

New Discoveries by Scientific Working Group Could Advance Ability to Detect hGH Doping in Sport



Building on the existing tests for growth hormone (GH) abuse in sport, scientists continue to make advancements in successfully detecting doping in sport. Now, breaking research appearing in *Clinical Chemistry*, the journal of the [American Association of Clinical Chemistry](#), shows that measuring insulin-like growth factor 1 (IGF-1) as a biomarker of GH activity, through a chemistry technique known as liquid chromatography-tandem mass spectrometry (LC-MS/MS), could increase the ability to detect GH doping and enhance inter-laboratory precision.

A team of researchers from five laboratories in three countries, formed an unprecedented international working group on this topic, led by USADA's Chief Science Officer, Larry D. Bowers Ph.D. and funded by the Partnership for Clean Competition (PCC). The PCC is a unique research collaborative founded by USADA, the United States Olympic Committee (USOC), Major League Baseball (MLB), and the National Football League (NFL) for the express purpose of supporting the world's top scientists and innovators in conducting high quality anti-doping research and development, to help generate effective methods and resources for detecting and deterring the use of performance-enhancing substances and methods.

The working group, established in 2011 as part of an initiative to develop new tests for GH biomarkers, has demonstrated that using LC-MS/MS instead of antibodies to measure IGF-1 concentrations increases measurement precision. For anti-doping purposes, the LC-MS/MS method has a second significant advantage over immunoassay – as IGF-1 is identified in addition to being quantified. The results may contribute to the development and global adoption of the biomarkers GH test in anti-doping.

Currently, two approaches have been developed for detecting GH in sport applications. The GH isoforms test, reported in *Clinical Chemistry* in 2009¹, has been successfully used for a number of years to identify athletes abusing GH; however, it is limited by a short

detection window. The biomarkers test, which measures serum concentrations of IGF-1 and another protein produced by the action of GH, has a much longer detection window, potentially up to a number of weeks. The two tests complement each other, and could be used in tandem to greatly enhance the ability to detect prohibited GH use by athletes.

Athletes purportedly abuse GH to obtain its muscle-building and fat breakdown activity. Some actions of GH are the result of increased IGF-1 concentrations in the blood from the response of the liver to GH stimulation. Anecdotal evidence suggests that IGF-1 abuse may also be on the rise. Side effects of this abuse include diabetes, aggravation of heart disease, and abnormal organ growth, among others.

“Not only are these research results groundbreaking, but the selfless work and cooperation of the members of this working group, with the PCC's support, demonstrates the power of collaborative research,” said Bowers, USADA Chief Science Officer and PCC Scientific Advisory Board Chair. “Bringing together top scientists and innovators in focused research to identify and resolve analytical problems is critical to advancing anti-doping science.”

Additionally, the PCC IGF-1 LC-MS/MS working group's study demonstrates the benefits of the harmonization of – or ensuring uniformity among – clinical laboratory test results, an important healthcare issue.

“In addition to being an important anti-doping testing advancement, new testing methodology arising from these findings could also aid in the diagnosis and treatment of disorders caused by the natural over- or under-production of GH,” said Andy Hoofnagle, M.D., Ph.D, and an associate professor of Laboratory Medicine and Pathology at the University of Washington and a senior author on the paper.

¹ Bidlingmaier M, Suhr J, Ernst A, Wu Z, Keller A, Strasburger CJ, Bergmann A. High-sensitivity chemiluminescence immunoassays for detection of growth hormone doping in sports. *Clin Chem*. 2009 Mar;55(3):445-53.

A publication dedicated to providing timely and accurate anti-doping information for those involved and interested in the Olympic and Paralympic Movement.

In This Issue:

Congrats Ambassadors!

See which TrueSport Ambassadors took home medals in Sochi...

[Read more on Pg 2](#)

Habitat For Humanity

USADA lends a helping hand to the local community...

[Read more on Pg 3](#)

PED Use More Prevalent Than HIV

A new study highlights the prevalence and risk of PED use...

[Read more on Pg 4](#)

Energy Drinks vs. Sports Drinks

Learn the differences between these often-confused categories...

[Read more on Pg 5](#)

Ask the Scientists

The experts weigh in on IV infusions for re-hydration and recovery...

[Read more on Pg 5](#)

Paralympics Place

Learn about the newest Paralympic sport's debut at Sochi...

[Read more on Pg 6](#)

TrueSport Launches in Sport Camps

See where TrueSport is taking its first summer of camps...

[Read more on Pg 7](#)

Anti-Doping Word Search

Test your anti-doping knowledge and word-search skills...

[Read more on Pg 8](#)

THE SPIRIT OF SPORT IS GOING DIGITAL-

instead of being printed in hardcopy, regular updates can now be found at [USADA.org/resources/spirit-of-sport/](#)

Congrats *Ambassadors and Medal Winners!*

Several TrueSport Athlete Ambassadors represented the United States nobly at the 2014 Sochi Olympics and demonstrated TrueSport principles both in-and-out-of-competition.

The third time was a charm for **Erin Hamlin**. Not only did the luger from Remsen, New York win her first personal medal; she also became the first American luger of either gender to win a medal in singles luge.

Bobsledder **Lauryn Williams** also made history. With her silver as part of the two-woman bobsleigh team, she became just one of five athletes to win a medal in both the Summer and Winter Games, including becoming the first American woman to accomplish the feat. Williams also medaled at the London 2012 and Athens 2004 Olympics in the 4 x 100 m relay and 100 m, respectively.

There was also TrueSport representation at the Sochi Paralympics, where **Augusto Perez** participated in his third Games. Perez competed in three events in two sports; the 15km- sitting and 4x2.5km open relay cross-country skiing events and in biathlon's 12.5km- sitting event.

TrueSport Ambassadors give back to the sports they love and to the next generation of athletes by advocating for the development of character and integrity in athletes as well as the achievement of healthy performance strategies for sport and life. We're proud that these Ambassadors represent TrueSport through personal stories of clean sport, sportsmanship, and peak performance.

USADA and TrueSport would like to congratulate, Erin, Lauryn, Augusto, and every other American Olympian and Paralympian that took home medals at the Sochi Olympics and Paralympics!



Augusto Perez

Photo by James Netz Photography



Erin Hamlin

Photo by USA Luge



Lauryn Williams

Photo by Charlie Booker

GOLD MEDALS

Jamie Anderson (Snowboarding – Women's Slopestyle)
 Maddie Bowman (Freestyle Skiing – Women's Halfpipe)
 Joss Christensen (Freestyle Skiing – Men's Slopestyle)
 Meryl Davis (Figure Skating – Mixed Ice Dance)
 Kaitlyn Farrington (Snowboarding – Women's Halfpipe)

Sage Kotsenburg (Snowboarding – Men's Slopestyle)
 Ted Ligety (Alpine Skiing – Men's Giant Slalom)
 Mikaela Shiffrin (Alpine Skiing – Women's Slalom)
 Evan Strong (Para Alpine Skiing)
 David Wise (Freestyle Skiing – Men's Halfpipe)
 Charlie White (Figure Skating – Mixed Ice Dance)

SILVER MEDALS

Eduardo Alvarez (Short-Track Speedskating – Men's 5000m Relay)
 Mark Bathum (Para Alpine Skiing)
 Heath Calhoun (Para Alpine Skiing)
 John Celski (Short-Track Speedskating – Men's 5000m Relay)
 Christopher Creveling (Short-Track Speedskating – Men's 5000m Relay)
 Gus Kenworthy (Freestyle Skiing – Men's Slopestyle)
 Devin Logan (Freestyle Skiing – Women's Slopestyle)
 Jordan Malone (Short-Track Speedskating – Men's 5000m Relay)
 Oksana Masters (Para Cross-Country Skiing)
 Tatyana McFadden (Para Cross-Country Skiing)
 Elana Meyers (Bobsled – Women's 2-Man Competition)
 Alana Nichols (Para Alpine Skiing)
 Noelle Pikus-Pace (Skeleton – Women's Individual)
 Michael Shea (Para Alpine Skiing)
 Andrew Weibrecht (Alpine Skiing – Men's Super G)
 Lauryn Williams (Bobsled – Women's 2-Man Competition)
 Women's Ice Hockey

BRONZE MEDALS

Matthew Antoine (Skeleton – Men's Individual)
 Kelly Clark (Snowboarding – Women's Halfpipe)
 Alex Deibold (Men's Snowboard Cross)
 Aja Evans (Bobsled – Women's 2-Man Competition)
 Chris Fogt (Bobsled – Men's 4-Man Competition)
 Figure Skating – Mixed Team
 Keith Gabel (Para Alpine Skiing)
 Nicholas Goepper (Freestyle Skiing – Men's Slopestyle)
 Jamie Greubel (Bobsled – Women's 2-Man Competition)
 Erin Hamlin (Luge – Women's Singles)
 Steve Holcomb (Bobsled – Men's 2-Man Competition and Men's 4-Man Competition)
 Stephanie Jallen (Para Alpine Skiing)
 Allison Jones (Para Alpine Skiing)
 Hannah Kearney (Freestyle Skiing – Women's Moguls)
 Steve Langton (Bobsled – Men's 2-Man Competition and Men's 4-Man Competition)
 Julia Mancuso (Alpine Skiing – Women's Super Combined)
 Oksana Masters (Para Cross-Country Skiing)
 Bode Miller (Alpine Skiing – Men's Super G)
 Amy Purdy (Para Alpine Skiing)
 Laurie Stephens (Para Alpine Skiing)
 Curt Tomasevicz (Bobw – Men's 4-Man Competition)
 Danielle Umstead (Para Alpine Skiing)

Source: ESPN.com and Sochi2014.com

Great job Team USA!

USADA *Lends a Helping Hand*

USADA's staff is committed to serving our community throughout the year, and in March we kicked off our 2014 service initiative by volunteering with Pikes Peak Habitat for Humanity.

Employees across all of USADA's departments met in Fountain, Colorado to work with other Habitat volunteers to help build homes that will eventually house more than 30 families. Members of our staff donated 56 man-hours helping to build retaining walls for a nearly completed home. Over 90% of the work on each home is completed by volunteers.

In order to qualify for a zero interest, 30-year mortgage home, a family must meet a financial or situational need, be willing to put in 350-450 hours of 'sweat equity', and take finance classes.

While Habitat for Humanity often conjures up images of raising walls and hammering nails, there are a variety of ways available for volunteers to help. In this case, USADA's staff worked on a stone retaining wall behind an otherwise nearly-completed house. While some volunteers dug a trench and leveled the foundation of the wall, others solidified the existing work by pounding rebar and pouring gravel.

At the end of the day, volunteers were invited inside one of the nearly-finished homes. There was an overwhelming sense of goodwill, and USADA will continue to volunteer their time for more worthwhile causes in the months and years ahead.

Special thanks to the Volunteers:

- | | |
|------------------------|------------------------|
| Brittany Bender | Dave Knutson |
| Betsy Douglass | Kyle McKinnis |
| Jennifer Dodd | Lisa McCumber |
| Andrew Elsass | Lindsey Roebken |
| Nick Esares | Shikha Tandon |
| Donna Harris | Vicki Vaughan |
| Lani Hawes | Johnnie Wingard |
| Jennifer Jago | Eric Young |



Who Said it...

"I am building a fire, and every day I train, I add more fuel. At just the right moment, I light the match." (Answer on Page 6)



Use of Performance-Enhancing Drugs More Prevalent than Type 1 Diabetes or HIV Infection

A Scientific Statement published by the Endocrine Society highlights the prevalence of performance-enhancing drug use and the associated public health risks.

As a member of the Endocrine Society's Scientific Task Force (SSTF), USADA's Chief Science Officer, Dr. Larry Bowers, was an author of the scientific statement, "Adverse Health Consequences of Performance-Enhancing Drugs," published in the Endocrine Society journal, *Endocrine Reviews*. The SSTF compiled a multitude of research and documentation on a variety of performance-enhancing drugs (PEDs) and the associated health effects, with a focus on anabolic-androgenic steroids (AAS). Most notably, the statement asserted that:

With at least three million PED users in the U.S. alone, PED use ranks ahead of type 1 diabetes and HIV infection in prevalence, and yet the resources allocated to address PED use as a public health problem are negligible in comparison to these diseases.

According to the statement, "Neither the medical community nor policymakers appreciate that most PED users are not competitive athletes, but rather non-athlete weightlifters." This widespread misconception that PED use is limited to the elite athlete population has distracted attention from the public health issue created by PED use.

Another widespread misperception noted in the statement is the belief that PEDs are safe or associated with manageable adverse effects, which has contributed to the growing use of PEDs, especially among non-athletes. The unregulated sale of dietary supplements on the Internet has also greatly increased the illicit use of AAS, as more and more products are manufactured and advertised to this market.

The statement points out that the adverse health effects of PED use remain "understudied and underappreciated," as the resources to study PEDs primarily are used on detection and deterrence. One reason is because widespread illicit use of PEDs did not appear until the 1980's and 1990's, meaning the majority of users are still under the age of 50 and the full scope of the long-term effects of PED use have yet to surface. Additionally, all current medical evidence of health consequences has emerged from case-control studies, case reports, and retrospective surveys, as randomized trials in the dosages that users tend to take are not possible

due to ethical concerns. Yet even with these limited resources, many adverse health effects of PED use were expounded upon within the SSTF's statement.

PED use has been linked to an increased risk of death as well as a wide variety of cardiovascular, psychiatric, metabolic, endocrine, neurologic, infectious, hepatic, renal, and musculoskeletal disorders. Users of high doses of AAS may be more susceptible to rage, antisocial and violent behaviors, and suicidality.

Of all AAS users, the statement indicates that 30% may develop AAS dependence. These long-term users might develop potentially irreversible cognitive deficits and some may never regain normal testosterone levels. If these long-term high dosage AAS users attempt to stop using, they will likely experience depressive symptoms during withdrawal.

The statement highlighted two areas of concern which require more research. One concern is PED users combining AAS with other drugs, including opiates and non-steroidal anti-inflammatory drugs. These "PED cocktails" allow athletes to engage in extremely intense training exercises in the face of a previous injury, thus greatly increasing the risk for further muscle and joint injury.

The second concern is the possible interaction of AAS with central nervous system (CNS) injuries, especially in those with repeated mild head trauma,



usually found in soldiers and football players. The armed forces do not test for AAS, and while football players may be tested for AAS, there is a lack of comparable data on concussive injuries.

This mounting evidence of adverse effects related to PED use provides "a strong justification for the need to improve methods for detecting illicit PED use and eliminating abuse by both athletes and non-athletes." This statement emphasizes that PED use is a "serious public health problem."

Randomized trials of PEDs are not possible due to ethical concerns, and most controlled lab studies test AAS doses that are much lower than the supra-physiologic doses often used by illicit users. Due to this, the statement recommends a variety of observational studies and registries to determine the prevalence of PED use in non-athletes and the long-term health effects. Therapeutic trials to treat AAS withdrawals are advised as well, as there is proof that some adverse cardiovascular effects may be at least partially reversible following AAS abstinence. Finally, the statement suggests developing innovative approaches to enhance public awareness of the serious health consequences of PED use.

A link to the complete statement can be found here (<https://www.endocrine.org/news-room/press-release-archives/2013/performance-enhancing-drug-use-more-prevalent-than-type-1-diabetes-or-hiv-infection>)

Energy Drinks vs. Sports Drinks

The general public is often confused by the differences between energy drinks and sports drinks. However, neither of these are official product categories.

The Food and Drug Administration (FDA) currently does not recognize a difference between the two. Instead, a distinction is only made between FOODS (including beverages), SUPPLEMENTS (which can be liquid), and DRUGS (which can also be liquids). The FDA classifies all products into one of these three categories.

Energy drinks and sport drinks are marketing terms that beverage companies created to target sales and tell consumers more about their products. The exact same drink could technically be marketed as a food (with a nutrition facts label) or as a supplement (with a supplement facts label). This decision is up to the company, and the FDA does not review these labels to determine if the correct (and legal) choice has been made.

Whether a product is marketed as a food or a supplement will determine which laws apply to it, and what information companies have to provide

to consumers. See the differences between the two categories below.

How do you figure out which ingredients are actually in a product and if they are safe and healthy? The safest solution is to avoid energy products all together and stick with ones that

market themselves as foods. Examine the ingredient list closely, and learn more about electrolytes and carbohydrates to decide which sport drink (not energy drink) is the best choice for you, your kids, or your team. Or, skip the fancy drinks all together and have water or chocolate milk (post-workout).

Nutrition Facts

The product is marketed as a beverage (a "conventional food").

Primary purpose must be hydration, but it can also deliver nutrients and calories.

If the company is in compliance with the law AND their label is accurate, then the product will not contain novel designer ingredients because conventional foods must adhere to strict food-additive regulations...

...however, a product could contain substantially more amounts of caffeine than is listed on the label (there is at least one energy drink that contains six times the amount of caffeine as a regular cola).

Companies are not required to report adverse events, which is important in an industry that needs to steer clear of having poor safety records for their products.

Supplement Facts

The product is marketed as a supplement (not a drink or beverage)

Purpose is to supplement the diet (purpose CAN'T be to hydrate)

Can't use terms like drink, juice, or beverage anywhere on the label or in any advertising.

Don't have to list the amounts of ingredients in proprietary blends.

Can include a large variety of ingredients including botanicals, amino acids, proteins, peptides, extracts, glands, or tissues.

Can contain novel, untested ingredients which are supposed to be reviewed by the FDA before being sold, but rarely are.

Adverse-event reporting is mandatory, but there is a history of under-reporting.

Ask The Scientists!



Dr. Larry Bowers,
USADA Chief
Science Officer



Dr. Matt Fedoruk,
USADA Science
Director

Q: Is inhaling Xenon or Hydrogen Sulfide gas dangerous?

A: Recent reports in the media and from other sources suggest that athletes may be attempting to enhance performance by using dangerous, highly toxic, concentrated gases. Inhalation of volumes of concentrated gases such as carbon monoxide, hydrogen sulfide, and xenon, even with medical supervision, may carry serious health risks.



No credible scientific studies have proven that Xenon is a safe or effective way to enhance performance by increasing Hypoxia-Inducible Factor (HIF) stability in humans. However, there are very serious health risks associated with the inhalation of volumes of concentrated gases such as xenon, carbon monoxide, hydrogen, and sulfide, even when done under medical supervision. Hydrogen sulfide is particularly dangerous because an early effect of the gas is to paralyze the olfactory nerves, thereby increasing the danger of toxic dosages. Xenon has been used as an anesthetic, and may have side effects such as hypertension and nausea and vomiting in a significant number of individuals. Even if a person survives acute poisoning, they may require months of recuperation.

In a response to these concerns, the World Anti-Doping Agency (WADA) has added the new, HIF Stabilizers and Activators category to the 2014 Prohibited List, which includes substances such as Xenon and Argon,

among others. The addition of this class of substances to the list will be effective on September 1, 2014, following the required three-month notice period. Testing can detect the use of HIF stabilizers and activators.

Q: When was the first "Prohibited List" created, and how does a substance get on the prohibited List?

A: Under the leadership of the International Olympic Committee, the Prohibited List (List) was first published in 1963. Since 2004, as mandated by the World Anti-Doping Code (Code), the World Anti-Doping Agency (WADA) is responsible for the preparation and publication of the List.

WADA convenes an independent panel of international experts to consider the composition of the List on an annual basis. A substance or method will be considered for the List if it meets any two of the following three criteria: it has the potential to enhance sport performance; it represents an actual or potential health risk to the athlete; or it violates the spirit of sport. After the List is drafted for any year, it is sent to stakeholders for comment and finally approved by the WADA Executive Committee. A new List is approved each October for implementation the following January to give athletes an opportunity to make the appropriate changes in medications.

DCO/RTL Profile: **Kris Forberg**

USADA's Regional Team Lead (RTL) in the West Region, Kris Forberg, has devoted his life to both learning and teaching.

Born and raised in Chico, California, Kris attended undergrad at Capital Bible College in nearby Sacramento, where he gained his bachelor's in Ministerial Studies. This was followed by another bachelor's in Liberal Studies from the University of California-Irvine and then three associate's degrees, one of which is in science.

Shortly thereafter, Forberg obtained the third of his five degrees while serving as an ordained minister at a church in San Diego for nearly seven years.

Kris began working with USADA as a chaperone in 2001, and was hired on as a full-time Doping Control Officer (DCO).

"The work of USADA has fascinated me from the first time I went out on an [out-of-competition test] attempt. I whole-heartedly believe in the mission

of USADA, and strongly believe that we are doing a great work for clean athletes in our country." Having been with USADA for over ten years, Kris enjoys the fact that no two days are ever the same, and that there is always an opportunity to learn new things while conducting testing out in the field.

Kris is also full of admiration and respect for American athletes.

"I feel most honored to do my job when I see how our athletes act after a competition or when they are away from their sport. I thoroughly enjoy watching athletes conduct interviews, speak to children about the dangers of doping, and work to help those who are less fortunate. Our country truly has remarkable athletes."

Outside of work, Kris is an avid runner and enjoys watching his kids participate in sports near their home in Temecula, California.



paralympics place

Para Snowboarding

Like their Olympic brethren, the Winter Paralympics are also rapidly growing and expanding. The Sochi Games saw the introduction of one new discipline: para snowboarding.

In its Games debut, athletes in both men's and women's snowboard cross raced down a course with banks, turns, jumps, and rollers. Competitors raced against the clock in a time-trial format. Each rider had three runs, and their best two times made up their total time. The fastest combined time won.

To compete in the event, athletes must be classified as having a lower-limb disability. In World Cup events, participants with upper-body disabilities are also allowed to compete.

The United States had an incredibly strong showing in the sport's inaugural Paralympic appearance. Evan Strong, Michael Shea, and Keith Gabel swept the podium in the men's event and Amy Purdy took bronze in the women's. Strong's gold was Team USA's first of the Games, and the trio were the only athletes from the United States to sweep an event in any sport at the Paralympics.

This was somewhat business-as-usual for the four medalists—between themselves, they can lay claim to over twenty medals at World Championship and World Cup events.

The sport's season concluded a few weeks later in April and will commence again in August.



Answer to "Who Said It?"

(from page 3)

– Mia Hamm, American soccer player and two-time Olympic gold medalist

TrueSport Launches Sport Camps

Air Force Academy Sports Camps Officially Recognized as TrueSport Camps

In a positive setting, sport can provide young athletes with the opportunity to learn important life lessons such as making good choices and practicing perseverance, respect, responsibility, and teamwork. And while some young athletes will grow up to play collegiately or perhaps even professionally, all of them will take the lessons they have learned through participating in sport with them the rest of their lives. TrueSport Camps provide participants with a stepping stone toward a successful life through the creation of a positive sport experience.

TrueSport Camps aim to change the playing field with compelling and comprehensive lesson plans designed specifically for camp settings. The lessons focus on three pillars—Clean Competition, Sportsmanship, and Peak Performance—and each pillar includes five lessons for athletes ages 10-17. "TrueSport Talks"—video messages from Olympic and Paralympic Athlete Ambassadors—introduce and support each lesson.

Clean Competition

- Decision-Making
- Energy Drinks
- Dietary Supplements
- Performance-Enhancing Drugs (PEDs)
- Shortcuts

Sportsmanship

- Respect & Accountability
- A Good Sport
- Teamwork
- Leadership
- Bullying Prevention

Peak Performance

- Goal-Setting
- Nutrition
- Perseverance
- Hydration
- Preparation & Recovery

Among the first to be officially recognized as a TrueSport Camp, the Air Force Academy (AFA) in Colorado Springs is integrating the program into its upcoming summer season.

As one of the country's elite military institutions of higher education and a member of the highly-competitive Mountain West Conference for athletics, the overall mission of the AFA's athletic program is well-suited to the TrueSport Camp objectives. The AFA aims to provide an athletic experience that creates a realistic leadership experience in a mentally and physically challenging setting, and teaches leadership in a competitive environment and builds character.

This summer the AFA will offer 20 sports camps as well as several other specialty camps, all of which are led by their head coaches with assistance from their staffs, as well as the top coaches locally and nationally. Each camper will be exposed to the TrueSport curriculum and will learn important lessons and skills for what it means to be a TrueSport athlete.

The TrueSport Camp program operates under the philosophy that it is not just winning that takes precedence, but how you win is just as important, and sport acts as a vehicle to guide athletes to ultimate success.

TrueSport Ambassador Jeremiah Bishop Hosts the NICA Annual Awards Banquet

TrueSport Ambassador Jeremiah Bishop hosted the fourth annual National Interscholastic Cycling Association (NICA) Awards banquet and benefit ride in San Francisco.

TrueSport was proud to support this annual event that celebrates the student-athletes, coaches, and volunteers that dedicate countless hours to the high school mountain biking community.

"We are both honored and excited to be a part of what NICA does so well—assisting young athletes with developing strong bodies, minds, and character," said TrueSport Managing Strategist, Anais Spitzer, Ph.D. "Through our collaboration with NICA, we hope to continue to play a direct

role in imparting the values of clean competition and sportsmanship, and teaching young athletes how to compete with integrity in sport and in life."

TrueSport and NICA joined forces in August 2013 to provide educational opportunities and implement programs for the NICA community that aim to help students develop as athletes while fostering a culture of clean competition and integrity in cycling. Together, TrueSport and NICA are transforming the culture of a sport that is in need of a paradigm shift while also setting the foundation for the next generation to be successful both on their bikes and off.

To learn more about TrueSport Camps, visit our camp page at <http://truesport.org/camps>.

We are proud to be associated with these quality programs who are implementing the TrueSport Camps this summer!



Austin McInerney from NICA (left), Anais Spitzer, Ph.D., TrueSport Managing Strategist (center), and cyclist Jeremiah Bishop (right) take time out for a photo during the NICA Benefit Ride.

Anti-Doping Word Search

Find the different anti-doping words (the parts in bold) from the key!

P O E F L C E G J N D R P S M
 S R R N D A N Z T N E W P P O
 B V O D H I D G N W P M A I K
 Z N I H L A H E H X R E E R F
 L E O E I A N S M O K I L I E
 Z Z B E Z B B C O F W F I T J
 S A Z H Z N I O E Y K H B O B
 L K D Q G G J T L S I V O F M
 R E D F L A G S E G G N M S E
 X Q A H A G B D H D L M G P D
 A L I I U R B R Z I L D P O I
 N F D E W Z I I N N C I W R C
 H C E A H S T E Z C B F S T A
 F Q M X K U I S Q B R W Y T L
 A T H L E T E E X P R E S S W
 K S I R H T L A E H E T H Z N
 A S A M L I A M E F O S Q G A
 T W A W I V S K X U C T Q J K

Key:

Resources for Athletes

Athlete Express
 GlobalDro.com
 Prohibited List

Ways to Update Whereabouts

Email
 Mobile App
 Online

Found on Supplement411.org

Supplement **High Risk List**
 Truths in **Labeling**
 Supplement **Red Flags**

Three Valid Reasons to Delay Testing

Medal Ceremony
Media Commitment
Medical Attention

Criteria for a Substance to be on the WADA Prohibited List

Enhances sport performance
 Poses a **health risk** to athletes
 Violates the **Spirit of Sport**



In its mission to preserve the integrity of competition, inspire true sport, and protect the rights of athletes, USADA is unwavering in its belief that every athlete has the right to compete on a clean and level playing field, free from performance-enhancing drugs. USADA has established a number of ways to anonymously report doping in sport in an effort to protect athletes and promote clean competition:

Call 1-877-752-9253,

Email playclean@usada.org

Submit a tip online at usada.org/playclean



SPIRIT Sport®

Contributors:

Jennifer Dodd
 Betsy Douglass
 Matthew Fedoruk, Ph.D.
 Bradley Guye
 Erin Hannan
 Donna Harris
 Onye Ikwaakor
 Melissa Lewis
 Lisa McCumber
 Andy Morrison
 LaDonna Reed
 Lindsey Roebken
 Annie Skinner
 Shikha Tandon
 Molly Tomlonovic

Special thanks to:

Kris Forberg

Editor:

Andrew Elsass

Design:

Apex Communications
 U.S. Anti-Doping Agency
 Phone: (719) 785-2000
 Toll-Free: (866) 601-2632
 Fax: (719) 785-2001



©2014 United States Anti-Doping Agency. The material contained herein may not be reproduced, distributed, transmitted or otherwise used, except with the express written permission of the United States Anti-Doping Agency.