden) Oqus 300 motion capture system. The MARC walkway is instrumented with four AMTI (Newton, MA) tri-axial force platforms (force plates) to measure foot-floor forces. Body motion data will be used to calculate pelvis absolute angles, and relative joint angles for the hips, knees and ankles. Foot-floor forces data will be incorporated with inverse dynamics to calculate net joint moments of force and joint rotational powers via Visual3D software using the Helen Hayes marker set, the standard for clinical gait analysis.



Key Historical Points

• Berlin 2016

- SRC Sport Related Concussion
- Concussion symptoms may be immediate or evolve over time
- Extended concussion symptoms must not be explained by drug, alcohol, medication use, other injuries or other co-morbidities such as psychological conditions or coexisting medical conditions



Symptom Categorization

- UPMC categorization organization one of the most influential centers in the U.S.
- UPMC
 - Vestibular
 - Ocular
 - Cervicogenic (often co-morbid with psychological component)
 - Anxiety/Mood (can be alone or co-morbid)
 - Cognitive/Fatigue
 - PTM (Post Traumatic Migraine)



UPMC Modified Symptom Categorization Treatment • Anxiety/Mood

- Stress see onset as quickly as 2 weeks and worsens with rest – highly underreported
 - Immediate consideration of referral
 - Continued symptom inventory
 - Cannot turn off thoughts
 - Increased symptoms if think of symptoms
 - Refusal to attend social activities
 - Continued parental questioning of symptoms
 - Sleep problems are often co-morbid



UPMC Modified Symptom Categorization Treatment

- Anxiety/Mood
- VOMS nil or mildly provocative if vestibular overlay, usually normal, treat vestibular signs first
- Often see in presence of baseline or superior ImPACT scores but high symptom complaints
- Formal neuropsychological testing may be critical to eliminate true neuropathology and should be administered, if appropriate, in tandem with effort testing.



UPMC Modified Symptom Categorization Treatment

Treatment

- Therapy (Cognitive Behavioral Therapy, Psychotherapy)
- Exposure
- Exertion

- Behavior Regulation –
 diet, exercise, hydration,
 stress
- Medications
 - SSRIs
 - Benzos

R. Robert Franks, D.O., FAOASM Director Sports Concussion Institute Rothman Institute Associate Professor, Thomas Jefferson University Clinical Associate Professor, Rowan-SOM

Atypical Abdominal Pain In A Runner

Nathan Fitton DO, CAQ-SM Assistant Professor/Team Physician Michigan State University JCSMS Lightning Round, 2018



Presentation

- 22 year-old female patient presented to the sports medicine clinic with exertional abdominal pain
- It started suddenly while running over 6 years ago
 - There was no inciting event, trauma, or previous issue
- She reported that the sharp pain was about the size of her fingertip. It only occurred with running and was localized to her right upper quadrant
- It would start within a few minutes of running and became so debilitating that she would have to stop
- The pain would cease within a few minutes of stopping running
- Previous Evaluation
 - Blood work, Xray, CT, umbilical hernia repair, OMT, PT, US, bracing and 2 local steroid injections

Patient Evaluation

- Vitals: BP 115/73, Pulse 66, Temp 97.0, BMI 21.7
- Gen: NAD, well appearing
- ► HEENT: AT/NC
- Abdominal: Soft, non-tender, nondistended, no rebound, no guarding, no palpable defect or bulge, no overlying skin changes.
 - When pain occurred it was midclavicular line distal to costal margin
- MSK: Trunk ROM full and pain free. B/L UE and LE strength 5/5
- Neuro: B/L UE and LE reflexes equal and appropriate
- Osteopathic: Short right leg, right high iliac crest, right high ASIS. Rib motion normal and symmetric.

- Differential Diagnosis
 - Costochondritis
 - Rib Dysfunction
 - Anterior Cutaneous Nerve Entrapment Syndrome
 - ► GERD
 - Chronic Abdominal Pain
 - Poor Running Form
 - Somatic Dysfunction
 - Exercise Associated Intestinal Ischemia

Final Diagnosis

- Anterior Cutaneous Nerve Entrapment Syndrome: Superficial branches of the intercostal thoracic nerves become entrapped as they penetrate the rectus abdominis muscle
 - > Pain at lateral border of rectus abdominis muscle
 - Intense pain is size of fingertip
 - Worse with exertion/valsalva
 - Greater than 50% pain reduction after injection
- Other potential findings
 - Abnormal skin sensation to touch/cold
 - Positive Carnett Sign
 - Site of pain is identified with finger tip
 - Supine patient lifts head or legs
 - Pain increases in intensity
 - Extra-abdominal source pain increases
 - Intra-abdominal source pain decreases



Fig. 3 Branches of the intercostal nerve penetrating through five foramina on each side of the abdominal rectus muscle, approximately 1 cm medial from to the lateral border of the muscle

Treatment

- Initial visit: Kinesio-tape and acupuncture needles to site of pain, then trial this treatment with multiple runs over the next few days
- After 1 week: Patient reported "significant improvement". She was able to run seven times, all to completion. Three of the outings she was pain free, the first time this had occurred in over 6 years. Subsequent follow up patient has remained pain free.
- This diagnosis is entirely clinical. A positive Carnett Sign is very suggestive of ACNES, when combined with focal location and relief after steroid injection with anesthetic is nearly diagnostic
- Previous studies have looked at US guided injections and surgery but through literary search this is the only documented case of ACNES being treated with acupuncture. We used the application of *ah-shi*, or tender point acupuncture, to identify treatment locations
- In addition to this case we have successfully treated another individual with ACNES with the same protocol
- Very high morbidity but very low mortality



Exersize maeks yew schmartor

Ted Forcum, DC, DACBSPAmerican Chiropractic Association Council on Sports and Physical FitnessJon Metzler, Ph.D., CMPCAssociation for Applied Sport Psychology

Learning is when neurons get wired

 Learning is a change in the neuron-patterns of the brain.

(Ratey, 2002, Goldberg, 2009)

• The human brain has 100 billion neurons.

(It does grow thousands of new cells daily)

 These 100 billion neurons are capable of making 40,000,000,000,000,000

(Forty quadrillion connections)

(John Ratey, Users Guide to the Brain, 2001)



Research/scan compliments of Dr. Churck Hillinan University of Illinois



The brain needs to function effectively: 1. Exercise

2. Sleep

- 3. Oxygen
- 4. Hydration
- 5. Food (glucose)

We need to learn new things!

- Skills we're already good at don't make us much smarter: we don't pay much attention to them.
- New, cognitively demanding activities like the martial arts or learning a foreign language are more likely to boost processing speed, strengthen synapses, and expand or create functional networks

(Yaakov Stern of Columbia University.)



Exercise and Cognitive Enhancement

 Exercise is the single most important thing a person can do to improve their learning.

(John Ratey, 2008, Spark, The Revolutionary New Science of Exercise and the Brain)

Exercise Produces BDNF

- Improves brain health
- Enhances the wiring of neurons
- Is a stress inoculator
- Makes the brain cells more resilient
- "In particular BDNF seems to be important for long term memories" (Ratey, 2008)



The Brain and Learning

 Natural selection resulted in a human brain that could solve problems of survival in outdoor, unstable environments while in almost constant motion.

(Dr. John Medina, Developmental Molecular Biologist, University of Washington and Author of Brain Rules)



Moving Together Toward Improved Health: Exercise Oncology

Kathryn Schmitz, PhD, MPH, FACSM, FTOS Professor, Public Health Sciences President Elect, ACSM



Fitness Model and Cancer Survivor Michael Markiewicz



Penn State Cancer Institute

The Impact of Cancer in the U.S. and Worldwide

- USA
 - 2nd leading cause of death
 - 1.7 million new cancer cases
 - 595,690 deaths per year
 - 15 million survivors (4% of US population)
- Worldwide
 - 14.1 million new cancer cases
 - 8.2 million cancer deaths
 - 32.6 million survivors





Physical Activity after Cancer Diagnosis: During Treatment and Recovery

- Prior State:
 - Rest, take it easy, don't push yourself
- Current State:
 - 150 minutes aerobic activity per week
 - 2-3 times weekly strength training
 - Flexibility on days when other activities are performed (daily)



American College of Sports Medicine Roundtable on Exercise Guidelines for Cancer Survivors

EXPERT PANEL

Kafleyn II. Schustz, PhD, MPH, FACSM Karry S. Overnays, PhD Charles Matthews, PhD: FACSM Wendy Diseask-Waterstein, PhD Daniel A. Cabolio, PhD Daniel A. Cabolio, PhD Mellada J. kwin, PhD, FACSM Kathleen Y. Wolks, SGI, FACSM Kathleen Y. Wolks, SGI, FACSM Boame J. Sagai, MD, FRCP Carnie M. Schneider, PhD, FACSM Virtus E. von Graenigen, MD Annex J. Schweiz, PhD, FACSM is physical functioning and quelys of kinan well-costs for the recommendation that cancer services follow the 2000 Physical Austrice Collabolistic for Americans, while quells ensured pergenanting adaption based on allowers and measuremethod adverse efforts. The advance to "second homfully," even is cancer patients with entering Based or unserging all Back transmitts, in kindle physical.

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SPECIAL COMMUNICATIONS

Roundtable Consensus Statement

ACSM Multidisciplinary Roundtable on Exercise Oncology

- Partnering organizations
 - APTA, AAPMR, ASCO, ACLM, ACS, CDC, NCI, CARP, CSEP, MacMillan, Royal Dutch Society of Physical Therapy, German Union for Health Exercise and Ex Therapy, ESSA
- Goals
 - Update exercise guidelines for cancer
 - Start process toward making exercise standard of care in oncology



Collective Impact Options: Let Us Move the Future of Health Together







State Cancer Institute

Why we need.....

ExeRcise is Medicine®



Elizabeth Joy, MD, MPH, FACSM Immediate Past President, American College of Sports Medicine



18.2% of US adults meet recommended levels of aerobic and strength training



Doctor/Health professional recommendation



- Lead by the American College of Sports Medicine
- 10th Anniversary 2017-18
- 42 national centers
- >130 registered EIM on Campus locations across the US, and 15 international EIM on Campus locations
- >1400 EIM certified health and fitness professionals
- 8th Annual EIM World Congress, Minneapolis, MN 2018
- More than \$1 million in funding over 10 years

The future of.....



TRIPLE AIM (BETTER CARE, BETTER OUTCOMES, LOWER COST)

POPULATION HEALTH MANDATE

HIGH QUALITY, INCONTROVERTIBLE EVIDENCE

Adherence to Physical activity (>150 min MVPA/week)

was associated with a

40% lower development of heart disease

20% reduction in high cholesterol

>50% reduction in the risk of developing diabetes

Pronk N. Pop Health Management 2010



Linking Healthcare and Health & Fitness

HEALTHCARE



HEALTH & FITNESS

Step 1	Step 2	Step 3	Step 4	Step 3	Step 2	Step 1
Physical	Physical	Physical	Physical	Health &	Health &	Health &
Activity	Activity	Activity	Activity	Fitness	Fitness	Fitness
Assessment	Advice	Rx	Referral*	Employment	Credential	Workforce
(PAVS)	(Start,		(Person,	(Personal	(EIM	Development
	Increase,		Place,	Training,	Credential)	(EIM on
	Maintain,		Program,	Community		Campus)
	Modify)		Self-Directed)	Fitness;		
				health		
				coaching)		
					*	

* Referral could be within healthcare (PT, RD, Cardiac Rehab, MFA; or external to community resource)



At Intermountain Healthcare

You Can Learn to Move More

		Pick something I wan you want to do now	t to try:	Be honest with yourself about what you are maily needy to work on.
		You'll learn by what	works for you by trying and crea Follow the steps below.	ting your own formula.
		Make a Plan. Planning out the details will help you succeed.		
mHg mmHg bpm br/min & L/min Deg C	í	Pick a small step Pick a small step toward your goal.	Prepare What resources could help? (Time? Gear? A class?)	Think ahead What might get in the way or make this harder?
Resting O Exertion			Who will support you? (A friend? A family minimiter? A fitmes professional?)	What can you do when that happens?
s per day Times per week Minutes per week Intensity Physical Activity Consultation 3 30 Moderate Counseled to start physical activity	and learning/	Connect this step to a prompt or reminder.	What changes to your environment would help? (Xrep workout bag packed!)	What will inspire you to keep going and have fun?
	Act and Track. Try out your step for a defined period.		4.	
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Preserving. Inspiring. Protecting.



U.S. Anti-Doping Agency

A Threat to Public Health – Unapproved Drugs in Dietary Supplements

Matthew Fedoruk, Ph.D. Senior Managing Director, Science & Research

What are Dietary Supplements?

- The law defines dietary supplements in part as products taken by mouth that contain a "dietary ingredient." Dietary ingredients include vitamins, minerals, amino acids, and herbs or botanicals, as well as other substances that can be used to supplement the diet.
- Products containing hidden drugs are also sometimes falsely marketed as dietary supplements, putting consumers at health risk.



Preserving. Inspiring. Protecting.

Selective Androgen Receptor Modulators (SARMS) in Dietary Supplements

- SARMs are nonsteroidal drugs in clinical trials to treat acute and chronic muscle wasting and breast cancer. None have been FDA approved.
- SARMs are listed as prohibited at all times on the World Anti-Doping Agency (WADA) Prohibited List and other sports bodies.
- SARMs are being sought out as performance and imageenhancing substances; as alternatives to anabolic steroids.
- Unlike anabolic steroids, SARMs are not listed under the Controlled Substances Act.
- SARMs are not legal or approved ingredients for dietary supplements products, but may be easy purchased.
- The composition and purity of such products is not known.



Selective Androgen Receptor Modulators (SARMS) in Dietary Supplements

JAMA | Original Investigation

Chemical Composition and Labeling of Substances Marketed as Selective Androgen Receptor Modulators and Sold via the Internet

Ryan M. Van Wagoner, PhD; Amy Elchner, PhD; Shalender Bhasin, MB, BS; Patricia A. Deuster, PhD; Daniel Elchner, PhD

JAMA. 2017;318(20):2004-2010. doi:10.1001/jama.2017.17069

QUESTION

What types and quantity of ingredients are found in products sold through the internet and advertised to contain SARMs?



Preserving. Inspiring. Protecting.

Findings & Conclusions

- Chemical analyses of 44 products sold via the internet as SARMs revealed that:
 - Only 52% contained selective androgen receptor modulators; and, another 39% contained another unapproved drug.
 - In addition, 25% of products contained substances not listed on the label;
 - 9% did not contain an active substance; and
 - 59% contained substance amounts that differed from the label.

Conclusions In this limited investigation, most products contained unapproved drugs and substances. Only 52% contained SARMs and many were inaccurately labeled.

Relevance Increased awareness of health risks posed by using dietary supplements containing unapproved drugs will help protect consumers and athletes.











It was just magical. When I got to St. Louis in November, the rink had been redone. The Salomons had done everything to get people to come to the games. The team started to come together and it was kind of like the fans were willing the players into doing well. The players were humble and they were happy to be here. So it was just a love affair between the fans and the players. It was a great time to be a Blue."

- Red Berenson The Blues at 90, St. Louis Past Dispatch September 25, 2016, Page 14

Red Bererstori

BARCLAY PLAGER BID BEDELER OF THE THREE PLACER BOYS AS SEXUS THEY FLORE THREE BID BEDELER AND GLEAT OF THEME

20

Amores

BARC MULLE A NEWLE OF FILE BENDLEY BOX LAST SEASONY WITH 153 TENNLEY MINUES TOPS IN THE LEADLE. ME SET A MAL RECORD IN THE PLAYER WITH 73 PENNLEY MINUTES.

acres 1

BOX



ALT HARD PHOST PARADONY ALTHOUR TO SCORE IN STANLEY CUP RADOFF.

a