

# Energy Drinks



Where the Science Meets Main Street

A Symposium by the SUNY Youth Sports Institute  
June 30, 2009



*THE STATE UNIVERSITY OF NEW YORK*

**SUNY Youth Sports Institute**

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*Joe Cooper, Program Manager*

*Bonnie Daniels, Assistant*

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**Symposium Team**

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Published by

**SUNY Youth Sports Institute**

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[www.youthsportsny.org](http://www.youthsportsny.org)







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## The Symposium on Energy Drinks: Where the Science Meets Main Street

Hello and welcome to *The Symposium on Energy Drinks - Where the Science Meets Main Street*, sponsored by the State University of New York (SUNY) Youth Sports Institute. I want to thank our presenters who are here to share their research, their insights, and their evidence-based positions. Attendees are asked to examine this information with questions throughout the day.

Our presenters have come to New York City to help provide parents, health practitioners, educators, and youth sports advocates with a comprehensive look at this explosive industry segment. The energy drink category holds a sort of manic allure for children, adolescents, and young adults. As you will hear, little is publicly known about the ingredients, their quantity, or the interaction between ingredients inside each container and with other substances. Today our presenters will suggest some best practices for adults to consider when discussing these drinks with children and teens.

The inspiration for today's symposium originated through New York's grassroots training of volunteer youth coaches. Since March 2008, the Youth Sports Institute has trained over 2,000 volunteer youth coaches statewide, and we expect to train 3,000 coaches by September 2009. Throughout our many training sessions, parents and coaches frequently ask about energy drinks, sports drinks, and hydration. We found tremendous confusion about the purpose, nature, and contents of energy drinks and their place in youth sports – or in any sport environment.

Seeing youth sports as a key developmental stage for young people and their families, the State University of New York charged the SUNY Youth Sports Institute with improving the culture of organized youth sports. To help channel the influence that eager but untrained adults have in organized youth sports, the Institute created a sports coaching and sports parenting curriculum at SUNY Cortland. Through the *Youth Sports NY* curriculum, we train the people who impact youth sports the most —the adults. Evidence shows that a positive, child-centered youth sports environment can be a contributing factor in shaping a healthy and positive young life. The *Youth Sports NY* training program helps parents and youth coaches reflect this ultimate truth.

We welcome your participation in what is sure to be an exciting and informative day.

Best regards,



Timothy J. Donovan  
Executive Director  
SUNY Youth Sports Institute

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## Symposium Agenda

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**7:40 - 8:00 AM**    **Opening Remarks**

Timothy Donovan, SUNY Youth Sports Institute  
Peter Salgo, MD, New York Presbyterian Hospital, Symposium Moderator

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**8:00 - 9:00 AM**    **Introduction: The Lay of the Land**

**Who's Getting Wired Up and Why?**  
Kathleen Miller, PhD, University at Buffalo

**Energy Drinks: An Emerging Problem?**  
Chad Reissig, PhD, Johns Hopkins University School of Medicine

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**9:00 - 10:00 AM**    **A Closer Look at Energy Drink Ingredients**

**"Energy" Defined**  
Philip Buckenmeyer, PhD, SUNY Cortland

**Pharmacologic Properties of Common Ingredients**  
Bruce Goldberger, PhD, University of Florida College of Medicine

**Case Studies in Poison Control**  
Jeanna Marraffa, PharmD, SUNY Upstate Medical Center

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**10:00 - 10:15 AM**    **Break**

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**10:15 - 11:15 AM**    **Health Impacts: Energy Drinks and the Body**

**What Does a Body Good?**  
Eric Small, MD, Mt. Sinai Hospital

**Adolescents Living the 24/7 Lifestyle: Effects of Caffeine and Technology on Sleep Duration and Daytime Functioning**  
Christina Calamaro, PhD, CRNP, Drexel University

**Caffeine Dependence and Withdrawal**  
Chad Reissig, PhD, Johns Hopkins University School of Medicine

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**11:15 - 11:45 AM**    **Alcohol and Energy Drinks**

**The Perfect Storm: Alcohol, Caffeine, and Youth**  
Mary Claire O'Brien, MD, Wake Forest University School of Medicine

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**11:45 - 12:30 PM**    **Question and Answer Session**

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**12:30 - 1:15 PM**    **Lunch Break**

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1:15 – 1:45 PM

**Keynote Address**

**Youth Sports as a Tool for Preventative Health**

Gerald W. Deas, MD, MPH, MA, SUNY Downstate Medical Center

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1:45 – 2:45 PM

**Psychosocial Concerns**

**Energy Drinks, Risky Masculinity, and the Toxic Jock**

Kathleen Miller, PhD, University at Buffalo

**The Relationship Between College-Age Caffeine Consumption and Disordered Eating**

Mitchell Schare, PhD, Hofstra University

**Possible Connection Between Energy Drinks and Later Substance Abuse**

Amelia Arria, PhD, University of Maryland

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2:45 – 3:45 PM

**Leadership Trends**

**What the NCAA Has to Say**

Mary Wilfert, MEd, National Collegiate Athletic Association (NCAA)

**Policies and Persuasions: Educating Youth About Energy Drinks**

Isabel Burk, MS, The Health Network

**Parents as Active Players**

Amelia Arria, PhD, University of Maryland

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3:45 – 4:00 PM

**Question and Answer Session**

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4:00 – 4:30 PM

**Panel Discussion: Truth in Labeling?**

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4:30 – 4:40 PM

**Closing Remarks**

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## Symposium Faculty

### **Peter Salgo, MD, Moderator**

Associate Director  
Open Heart ICU at New York Presbyterian Hospital  
Columbia University College of Physicians and Surgeons  
New York, NY

### **Amelia Arria, PhD**

Senior Scientist  
Treatment Research Institute  
Philadelphia, PA  
Associate Director  
Center for Substance Abuse Research  
University of Maryland  
College Park, MD

### **Isabel Burk, MS, CCP, CHES**

Director  
The Health Network  
New York, NY

### **Philip Buckenmeyer, PhD**

Associate Professor and Chair  
Department of Kinesiology  
SUNY Cortland  
Cortland, NY

### **Christina Calamaro, PhD, CRNP**

Assistant Professor  
College of Nursing and Health Professions  
Drexel University  
Philadelphia, PA

### **Gerald Deas, MD, MPH, MA**

Director, Health Education Communication  
Health Science Center at Brooklyn  
SUNY Downstate Medical Center  
Brooklyn, NY

### **Bruce Goldberger, PhD**

Professor and Director of Toxicology  
University of Florida College of Medicine  
Gainesville, FL

### **Jeanna M. Marraffa, PharmD**

Clinical Toxicologist  
Upstate New York Poison Center  
Assistant Professor  
SUNY Upstate Medical University  
Syracuse, NY

### **Kathleen Miller, PhD**

Research Scientist  
Research Institute on Addictions  
University at Buffalo  
Buffalo, NY

### **Mary Claire O'Brien, MD**

Associate Professor  
Department of Emergency Medicine  
Department of Public Health Services  
Wake Forest University School of Medicine  
Winston-Salem, NC

### **Chad Reissig, PhD**

Postdoctoral Fellow  
Behavioral Pharmacology Research Unit  
Johns Hopkins University School of Medicine  
Baltimore, MD

### **Mitchell Schare, PhD**

Program Director  
Department of Clinical Psychology  
Hofstra University  
Hempstead, NY

### **Eric Small, MD**

Clinical Assistant Professor  
Pediatrics, Orthopedics, and Rehabilitation  
Medicine  
Mt. Sinai Hospital  
New York, NY

### **Mary E. Wilfert, Med, CHES**

Associate Director of Health and Safety  
National Collegiate Athletic Association  
Indianapolis, IN

## Faculty Biographies



### **Amelia Arria, PhD**

Dr. Arria is the Associate Director of the Center for Substance Abuse Research at the University of Maryland and a Senior Scientist at the Treatment Research Institute in Philadelphia. She received her undergraduate degree from Cornell University and a PhD in Epidemiology from the University of Pittsburgh. One of her primary research interests is to understand the antecedents and consequences of adolescent and young adult health-risk behaviors. She is currently directing a federally-funded longitudinal prospective study of college students, which began in 2004.

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### **Philip Buckenmeyer, PhD**

Dr. Buckenmeyer is Associate Professor and Chair of the Kinesiology Department at SUNY Cortland. He also directs the College's Center for Obesity Research and Education (CORE). Dr. Buckenmeyer has a Bachelor of Science in Physical Education/Elementary and Secondary Education and his teaching certificate from St. Bonaventure University. He earned a Master of Science in Athletic Training from Indiana State University and a doctorate in exercise physiology from the University of Maryland at College Park.

During his 31-year teaching, clinical and research career, Dr. Buckenmeyer has held faculty positions at University of Akron, Syracuse University, Southern Illinois University-Carbondale, University of Wisconsin-La Crosse and University of Maryland-College Park. In addition, he served SUNY Upstate Medical Center as research director for the Women's Wellness Center. He holds certifications as an American College of Sports Medicine (ACSM) Program Director and Exercise Test Technologist, and as a National Athletic Trainers' Association (NATA) Athletic Trainer.

Dr. Buckenmeyer has received several honors including the 2007 *Cambridge Who's Who Among Executives and Professionals "Honors Edition"* and the 2004 SUNY Promising Inventor Award as a preliminary step to patenting two computer programs, the "K-6 Childhood Obesity Database" and "Interactive Fitness/Weight Control Videogame." He is the author or co-author of many peer-reviewed journal articles, book chapters, and reviews, particularly in the area of childhood health and wellness. He has been involved in many community health and wellness programs and currently serves on the Coordinated School Health and Wellness Team for the Cortland City School District.

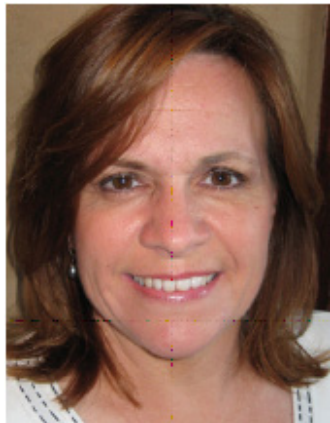


**Isabel Burk, MS, CCS, CHES**

Isabel Burk is the director of The Health Network. She is a nationally known, award-winning expert on drug prevention, safety policies, and health education issues who has made presentations to more than 55,000 people in 38 states. She has been honored by the U.S. Department of Health and Human Services, Northeast Center for Safe and Drug-Free Schools, and the New York State Department of Health. Isabel has written two books and more than 120 articles and has appeared on *20/20*, *CBS This Morning*, *The View*, *Phil Donahue*, *Fox News*, and others. She is a credentialed prevention professional and a certified health education specialist, with a Master of Science in Health.

During her professional career she has taught at public and private schools, as well as BOCES. She has been an adjunct instructor for Herbert Lehman College/State University of New York, offered training for the US Drug Enforcement Administration, New York State Office of Youth and Family Services, NYS Division of Criminal Justice Services, US Army, and others, and is a member of the National Association of Safety Professionals.

Isabel authored the New York State Office of Alcoholism and Substance Abuse Services' professional training on Inhalants and is co-author of a drug prevention program required for all youth incarcerated in state custody in New York.



**Christina Calamaro, PhD, CRNP**

Dr. Christina Calamaro is Assistant Professor in the College of Nursing and Health Professions at Drexel University in Philadelphia, Pennsylvania. Her area of research is adolescent sleep, looking for causal pathways that affect sleep in the adolescent population. Additional research includes and health outcomes in the primary care setting. She has published on issues in pediatric obesity, adolescent sleep, and cultural proficiency.

Dr. Calamaro is certified as both a Pediatric and Family Nurse Practitioner. She received her Master of Science in Nursing from the University of Pittsburgh, doctorate from the University Of Pennsylvania in 2005, and completed a post doctoral fellowship in the School of Medicine's Center for Sleep and Respiratory Neurobiology at the University of Pennsylvania in 2007. In addition, Dr. Calamaro maintains a clinical practice in a private pediatric primary care setting in the Philadelphia area.



**Bruce Golberger, PhD, DABFT**

Dr. Golberger is a Professor and Director of Toxicology in the Department of Pathology, Immunology and Laboratory Medicine in the College of Medicine at the University of Florida in Gainesville and holds a joint Clinical Professor position in the Department of Psychiatry. He is also the Director of the William R. Maples Center for Forensic Medicine and Program Director for the Florida Emergency Mortuary Operations Response System. Dr. Golberger received a Master of Science and Doctor of Philosophy Degrees in Forensic Toxicology from the University of Maryland School of Medicine in Baltimore, Maryland.

Dr. Golberger is co-editor of the *Handbook of Workplace Drug Testing* (AACC Press) and *On-Site Drug Testing* (Humana Press). Dr. Golberger's studies in forensic toxicology have included the analysis of alcohol in breath and the measurement of therapeutic and abused drugs in biological tissues. His most significant contribution to the field of forensic toxicology was the identification and measurement of heroin and its metabolites in hair and other human tissue.

In recognition of his research achievements in forensic toxicology, among many other accolades, Dr. Golberger received the Alexander O. Gettler Award in recognition of his outstanding contributions to the field and profession of forensic toxicology from the Toxicology Section of the AAFS in 2006. Dr. Golberger is also the editor-in-chief of the *Journal of Analytical Toxicology* and a member of the Society of Forensic Toxicologists.

He has been qualified as an expert witness more than 130 times in forensic toxicology in Federal, State of Florida, Military and Canadian courts of law, and has been featured on local, state and national radio, television and print media, *Good Morning America*, CNN, MSNBC, Fox News (*America's Newsroom*), Court TV, CBS *48 Hours*, A&E and History Channels, ChannelOne and VH1.



**Jeanna Marraffa, PharmD, DABAT**

Dr. Jeanna Marraffa is currently the Assistant Clinical Director of the Upstate New York Poison Center and an Assistant Professor in the Department of Emergency Medicine at SUNY Upstate Medical University in Syracuse, NY. In October 2005, she became a Diplomate of the American Board of Applied Toxicology (DABAT). After graduating from Union University, Albany College of Pharmacy with a PharmD degree in 2001, she completed a one-year ASHP accredited Pharmacy Practice Residency at SUNY Upstate Medical University, Department of Pharmacy. In 2004, she completed a 2-year Fellowship Program in Clinical Toxicology

and Emergency Medicine at the Upstate New York Poison Center, Department of Emergency Medicine at SUNY Upstate Medical University.

Dr. Marraffa's research interests include toxic alcohols, specifically diethylene glycol, and she has conducted both clinical and bench-top research in this area. Her other research endeavors involve high-fidelity simulations and their role in clinical toxicology. Dr. Marraffa has numerous publications in the field of toxicology and recently authored a book chapter entitled "Dieting Agents", which will be included in the upcoming 10<sup>th</sup> edition of *Goldfrank's Toxicologic Emergencies*.



**Kathleen E. Miller, PhD**

Dr. Miller is a Research Scientist at the University of Buffalo's Research Institute on Addictions. Her primary research interests revolve around social identity and adolescent and young adult health-risk behaviors such as alcohol, tobacco, and illicit drug use, sexual risk-taking, suicidality, interpersonal violence, and delinquency. She has published extensively on the gender-specific relationships among problem behaviors and athletic involvement, with particular attention to "toxic jock" identity. Her current research focuses on the understudied links between energy drink consumption and risk-taking.

In order to feed an out-of-control addiction to teaching, Dr. Miller also offers undergraduate courses in sociology on an adjunct basis at the University at Buffalo and Hilbert College in Western New York. She received her Ph.D. in sociology from the University at Buffalo in 1995.



**Mary Claire O'Brien, MD**

Dr. O'Brien is an Associate Professor of Emergency Medicine and of Public Health Sciences at Wake Forest University (WFU) School of Medicine. After graduating from Temple University School of Medicine in 1985, she completed a residency in Emergency Medicine (1988) and a fellowship in Pre-Hospital Care/Emergency Medical Services (1989) at the Medical College of Pennsylvania. She has more than 20 years' experience caring for injured patients. She currently works at WFU/ Baptist Hospital, a Level 1 Trauma Center with over 93,000 patient visits per year.

Dr. O'Brien's research interest is alcohol-related injury. She is the principal investigator for an RWJ/SAPRP-funded randomized clinical trial called "The Teachable Moment" that studies brief motivational intervention (BMI) in admitted trauma patients. She is a co-investigator on the NIAAA-

funded Study to Prevent Alcohol-Related Consequences, a randomized group trial of an intervention to reduce high-risk drinking behavior and its consequences among college students. She was a co-investigator for an NIAAA-funded collaboration between WFU and the University of Central Florida that evaluated primary care provider BMI for high-risk drinking students in a college health clinic setting.

Dr. O'Brien's recent work explores the consumption of alcohol mixed with energy drinks, and the association of this behavior with serious alcohol-related consequences, including injury, sexual assault, and riding with a drunken driver. Her work was instrumental in two agreements struck by State Attorneys General in 2008, in which Anheuser-Busch and later Miller-Coors agreed to remove caffeine from all of their alcoholic beverages.

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**Chad Reissig, PhD**

**Dr. Reissig** received his PhD in Pharmacology and Toxicology from the University at Buffalo (SUNY Buffalo) in 2006. He joined the Johns Hopkins University Behavioral Pharmacology Research Unit later that year where he has worked closely with Roland Griffiths in a number caffeine related research projects. While at the Behavioral Pharmacology Research Unit Dr.

Reissig's work has focused on a variety of psychoactive drugs including caffeine and caffeinated energy drinks. He was the senior author on the recent publication titled "caffeinated energy drinks- a growing problem" which received widespread scientific and media coverage earlier this year. He has also contributed to a number of textbook chapters devoted to caffeine.

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**Peter Salgo, MD**

Dr. Peter Salgo is one of the country's most respected health care professionals. As a practicing physician at Columbia University Medical Center in NYC, he makes rounds five days a week. Specializing in the pre- and post-operative treatment of heart patients, heart transplant recipients and artificial heart candidates, he maintains a full time practice in Intensive Care Medicine in the Open Heart ICU at Columbia.

Dr. Salgo is an Emmy Award-Winning Health and Science Correspondent. For more than two decades, he has been the Health and Science Correspondent for CBS-affiliate, WCBS TV in New York. He has anchored the CBS Radio network broadcast *Healthtalk*, the CNBC Network broadcast *America's Vital Signs* and the syndicated broadcast *Healthcare 2000*. He has covered the war against heart disease, the dawning of the age of AIDS, the deciphering of the Human Genome and the development of Retin-A. He pioneered the concept of investigative medical journalism. He exposed the terrible working conditions at Pym Thermometer Company in Brooklyn. His investigation resulted in the indictment and conviction

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of the guilty business owners. His exposé documenting the hazards of child safety seats on airliners forced the Federal Government to revise its regulations. Dr. Salgo also hosts the PBS television show, *Second Opinion*, providing the public with valuable insight into the issues doctors, medical professionals and patients face every day.

After graduating with a degree in Physics and English from Columbia College in New York, Dr. Salgo pursued a medical career while working as a broadcast journalist. He is currently a Professor of Medicine and Anesthesiology at Columbia University College of Physicians and Surgeons.

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**Michell Schare, PhD, ABPP**

Dr. Mitchell Schare, a faculty member at Hofstra University, is a Professor of Psychology and directs both the PhD Program in Clinical Psychology and the Saltzman Community Center's Phobia & Trauma Clinic. Dr. Schare completed his doctorate at the State University of New York - Binghamton following an internship at the Brown University Medical School. He is a New York State licensed psychologist, holds a board certification from the American Board of Cognitive & Behavioral Psychology and is a recent recipient of the Distinguished Service Award from the Association of Behavioral and Cognitive Therapies.

As a consultant, Dr. Schare has developed therapy or educational programs and materials for a number of major institutions in the metro New York City community including the Pilgrim, Creedmoor, & Bronx Psychiatric Centers, and the U.S. Navy. Additionally he has served as a professor and supervisor at the SUNY - Medical Center at Brooklyn and served on the Tobacco Action Coalition of Long Island for many years.

Dr. Schare is an active researcher having published and presented over 100 papers in scientific journals, books, and at both national and international conferences. His current research interests include assessing the viability of using computer derived technology to augment typical procedures during exposure therapy. Other current research involves the relationship between caffeine consumption and disordered eating patterns among young adults and the application of motivational interviewing to various health-related habitual behaviors such as cigarette smoking.



**Eric Small, MD, FAAP**

Dr. Eric Small is a nationally recognized expert in Pediatric/Adolescent Sports Medicine, and is one of only a handful of physicians in the United States with this concentrated specialty. He has private practice locations in New York City and Mt. Kisco, New York. His areas of clinical expertise include: sports injury management, nutritional supplements, reflex sympathetic dystrophy, management for low back pain, and sports concussion management. Dr. Small is the former chairman of the American Academy of Pediatrics Committee on Sports Medicine and Fitness and serves as a medical consultant to Girl Scouts of America and

The Center for Sports Parenting. He has given over 500 lectures over the past 10 years and has appeared on television over 100 times including *NBC Weekend Today*, *CBS The Early Show*, *ABC News*, *Fox News*, and *CNN*. He is Clinical Assistant Professor of Pediatrics, Orthopedics, and Rehabilitation Medicine at Mount Sinai School of Medicine in New York, and is Founder and Director of the Family Sports Medicine & Fitness of New York. His book, *Kids & Sports –A Doctor’s Guide for Parents and Coaches* (Newmarket Press, August 2002) covers kids of all abilities and ages, from infants to teens. As a pediatric sports medicine specialist, he takes care of young athletes who have suffered from a sports injury or want to participate in sports after an injury. Dr. Small performed his pediatric residency at Albert Einstein College of Medicine/Montefiore Medical Center in New York, a fellowship in pediatric exercise medicine at McMaster University in Hamilton, Ontario, Canada, and a Pediatric Sports Medicine Fellowship at Boston Children’s Hospital-Harvard Medical School in Boston.



**Mary E. Wilfert, MEd, CHES**

Mary Wilfert is an associate director in NCAA Educational Affairs, Health and Safety programs. Since 1999, she has administered the NCAA drug-education and drug-testing programs and worked to promote policies and develop resources for student-athlete healthy life choices. She serves as primary liaison to the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports, the Association-wide committee charged with providing leadership on health and safety recommendations to the NCAA membership. Mary has worked in the health education field for 30 years to empower individuals to make informed choices for lifelong health and success.

## Keynote Speaker, Gerald Deas, MD, MPH, MA



While some people wear a monogram to let us know who they are, Dr. Gerald Whitehead Deas adds an extra letter to his name. What we see is IDEAS. This is his way of enjoining us to think logically and put our best ideas into action.

### He Did It His Way

Physician, poet, patient advocate, playwright, media personality, political activist, public health crusader—Gerald W. Deas, MD, MPH, MA, is all of these, and more. He has battled major companies and organized whole communities to protect the public's health.

Born and raised in Brooklyn, Dr. Deas attended Boys High School and later Brooklyn College, earning a bachelor's and a master's degree in biochemistry. Drafted into the Army during the Korean War, he helped to identify the remains of fallen comrades. Out of this gruesome experience, he developed a lifelong hatred of war and its aftermath. Years later, after witnessing how violence in our neighborhoods was claiming the lives of so many youths, Dr. Deas and other physicians at Downstate and Kings County Hospital Center organized Doctors Against Murder (DAM) to encourage



young people to reject violence.



U.S. Surgeon General David Satcher congratulates Dr. Deas for his role in making the Argo Starch Company place a warning label on its laundry products stating "Not Recommended for Food Use."

Home from the war, Dr. Deas resumed his education with a single-minded purpose: to become a healer. After receiving a master's in public health from the University of Michigan, he enrolled at SUNY Downstate and became an MD in 1962.

In those years, few African-Americans enrolled in medical school, but Dr. Deas's talents were soon evident to the faculty as well as to his fellow students, who elected him class president.

After graduation, he performed both his internship and residency training in internal medicine at Kings County Hospital. In addition to joining the faculty of preventive medicine at Downstate, he served as an attending physician at Jamaica Hospital and at Mary Immaculate Hospital in Queens for 35 years.

Dr. Deas is adept at networking and using the media to foster public health awareness. His successful struggle in the 1970s against Argo Starch Company is legendary. After discovering that laundry starch was being sold in grocery aisles as a snack, causing black women to

become anemic, Dr. Deas forced Argo to repackage its product in powdered form and to add a warning label, “Not Recommended for Food Use.” In recognition of this service, the Food and Drug Administration awarded him a special commendation.

The first black medical columnist for the New York Daily News, Dr. Deas was medical correspondent for television’s McCreary Report for 10 years, hosting the segment called “House Calls.” He also hosted a weekly radio show on WLIB. He continues to write regularly for the Amsterdam News and other local papers.

As director of health education communication at Downstate and host of “Health Center,” the cable TV show produced on campus, Dr. Deas alerts the public about such health hazards as food dyes and additives in sugary drinks that can trigger asthma attacks and behavioral problems in children.

Dr. Deas also uses the transforming power of poetry and music to convey his message. Pulitzer-Prize winning poet Gwendolyn Brooks has praised his poems as “rich with creative excitement.” Often they contain warnings about common health dangers (“Mr. Mean Nicotine” and “Sodium Confesses”), or reminders for patients to take their medications (“Cautionary Tale of Hattie Brown”). His lament about a child suffering from sickle cell disease (“A Black Child Who Can’t Smile”) was at one time a March of Dimes theme song. He also has written numerous musicals and plays that continue to be performed Off-Broadway.



Emmy-award winning journalist Bill McCreary and Dr. Deas have been friends since the time they worked together on television’s McCreary Report.



To his students, Dr. Deas exemplifies both compassion and strength in the fight to protect public health.

Much more could be said about this “old-fashioned country doctor,” as he has been described by the New York Times, who has worked so hard to spread public awareness about sarcoidosis and other hidden diseases, and was making house calls until the age of 70. Although he has received a great many honorifics and awards, he prefers not to frame them but to give them away to young people. “They’re the ones who need the encouragement,” he says.

Dr. Deas credits his wife, Beverly, to whom he has been happily married for more than 45 years, for helping him through thick and thin. She supported him during eight years of medical training, managed his private practice, often accompanied him on late night house calls, typed and edited his work for the media—and accomplished all this while also raising three children.

# Reference Material

## Caffeine and Sugar Content of Drinks\*

<u>Name</u>	<u>Ounces</u>	<u>Caffeine (mg)</u>	<u>mg/oz</u>	<u>Sugar (grams)</u>	<u>g/oz</u>
5 Hour Energy	2	?	?	0	0
Ammo	1	171	171	7	7
Amp	8.4	75	8.93	31	3.69
Arizona Caution Energy Drink	16	200	12.5	0	0
Atomic Dogg	16	200	12.5	40	2.5
Bawls	10	66.7	6.67	32	3.2
Blow (Energy Drink Mix)	8	240	30	0	0
Boo-Koo Energy	24	360	15	81	3.38
Extreme Energy 6-Hour Shot	2	220	110	0	0
Fixx Extreme	0.17	400	2352.94	0	0
Fuel Cell	2	180	90	0	0
Full Throttle	16	144	9	58	3.62
Game Juice	16.9	38	2.25	56	3.31
Go Girl	12	150	12.5	0	0
Guru Energy Drink	8.3	125	15.06	22	2.65
Howling Monkey	16	160	10	44	2.75
Hype	8.4	80	9.52	67.5	8.04
Jolt Endurance Shot	2	200	100	0	0
Kaboom Infinite Energy	8	95	11.88	33	4.12
Monster	16	160	10	54	3.38
Mountain Dew Game Fuel	20	120	6	77	3.85
Red Bull	8.3	80	9.64	27	3.25
Redline Power Rush	2.5	350	140	0	0
Redline Princess	8	250	31.25	0	0
Rip It Energy Fuel	8	100	12.5	33	4.12
Rockstar	16	160	10	60	3.75
Rockstar Zero Carb	16	240	15	0	0
Rush! Energy	8.3	50	6.02	30	3.61
SoBe No Fear	16	174	10.88	66	4.12
Spark	8	120	15	0	0
SPIKE Shooter	8.4	300	35.71	0	0
Starbucks Grande Coffee	16	330	20.62	0	0
Starbucks Short Coffee	8	180	22.5	0	0
Vault	12	70	5.83	48	4
Who's Your Daddy	16	200	12.5	58	3.62
Whoop Ass	8.45	50	5.92	27	3.2

*\*All data obtained from [www.energyfiend.com](http://www.energyfiend.com), June 2009.  
For information on more drinks see [www.energyfiend.com](http://www.energyfiend.com).*

## The Use of Energy Drinks by Young Athletes

By Michael C. Koester, MD, ATC, FAAP

Energy drinks have become increasingly popular among high school students in recent years. Hundreds of brands have been introduced to the marketplace, and the drinks are consumed by millions of adolescents on a daily basis. These beverages are particularly popular among young athletes who see the consumption of energy drinks as a readily available and convenient way to maximize athletic performance. The drinks are also often used to provide an "academic" boost for a late night of studying or preparing a project.

### Energy Drinks vs. Sports Drinks

Some confusion exists over where exactly the difference lies between an "energy drink" and a "sports drink." Simply put, an energy drink is a beverage marketed to both athletes and the general public as a quick and easy means of relieving fatigue and improving performance. "Sports drinks" are designed to provide rehydration during or after sustained physical activity, thus the contents of the two drinks differ in several important ways.

Nearly all energy drinks contain carbohydrates (sugar) and caffeine as their main ingredients. Prior to its being banned, many of these drinks also contained ephedra. The carbohydrates provide nutrient energy and the caffeine acts as a stimulant to the central nervous system. While contents may vary somewhat, most sports drinks contain a low percentage carbohydrate solution and a mixture of electrolytes such as sodium and potassium. The carbohydrate and electrolyte concentrations are specifically formulated to allow maximal absorption by the stomach, aiding in re-hydration.

Energy drinks should not be used for the purposes of hydration or re-hydration by athletes. The high carbohydrate concentration results in slow absorption from the gastrointestinal tract and may cause bloating and diarrhea. In addition, caffeine acts as a diuretic and, therefore, results in increased fluid loss during and after exercise secondary to increased urine output.

### Energy Drink Contents

Since energy drinks contain a higher concentration of carbohydrates than sports drinks, they also contain more calories. The high caffeine level may come from large amounts of synthetic caffeine or "natural" forms of caffeine like guarana and kola nuts. Other nutritional supplements like Echinacea, Ginko biloba, and ginseng are often included. Some brands also include vitamins, proteins, and amino acids.

Manufacturers make claims that these added ingredients have special benefits, typically related to maximizing the effects of the caffeine and carbohydrates in providing a boost of energy. However, none of the aforementioned herbs or nutrients has any beneficial effect that has been scientifically proven.

### Potential Side Effects of Consuming Energy Drinks

As we all know, caffeine often has the effect of making a person feel "energized." Studies have shown

some performance-enhancing benefits from caffeine, but only at very high concentrations. It would require the consumption of as many as five energy drinks in a short period of time to achieve these doses. Such high amounts of caffeine may produce light-headedness, tremors, impaired sleep and difficulty with fine motor control, and may exceed drug-testing thresholds for caffeine.

The high concentrations of carbohydrates found in energy drinks may also be a source of trouble. Delayed emptying of the stomach, due to the high sugar load, may result in a feeling of being bloated. Abdominal cramping may also occur. Both carbohydrates and caffeine in the high concentrations found in most energy drinks can cause diarrhea. Also, some athletes, and many non-athletes, may see an unwanted weight gain due to the high calorie content of many of these beverages.

An important point to remember is that like all nutritional supplements, there are currently no regulatory controls over energy drinks, thus their contents and purity cannot be assured. This may lead to a variety of adverse consequences. The most concerning is the potential for harmful interactions with prescription medications that the athlete may be already be taking. There is particular danger for those taking stimulant medications for ADHD. For athletes who are subject to drug testing, there is also the possibility of a positive drug screen if the manufacturer knowingly, or unknowingly, adds banned substances to the beverage.

### **Discouraging Use by Athletes**

In addition to educating athletes about the lack of benefits and potential risks of energy drinks, teachers, coaches and administrators should consider their own habits. Discouraging the use of "energy drinks" while downing your second latte of the morning or sipping on your third caffeinated soda of the day will be perceived as hypocritical at best. Thus, adults in positions of responsibility should model behaviors that they would like to see in their students and athletes.

You must also be prepared to educate young athletes regarding the use of energy drinks. Such efforts should focus upon the potential harms and side effects of use as discussed above, in addition to the financial costs (\$2-3 per bottle or can). This message can be coupled with the explanation that there are no proven performance benefits to consuming these drinks prior to practices or games.

### **NFHS Sports Medicine Advisory Committee's Position on Energy Drinks**

Following a review of the medical literature and in consideration of the issues discussed above, the NFHS Sports Medicine Advisory Committee has created and endorsed the following position statement regarding the use of energy drinks by young athletes (see next page):

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Retrieved 6/1/2009 from [http://www.nfhs.org/web/2009/02/the\\_use\\_of\\_energy\\_drinks\\_by\\_young\\_athletes.aspx](http://www.nfhs.org/web/2009/02/the_use_of_energy_drinks_by_young_athletes.aspx)



## POSITION STATEMENT AND RECOMMENDATIONS FOR THE USE OF ENERGY DRINKS BY YOUNG ATHLETES

### National Federation of State High School Associations (NFHS) Sports Medicine Advisory Committee (SMAC)

**Background:** Energy drinks have become increasingly popular among adolescents and young adults in recent years. In 2006, nearly 500 new brands were introduced to the market place, and over 7 million adolescents reported that they had consumed an energy drink. These beverages are particularly popular among young athletes who see the consumption of energy drinks as a quick and easy way to maximize athletic and academic performance.

#### The NFHS Sports Medicine Advisory Committee's position on energy drinks:

The NFHS SMAC strongly recommends that:

- 1) **Water and appropriate sports drinks should be used for rehydration as outlined in the NFHS Document "Position Statement and Recommendations for Hydration to Minimize the Risk for Dehydration and Heat Illness."**
- 2) Energy drinks should not be used for hydration.
- 3) Information about the absence of benefit and the presence of potential risk associated with energy drinks should be widely shared among all individuals who interact with young athletes.
- 4) Energy drinks should not be consumed by athletes who are dehydrated.
- 5) Energy drinks should not be consumed without prior medical approval, by athletes taking over the counter or prescription medications.

**WARNING:** There is no regulatory control over energy drinks, thus their content and purity cannot be insured. This may lead to adverse side-effects, potentially harmful interactions with prescription medications (particularly stimulant medications used to treat ADHD), or positive drug tests.

#### Frequently Asked Questions

##### What is an energy drink?

- An energy drink is a beverage marketed to both athletes and the general public as a quick and easy means of relieving fatigue and improving performance. In addition to water, nearly all energy drinks contain carbohydrates and caffeine as their main ingredients. The carbohydrates provide nutrient energy while the caffeine acts as a stimulant to the central nervous system.

##### What are the differences between an energy drink and a sports drink?

- Sports drinks are designed to provide re-hydration during or after athletic activity. While contents vary, most sports drinks contain a 6-8% carbohydrate solution and a mixture of electrolytes. The carbohydrate and electrolyte concentrations are formulated to allow maximal absorption of the fluid by the gastrointestinal tract.

- Energy drinks contain a higher concentration of carbohydrate (usually 9-10%), and thus a larger number of calories than sports drinks. They also contain high amounts of caffeine and, in some cases, other nutritional supplements. **Energy drinks are not designed to re-hydrate athletes during activity and should not be used in such circumstances.**

#### What ingredients are found in energy drinks?

- **Carbohydrates-** Most energy drinks have from 18g to 25 g of carbohydrate per 8 ounces. The high carbohydrate concentration will impede absorption of fluid in the gastrointestinal tract.
- **Caffeine-** Nearly all energy drinks contain some amount of “natural” or synthetic caffeine. The caffeine concentration may range from the equivalent to an 8 ounce cup of coffee (85mg) to more than twice that amount.
- **Herbs-** Many energy drinks include herbal forms of caffeine such as guarana seeds, kola nuts, and Yerba mate leaves, in addition to synthetic caffeine. The “performance enhancing” effects and health benefits of other herbs like Astragalus, Echinacea, Ginko biloba, ginseng, and countless other herbs have not been well established by scientific studies.
- **Vitamins-** Athletes with even reasonably good diets should be assured that they are not at risk for vitamin deficiency and do not need supplementation. There is no evidence to suggest that vitamin supplementation improves athletic performance. Female athletes may benefit from iron and calcium supplementation, but these are more easily and inexpensively obtained in pill form rather than energy drinks.
- **Protein and amino acids-** Only a small amount of protein is used as fuel for exercise. Carbohydrates are utilized as the primary fuel source. No scientific evidence exists to support claims that amino acids enhance athletic performance. Protein, and the amino acids which compose it, are available less expensively in food.
- **Other ingredients-** With the hundreds of energy drink brands that are available, the potential ingredients which they may contain are virtually unlimited. Possible additions include pyruvate, creatine, carnitine, medium-chain triglycerides, and even oxygen.

#### What are the possible effects of using energy drinks?

- **Central nervous system-** Caffeine often has the effect of making a person feel “energized.” Studies have shown some performance-enhancing benefits from caffeine at high doses (6mg/kg of body weight). Such high doses of caffeine may produce light headedness, tremor, impaired sleep and difficulty with fine motor control, and may exceed drug testing caffeine thresholds.
- **Gastrointestinal system-** The high concentrations of carbohydrates found in energy drinks may delay gastric emptying, resulting in a feeling of being bloated. Abdominal cramping may also occur. Both carbohydrates and caffeine in the high concentrations found in most energy drinks can cause diarrhea.
- **Dehydration-** Energy drinks should not be used for the purposes of hydration or re-hydration. The high carbohydrate concentration results in slow absorption from the gastrointestinal tract and may cause diarrhea. Caffeine acts as a diuretic and, therefore, results in increased fluid loss.
- **Positive drug tests-** Like all nutritional supplements, there is little or no regulatory oversight of energy drinks. The purity of the products cannot be assured and it is possible that they may contain banned substances.

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**Approved October 2008**

<http://www.nfhs.org/Core/ContentManager/uploads/PDFs/SportMed/2Energy%20Drink%20Statement.pdf>

## NCAA Issues Notice about Nutritional-Supplement Provision

The NCAA News Online, May 23rd, 2005.

The NCAA membership services staff has posted an educational bulletin on the Legislative Service Database online (LSDBi) regarding the provision of nutritional supplements to student-athletes.

The bulletin serves as a reminder that in accordance with NCAA Bylaw 16.5.2.g, only non-muscle-building nutritional supplements may be given to student-athletes for the purpose of providing additional calories and electrolytes, as long as the supplements do not contain NCAA-banned substances.

The issue has merited additional attention recently in light of the increasingly changing supplement market and requests by the membership for further assistance in understanding the legislation.

Many supplement products contain NCAA-banned substances that are not always recognized as such or included in the supplement labels. Thus, student-athletes have tested positive for NCAA-banned substances by ingesting products they obtained in retail stores, gyms and over the Internet.

The Pacific-10 Conference first introduced legislation in 1999 to address concerns about the growing distribution by athletics departments of nutritional supplements that could be considered performance-enhancing and potentially harmful to student-athlete health and safety. The NCAA Committee on Competitive Safeguards and Medical Aspects of Sports recommended language to identify as permissible only those nutritional supplements that fall into one of four categories: carbohydrate/electrolyte drinks, energy bars, carbohydrate boosters, and vitamins and minerals. Those permissible categories, except for vitamins and minerals, were selected because they do not create a competitive advantage (through strength/muscle building) -- they provide for hydration and calorie replacement only. The vitamins and minerals category was created because of their general acceptance by the public and their widespread inclusion in foods.

"The legislation was intended to curtail the growing and rampant provision of supplements to student-athletes that contained performance-enhancing or muscle-building ingredients and potentially could put a student-athlete at risk," said Mary Wilfert, NCAA assistant director of education outreach.

"Allowing institutions to provide those classes of supplements met the need to replace calories and fluids in student-athletes who expended them in large amounts during training and competition. By limiting distribution to those four classes, the legislation intended to root out supplements that were not necessary to calorie and fluid replacement and could be deemed to provide an unfair advantage."

Shortly before the nutritional-supplement legislation became effective, the NCAA membership services staff provided additional education about the new bylaw. The staff published a Legislative Assistance column in the August 14, 2000, issue of The NCAA News, emphasizing again the intent of

the legislation to prohibit an institution from providing nutritional supplements unless they are non-muscle-building and are included in one of the four classes identified in the bylaw.

The article also pointed out other important factors, including:

\* The legislation reflects a philosophy that proper nutrition based on scientific principles is one of the tenets to optimal performance.

\* It is not permissible for an institution or an institutional staff member to sell or arrange the sale of muscle-building supplements to student-athletes.

\* A permissible supplement can contain no more than 30 percent of its calories from protein (the percentage of calories from protein can be determined by multiplying protein grams by four and dividing that by the total calories in the product).

Finally, the article provided two lists -- one that included the permissible classes, and another containing examples of impermissible nutritional-supplement ingredients. The latter was not an exhaustive list, but rather a list of common ingredients as identified by the competitive-safeguards committee, based on anticipated questions from the membership.

In that same edition of the News, an official interpretation was published emphasizing those elements of the application of the legislation.

"The legislation from its inception was intended to protect student-athlete well-being," Wilfert said. "Because the supplement industry is not regulated in the same manner that food and drugs are, these products carry a risk in adversely affecting our student-athletes."

Wiefert noted that the NCAA posts the following warning: "Many nutritional/dietary supplements contain NCAA-banned substances. In addition, the U.S. Food and Drug Administration does not strictly regulate the supplement industry; therefore, purity and safety of nutritional/dietary supplements cannot be guaranteed. Impure supplements may lead to a positive NCAA drug test. The use of supplements is at the student-athlete's own risk. Student-athletes should contact their institution's team physician or athletic trainer for further information."

#### Permissible/impermissible products

To assist the membership in accurately applying Bylaw 16.5.2.g, posted below are two lists of supplements: one permissible for the institution to provide, the other containing examples of impermissible ingredients.

It is important to note that when reading the ingredient label of a supplement product, the listing of any impermissible ingredient makes the product impermissible. Further, when considering the product's protein content, the reader should consider the listing of the word "protein" and the number of grams included. If any other parts of a protein are listed separately, as in any amino acid or chain, it would not be permissible for an institution to provide such a supplement to its student-

athletes. If the product lists a "proprietary protein" or "protein blend," then this is not protein from a whole food source, but rather a concoction created by the manufacturer, and in most instances includes impermissible supplement ingredients..

#### Permissible

- Vitamins and minerals
- Energy bars
- Calorie replacement drinks (for example, Ensure, Boost)
- Electrolyte replacement drinks (for example, Gatorade, Powerade)

#### Impermissible

- Amino acids (including amino acid chelates)
- Chondroitin\*
- Chrysin
- CLA (Conjugated Linoleic Acid)
- Creatine/compounds containing creatine
- Garcinia Cambogia (Hydroxycitric Acid)
- Ginkgo Biloba
- Ginseng
- Glucosamine\*
- Glutathione
- Glycerol \*\*
- Green tea
- HMB (Hydroxy-methylbutyrate)
- Melatonin
- MSM (Methylsulfonyl Methane)
- Protein powders
- St. John's Wort
- Tribulus
- Weight-gainers
- Yohimbe

\* It is permissible for an institution to provide glucosamine and/or chondroitin to a student-athlete for medical purposes, provided such substances are provided by a licensed medical doctor to treat a specific, diagnosed medical condition (as opposed to prescribing them for preventive reasons).

\*\* Glycerine or glycerol as a binding ingredient in a supplement product is permissible.

#### Applying Bylaw 16.5.2.g

In considering whether a supplement product shall be considered permissible under this legislation, a member institution should:

- Review the labeling ingredients to determine if the product meets the criteria set out within the legislation;
- 
- Review the ingredients for any banned substances (see [www.ncaa.org/health-safety](http://www.ncaa.org/health-safety));
- Determine whether the product contains any of the examples of "impermissible" ingredients referenced earlier;
- Determine if the product contains more than 30 percent calories from protein.

If at that time the member is still uncertain as to whether the terms of the legislation have been met, and in consultation with the institution's compliance office, the member should contact NCAA membership services for interpretive assistance and provide full written product-ingredient information. Membership services will act in concert with sports medicine consultants to provide a review of the product and respond to the member institution. Products deemed permissible should be reviewed annually to determine if any reformulation of the product has introduced elements that make it no longer permissible to provide to student-athletes.

If an institution has an interest in providing a supplement product being offered by a manufacturer or distributor of the product, it is the institution's responsibility to follow the outlined steps. Do not refer the manufacturer or distributor to the NCAA for a product review.

For more information, contact Mary Wilfert at [mwilfert@ncaa.org](mailto:mwilfert@ncaa.org)

## Petition Submitted to the U.S. Food and Drug Administration\*

October 7, 2008

Dockets Management Branch  
U.S. Food and Drug Administration  
5630 Fishers Lane  
Rockville, MD 20852

Re: Docket 97P-0498/CPI or FDA-1997-P-0033

Dear Sir or Madam:

Enclosed is a copy of a recent peer-reviewed publication entitled "Caffeinated energy drinks- A growing problem." The review analyzes several problems related to the use and marketing of energy drinks, with information and suggestions we hope will be helpful for the development of FDA regulatory policy regarding this relatively new and rapidly growing segment of consumer products.

Briefly, the energy drink market has grown exponentially in recent years, with increasing numbers of children and adolescents exposed to the aggressive marketing of literally hundreds of different brands. There are increasing reports of caffeine intoxication from energy drinks. The combined use of energy drinks and alcohol (including caffeinated alcoholic beverages, such as MillerCoors' Sparks) has increased sharply, and studies suggest that such combined use may increase the rate of alcohol-related injury. Also of concern are data indicating that the use of energy drinks may serve as a transition to the non-medical use of prescription stimulants.

The new report found products that contain caffeine in amounts equivalent to more than 14 12-oz cans of Coca-Cola Classic or five 6-oz. cups of coffee. Many energy drinks exceed the 0.02% caffeine limit specified by FDA for soft-drinks and cola-type beverages.

We encourage FDA to consider regulating the labeling and composition of energy drinks in light of the reality of the marketplace:

1. Companies should be required to label the caffeine content of caffeinated energy drinks (and other caffeine-containing products). That practice has received wide support, including from the American Medical Association, and is voluntarily employed by a growing number of major manufacturers. This issue relates to a petition filed in 1997 that requested labeling of caffeine content [Petition for Amendment of Food-Labeling Regulations to Require Quantitative Labeling of Caffeine Content and Request Review of Health Effects of Caffeine, Docket No. 97P-0498/CPI]. The case for caffeine labeling is now more urgent because of the new and growing category of highly caffeinated energy drinks.
2. Because of the harmful effects of excess caffeine intake and in light of the current marketplace, the FDA should replace the current, unenforced 0.02% caffeine limit with a higher limit that is actually enforced.
3. The FDA should require warning labels, similar to those mandated for OTC caffeine products, on foods, beverages, and dietary supplements containing more than a specified level of caffeine. When appropriate, the warning should indicate the risk of combining these products with alcohol.

*\* Signed by 100 research scientists and health professionals*

## Peer-Reviewed Research Articles

Babu, K.M. , Church, R.J. , Lewander, W. (2008). Energy Drinks: The new eye-opener for adolescents. *Clinical Pediatric Emergency Medicine*, 9, 35-42.

Bernstein, G.A., Carroll, M.E., Dean, N.W., Crosby, R.D., Perwien, A.R., Benowitz, N.L.. (1998). Caffeine withdrawal in normal school-age children. *Journal of the American Academy of Child Adolescent Psychiatry*, 37, 858–865.

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Calamaro, C.J., Mason, T.B.A., Ratcliffe, S.J. (2009). Adolescents living the 24/7 lifestyle- Effects of caffeine and technology on sleep duration and daytime functioning. *Pediatrics* 123, e1005–e1010.

Juliano, L.M., Griffiths, R.R. (2004). A critical review of caffeine withdrawal: empirical validation of symptoms and signs, incidence, severity, and associated features. *Psychopharmacology (Berlin)*, 176, 1-29.

Miller, K.E. (2008). Wired: Energy drinks, jock identity, masculine norms, and risk taking. *Journal of American College Health*, 56, No. 5, 481-489.

O'Brien, M.C., McCoy, T., Rhodes, S.D., Wagoner, A., Wolfson, M. (2008). Caffeinated cocktails: get wired, get drunk, get injured. *Academy of Emergency Medicine*, 15, 453–460.

Reissig, C.J., Strain, E.C., Griffiths, R.R.(2009). Caffeinated energy drinks—A growing problem. *Drug and Alcohol Dependence*, 99, 1-10.

Temple, J.L. (2009). Caffeine use in children: What we know, what we have left to learn, and why we should worry. *Neuroscience and Biobehavioral Reviews*, 33, 793-806.

## Related Resources

### Energy Drink Web sites:

- <http://www.energyfiend.com>
- <http://www.bevnet.com/news/2009/4-13-2009-free-energy-drink-guide>
- <http://www.screamingenergy.com>

### Education and other information:

- The Health Network <http://www.healthnetwork.org>
- Powered By ME! <http://www.poweredbymemd.org>
- Office of Dietary Supplements <http://ods.od.nih.gov/>
- American Academy of Pediatrics <http://www.aap.org>
- National Federation of State High School Associations <http://www.nfhs.org>
- American College of Sports Medicine <http://www.acsm.org>
- SUNY Youth Sports Institute <http://www.youthsportsny.org>

### Online News

Beard, L.M. (2007). Do Kids Crave Caffeine? Let's Ask Them. *Pediatric News*, 41, 12, 22.

Schardt, D. (2008, March). Caffeine: the good, the bad, and the maybe. June 01, 2009. from [http://www.cspinet.org/nah/02\\_08/caffeine.pdf](http://www.cspinet.org/nah/02_08/caffeine.pdf)

Weise, E. (2008, November 22). June 01, 2009. from [http://www.usatoday.com/news/health/2008-10-21-energy-drinks\\_N.htm](http://www.usatoday.com/news/health/2008-10-21-energy-drinks_N.htm)

Worcester, S. (2007). Energy drink sales hit \$3 billion—At what health cost? Millions of U.S. teens go for their buzz. *Pediatric News*, 41, 2, 1.

## Common Ingredients in Energy Drinks

### Caffeine

The central ingredient in most energy drinks is caffeine, the same stimulant found in coffee or tea, often in the form of guarana or yerba mate.

In humans, caffeine is a central nervous system (CNS) stimulant, having the effect of temporarily warding off drowsiness and restoring alertness. Beverages containing caffeine, such as coffee, tea, soft drinks, and energy drinks enjoy great popularity. Caffeine is the world's most widely consumed psychoactive substance, but unlike many other psychoactive substances it is legal and unregulated in nearly all jurisdictions. In North America, 90% of adults consume caffeine daily. The U.S. Food and Drug Administration lists caffeine as a "Multiple Purpose Generally Recognized as Safe Food Substance".

Caffeine. (2009, June 26). In *Wikipedia, The Free Encyclopedia*. Retrieved 05:04, June 26, 2009, from <http://en.wikipedia.org/w/index.php?title=Caffeine&oldid=298691826>

### Glucose

**What is it?:** Sugar. Sucrose is a combination of fructose (the natural sugar found in fruit) and glucose. Many energy drinks contain 50 to 60 grams (g) of glucose or sucrose in a 16-ounce can.

Where glucose won't help, however, is with the fog of fatigue from too little sleep. A 2006 British study determined that sleep-deprived people who drank liquid glucose exhibited slower reaction times and more sleepiness after 90 minutes.

**Is it safe?:** Dumping empty calories down your gullet is never a great idea, and some energy drinks contain nearly as much sugar as a 20-ounce soda. Then there's the fact that a sudden infusion of glucose can cause your blood sugar and insulin levels to skyrocket, signaling your body to stop incinerating fat. A 2006 New Zealand study reveals that caffeine combined with even the 27 g of sugar in, say, an 8.3-ounce Red Bull may be enough to temporarily inhibit your body's ability to burn lard.

[http://www.menshealth.com/mhlists/effectiveness\\_of\\_energy\\_drinks/Glucose.php#ixzz0JTQT42OS&C](http://www.menshealth.com/mhlists/effectiveness_of_energy_drinks/Glucose.php#ixzz0JTQT42OS&C)

### Guarana

**What is it?:** A South American shrub. One seed has a caffeine content of 4 to 5 percent, while a coffee bean has 1 to 2 percent. The amount of guarana in a 16-ounce energy drink ranges from a minuscule 1.4 mg to as much as 300 mg.

Guarana is used in sweetened or carbonated soft drinks and energy shots, an ingredient of herbal tea or contained in capsules. Generally, South America obtains most of its caffeine from guarana.

According to the Biological Magnetic Resonance Data Bank, guaranine is defined as only the caffeine chemical in guarana, it is identical to the caffeine chemical derived from other sources, for example coffee, tea, and maté. Guaranine, theine, and mateine are all synonyms for caffeine when the definitions of those words include none of the properties and chemicals of their host plants except the

chemical caffeine. Natural sources of caffeine contain widely varying mixtures of xanthine alkaloids other than caffeine, including the cardiac stimulants theophylline and theobromine and other substances such as polyphenols which can form insoluble complexes with caffeine.

[http://www.menshealth.com/mhlists/effectiveness\\_of\\_energy\\_drinks/Guarana.php#ixzz0JTQcNMHA&C](http://www.menshealth.com/mhlists/effectiveness_of_energy_drinks/Guarana.php#ixzz0JTQcNMHA&C)

Guarana. (2009, June 22). In *Wikipedia, The Free Encyclopedia*. Retrieved 12:38, June 22, 2009, from <http://en.wikipedia.org/w/index.php?title=Guarana&oldid=297904739>

## Taurine

**What is it?:** One of the most abundant amino acids in your brain, where it can act as a neurotransmitter—a chemical messenger that allows your cells to communicate with one another. You'll find anywhere from 20 mg to 2,000 mg of taurine in most 16-ounce energy drinks.

**Does it work?:** Scientists aren't sure, but it doesn't seem likely. When taurine is dumped into your bloodstream—when you down a Red Bull, for instance—it can't pass through the membranes that protect your brain, says Neil Harrison, Ph.D., a professor of pharmacology at Weill Cornell Medical College.

But even if it could, Harrison's research suggests that taurine might behave more like a sedative than a stimulant. When he and his team applied the amino acid to the brain tissue of rodents, they discovered that it mimicked a neurotransmitter called gamma-aminobutyric acid, or GABA, a chemical that slows brain activity.

**Is it safe?:** Taurine is probably fine in small doses, but chug too many energy drinks and the picture becomes less clear. According to a recent case report from St. Joseph's Hospital in Phoenix, Arizona, three people had seizures after drinking approximately two 24-ounce energy drinks in a short period of time. However, the researchers don't know whether to blame the taurine or the caffeine, or what role preexisting health conditions may have played.

The fact is, there's been little research on taurine consumption in humans, so it's impossible to conclude whether it's safe to consume in high doses. Of course, there's no strong evidence to support its role as an energy booster, either.

Read more:

[http://www.menshealth.com/mhlists/effectiveness\\_of\\_energy\\_drinks/Taurine.php#ixzz0JTPjJL2&C](http://www.menshealth.com/mhlists/effectiveness_of_energy_drinks/Taurine.php#ixzz0JTPjJL2&C)

## Taurine is listed as an ingredient in many energy drinks. What is taurine? Is it similar to caffeine? Is it safe?

Katherine Zeratsky, R.D., L.D., Mayo Clinic

Caffeine and taurine are not similar substances. Caffeine is a stimulant, and taurine is an amino acid. Taurine supports neurological development and helps regulate the level of water and mineral salts in the blood. Taurine is also thought to have antioxidant properties.

Taurine is found naturally in meat, fish and breast milk, and it's commonly available as a dietary supplement. Some studies suggest that taurine supplementation may improve athletic performance, which may explain why taurine is used in many energy drinks. Other studies suggest that taurine and caffeine act together to improve athletic and perhaps even mental performance, although this finding remains controversial.

Up to 3,000 milligrams of supplemental taurine a day is considered safe. Any excess taurine is simply excreted by the kidneys. Moderation is important, however. Little is known about the effects of heavy or long-term taurine use. It's also important to remember that other ingredients in energy drinks, such as high amounts of caffeine or sugar, can be harmful. For example, too much caffeine can increase your heart rate and blood pressure, interrupt your sleep, and cause nervousness and irritability.

To ensure peak performance, don't depend on energy drinks and supplements. Instead, focus on a healthy lifestyle. Eat healthy foods, include physical activity in your daily routine and get enough sleep.

<http://www.mayoclinic.com/health/taurine/AN01856>

## **Vitamin B<sub>6</sub>**

**Vitamin B<sub>6</sub> is a water-soluble vitamin that exists in three major chemical forms: pyridoxine, pyridoxal, and pyridoxamine.**

### **What is the health risk of too much vitamin B<sub>6</sub>?**

Too much vitamin B<sub>6</sub> can result in nerve damage to the arms and legs. This neuropathy is usually related to high intake of vitamin B<sub>6</sub> from supplements, and is reversible when supplementation is stopped. According to the Institute of Medicine, "Several reports show sensory neuropathy at doses lower than 500 mg per day". As previously mentioned, the Food and Nutrition Board of the Institute of Medicine has established an upper tolerable intake level (UL) for vitamin B<sub>6</sub> of 100 mg per day for all adults. "As intake increases above the UL, the risk of adverse effects increases."

## **Vitamin B<sub>12</sub> (Cyanocobalamin)**

### **What is the health risk of too much vitamin B<sub>12</sub>?**

The Institute of Medicine of the National Academies did not establish an upper tolerable intake level (UL) for this vitamin because vitamin B<sub>12</sub> has a very low potential for toxicity. The IOM states that "no adverse effects have been associated with excess vitamin B<sub>12</sub> intake from food and supplements in healthy individuals". In fact, the IOM recommends that adults older than 50 years get most of their vitamin B<sub>12</sub> from vitamin supplements or fortified food because of the high incidence of impaired absorption in this age group of vitamin B<sub>12</sub> from foods that come from animals.

<http://ods.od.nih.gov/factsheets>

## Yerbamate

Katherine Zeratsky, R.D., L.D., Mayo Clinic

Yerba mate is a tropical plant. Yerba mate leaves and twigs can be steeped in hot water to make a tea-like beverage known simply as mate. In fact, yerba mate is widely available in health food stores and online. Proponents of yerba mate say that it can relieve fatigue, promote weight loss, ease depression and headaches, and help treat various other conditions. However, yerba mate contains enough caffeine to raise your heart rate and blood pressure, as well as cause fluctuations in your blood sugar level. Even more concerning is a possible association with cancer. Some studies indicate that prolonged use of yerba mate increases the risk of various types of cancer, including cancer of the mouth, esophagus and lungs. Smoking in combination with yerba mate seems to greatly increase the cancer risk. Until researchers know more about the risks, you may want to avoid yerba mate.

<http://www.mayoclinic.com/health/yerba-mate/AN01774>

## Herbs at a Glance: National Center for Complementary and Alternative Medicine

### Bitter Orange

This fact sheet provides basic information about bitter orange—common names, uses, potential side effects, and resources for more information. The bitter orange tree is native to eastern Africa and tropical Asia. Today, it is grown throughout the Mediterranean region and elsewhere, including California and Florida. Bitter orange oil is used in foods, cosmetics, and aromatherapy products. Bitter orange oil from the tree's leaves is called petitgrain, and oil from the flowers is called neroli.

### Common Names—bitter orange, Seville orange, sour orange, Zhi shi

#### What It Is Used For

- Bitter orange has been used in traditional Chinese medicine and by indigenous people of the Amazon rainforest for nausea, indigestion, and constipation.
- Current uses of bitter orange are for heartburn, loss of appetite, nasal congestion, and weight loss. It is also applied to the skin for fungal infections such as ringworm and athlete's foot.

#### How It Is Used

The dried fruit and peel (and sometimes flowers and leaves) are taken by mouth in extracts, tablets, and capsules. Bitter orange oil can be applied to the skin.

#### What the Science Says

- There is not enough scientific evidence to support the use of bitter orange for health purposes.
- Many herbal weight-loss products now use concentrated extracts of bitter orange peel in place of ephedra. However, bitter orange contains the chemical synephrine, which is similar to the main chemical in ephedra. The U.S. Food and Drug Administration banned ephedra because it raises blood pressure and is linked to heart attacks and strokes; it is unclear whether bitter orange has similar effects. There is currently little evidence that bitter orange is safer to use than ephedra.

#### Side Effects and Cautions

- Because bitter orange contains chemicals that may speed up the heart rate and raise blood pressure, it may not be safe to use as a dietary supplement. There have been reports of fainting, heart attack, and stroke in healthy people after taking bitter orange supplements alone or combined with caffeine. People should avoid taking bitter orange supplements if they have a heart condition or high blood pressure, or if they are taking medications (such as MAO inhibitors), caffeine, or other herbs/supplements that speed up the heart rate.
- Due to lack of safety evidence, pregnant women should avoid products that contain bitter orange.
- Bitter orange oil used on the skin may increase the risk of sunburn, particularly in light-skinned people.

- Tell your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

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## Ginger

This fact sheet provides basic information about the herb ginger—uses, potential side effects, and resources for more information. Ginger is a tropical plant that has green-purple flowers and an aromatic underground stem (called a rhizome). It is commonly used for cooking and medicinal purposes.

### Common Name—ginger

### What It Is Used For

- Ginger is used in Asian medicine to treat stomach aches, nausea, and diarrhea.
- Many digestive, anti-nausea, and cold and flu dietary supplements sold in the United States contain ginger extract as an ingredient.
- Ginger is used to alleviate postsurgery nausea as well as nausea caused by motion, chemotherapy, and pregnancy.
- Ginger has been used for rheumatoid arthritis, osteoarthritis, and joint and muscle pain.

### How It Is Used

The underground stems of the ginger plant are used in cooking, baking, and for health purposes. Common forms of ginger include fresh or dried root, tablets, capsules, liquid extracts (tinctures), and teas.

## What the Science Says

- Studies suggest that the short-term use of ginger can safely relieve pregnancy-related nausea and vomiting.
- Studies are mixed on whether ginger is effective for nausea caused by motion, chemotherapy, or surgery.
- It is unclear whether ginger is effective in treating rheumatoid arthritis, osteoarthritis, or joint and muscle pain.
- NCCAM-funded investigators are studying:
  - Whether ginger interacts with drugs, such as those used to suppress the immune system
  - Ginger's effect on reducing nausea in patients on chemotherapy
  - The general safety and effectiveness of ginger's use for health purposes, as well as its active components and effects on inflammation

## Side Effects and Cautions

- Few side effects are linked to ginger when it is taken in small doses.
- Side effects most often reported are gas, bloating, heartburn, and nausea. These effects are most often associated with powdered ginger.
- Tell your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

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D320

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## Ginkgo

This fact sheet provides basic information about the herb ginkgo—common names, uses, potential side effects, and resources for more information. The ginkgo tree is one of the oldest types of trees in

the world. Ginkgo seeds have been used in traditional Chinese medicine for thousands of years, and cooked seeds are occasionally eaten.

**Common Names**—ginkgo, *Ginkgo biloba*, fossil tree, maidenhair tree, Japanese silver apricot, baiguo, bai guo ye, kew tree, yinhsing (yin-hsing)

## What It Is Used For

- Ginkgo leaf extract has been used to treat a variety of ailments and conditions, including asthma, bronchitis, fatigue, and tinnitus (ringing or roaring sounds in the ears).
- Today, people use ginkgo leaf extracts hoping to improve memory; to treat or help prevent Alzheimer’s disease and other types of dementia; to decrease intermittent claudication (leg pain caused by narrowing arteries); and to treat sexual dysfunction, multiple sclerosis, tinnitus, and other health conditions.

## How It Is Used

Extracts are usually taken from the ginkgo leaf and are used to make tablets, capsules, or teas. Occasionally, ginkgo extracts are used in skin products.

## What the Science Says

- Numerous studies of ginkgo have been done for a variety of conditions. Some promising results have been seen for intermittent claudication, but larger, well-designed research studies are needed.
- An NCCAM-funded study of the well-characterized ginkgo product, EGb-761, found it ineffective in lowering the overall incidence of dementia and Alzheimer’s disease in the elderly. In this clinical trial, known as the Ginkgo Evaluation of Memory study, researchers recruited more than 3,000 volunteers age 75 and over who took 240 mg of ginkgo daily. Participants were followed for an average of approximately 6 years.
- Some smaller studies for memory enhancement have had promising results, but a trial sponsored by the National Institute on Aging of more than 200 healthy adults over age 60 found that ginkgo taken for 6 weeks did not improve memory.
- Other NCCAM-funded research includes studies on ginkgo for asthma, symptoms of multiple sclerosis, vascular function (intermittent claudication), cognitive decline, sexual dysfunction due to antidepressants, and insulin resistance. NCCAM is also looking at potential interactions between ginkgo and prescription drugs.

## Side Effects and Cautions

- Side effects of ginkgo may include headache, nausea, gastrointestinal upset, diarrhea, dizziness, or allergic skin reactions. More severe allergic reactions have occasionally been reported.
- There are some data to suggest that ginkgo can increase bleeding risk, so people who take anticoagulant drugs, have bleeding disorders, or have scheduled surgery or dental procedures should use caution and talk to a health care provider if using ginkgo.

- Uncooked ginkgo seeds contain a chemical known as ginkgotoxin, which can cause seizures. Consuming large quantities of seeds over time can cause death. Ginkgo leaf and ginkgo leaf extracts appear to contain little ginkgotoxin.
- Tell your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

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D290

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## Asian Ginseng

This fact sheet provides basic information about the herb Asian ginseng—common names, uses, potential side effects, and resources for more information. Asian ginseng is native to China and Korea and has been used in various systems of medicine for many centuries. Asian ginseng is one of several types of true ginseng (another is American ginseng, *Panax quinquefolius*). An herb called Siberian ginseng or eleuthero (*Eleutherococcus senticosus*) is not a true ginseng.

## Common Names—Asian ginseng, ginseng, Chinese ginseng, Korean ginseng, Asiatic ginseng

## What It Is Used For

Treatment claims for Asian ginseng are numerous and include the use of the herb to support overall health and boost the immune system. Traditional and modern uses of ginseng include:

- Improving the health of people recovering from illness
- Increasing a sense of well-being and stamina, and improving both mental and physical performance

- Treating erectile dysfunction, hepatitis C, and symptoms related to menopause
- Lowering blood glucose and controlling blood pressure

## How It Is Used

The root of Asian ginseng contains active chemical components called ginsenosides (or panaxosides) that are thought to be responsible for the herb's medicinal properties. The root is dried and used to make tablets or capsules, extracts, and teas, as well as creams or other preparations for external use.

## What the Science Says

- Some studies have shown that Asian ginseng may lower blood glucose. Other studies indicate possible beneficial effects on immune function.
- To date, research results on Asian ginseng are not conclusive enough to prove health claims associated with the herb. Only a handful of large clinical trials on Asian ginseng have been conducted. Most studies have been small or have had flaws in design and reporting. Some claims for health benefits have been based only on studies conducted in animals.
- NCCAM supports studies to better understand the use of Asian ginseng. Areas of recent NCCAM-funded research include Asian ginseng's interactions with other herbs and drugs and the herb's potential to treat chronic lung infection, impaired glucose tolerance, and Alzheimer's disease.

## Side Effects and Cautions

- When taken by mouth, ginseng is usually well tolerated. Some sources suggest that its use be limited to 3 months because of concerns about the development of side effects.
- The most common side effects are headaches and sleep and gastrointestinal problems.
- Asian ginseng can cause allergic reactions.
- There have been reports of breast tenderness, menstrual irregularities, and high blood pressure associated with Asian ginseng products, but these products' components were not analyzed, so effects may have been due to another herb or drug in the product.
- Asian ginseng may lower levels of blood sugar; this effect may be seen more in people with diabetes. Therefore, people with diabetes should use extra caution with Asian ginseng, especially if they are using medicines to lower blood sugar or taking other herbs, such as bitter melon and fenugreek, that are also thought to lower blood sugar.
- Tell your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

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D284

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## **St. John's Wort**

This fact sheet provides basic information about the herb St. John's wort— common names, uses, potential side effects, and resources for more information. St. John's wort is a plant with yellow flowers whose medicinal uses were first recorded in ancient Greece. The name St. John's wort apparently refers to John the Baptist, as the plant blooms around the time of the feast of St. John the Baptist in late June.

## **Common Names—St. John's wort, hypericum, Klamath weed, goat weed**

### **What It Is Used For**

- St. John's wort has been used for centuries to treat mental disorders and nerve pain.
- St. John's wort has also been used as a sedative and a treatment for malaria, as well as a balm for wounds, burns, and insect bites.
- Today, St. John's wort is used by some for depression, anxiety, and/or sleep disorders.

### **How It Is Used**

The flowering tops of St. John's wort are used to prepare teas and tablets containing concentrated extracts.

### **What the Science Says**

- There is some scientific evidence that St. John's wort is useful for treating mild to moderate depression. However, two large studies, one sponsored by NCCAM, showed that the herb was no more effective than placebo in treating major depression of moderate severity.
- NCCAM is studying the use of St. John's wort in a wider spectrum of mood disorders, including minor depression.

## Side Effects and Cautions

- St. John's wort may cause increased sensitivity to sunlight. Other side effects can include anxiety, dry mouth, dizziness, gastrointestinal symptoms, fatigue, headache, or sexual dysfunction.
- Research shows that St. John's wort interacts with some drugs. The herb affects the way the body processes or breaks down many drugs; in some cases, it may speed or slow a drug's breakdown. Drugs that can be affected include:
  - Antidepressants
  - Birth control pills
  - Cyclosporine, which prevents the body from rejecting transplanted organs
  - Digoxin, which strengthens heart muscle contractions
  - Indinavir and possibly other drugs used to control HIV infection
  - Irinotecan and possibly other drugs used to treat cancer
  - Warfarin and related anticoagulants.
- When combined with certain antidepressants, St. John's wort may increase side effects such as nausea, anxiety, headache, and confusion.
- St. John's wort is not a proven therapy for depression. If depression is not adequately treated, it can become severe. Anyone who may have depression should see a health care provider. There are effective proven therapies available.
- Tell your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

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## Yohimbe

This fact sheet provides basic information about the herb yohimbe—common names, uses, potential side effects, and resources for more information. The yohimbe tree is a tall evergreen that is native to western Africa. The bark of the tree contains a chemical called yohimbine. The amount of yohimbine in dietary supplements may vary; some yohimbe products have been found to contain very little yohimbine. However, a standardized form of yohimbine—yohimbine hydrochloride—is available as a prescription medicine that has been studied and used for the treatment of erectile dysfunction.

### Common Names—yohimbe, yohimbe bark

#### What It Is Used For

- Yohimbe bark has traditionally been used in Africa as an aphrodisiac (to increase sexual desire).
- The herb is currently used for sexual dysfunction, including erectile dysfunction in men.

#### How It Is Used

As a dietary supplement, the dried bark of the yohimbe tree is used as a tea and taken by mouth. An extract of the bark is also put into capsules and tablets.

#### What the Science Says

It is not known whether yohimbe is effective for any health conditions because clinical trials have not been conducted on the bark or its extract.

Although numerous studies of the prescription medicine yohimbine hydrochloride have been conducted, their results cannot be interpreted as evidence for the dietary supplement yohimbe. ♦♦

#### Side Effects and Cautions

- Yohimbe has been associated with high blood pressure, increased heart rate, headache, anxiety, dizziness, and sleeplessness. Yohimbe can be dangerous if taken in large doses or for long periods of time.
- People should use caution if taking yohimbe with MAO inhibitors or medicines for high blood pressure. Yohimbe should not be combined with tricyclic antidepressants or phenothiazines (a group of medicines used mostly for mental health conditions such as schizophrenia).
- People with kidney problems and people with psychiatric conditions should not use yohimbe.
- Tell your health care providers about any complementary and alternative practices you use. Give them a full picture of what you do to manage your health. This will help ensure coordinated and safe care.

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## NIH Office of Dietary Supplements

Web site: [www.ods.od.nih.gov](http://www.ods.od.nih.gov)

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SUNY Youth Sports Institute

THE STATE UNIVERSITY *of* NEW YORK

**Cortland**  
SUNY

The many professional associations, coaches, teachers, health practitioners, and other youth advocates that have given their time, energy, and expertise to today's event.

## About the SUNY Youth Sports Institute

The story of youth sports in America has entered a new chapter. For most youngsters it's no longer home to neighborhood games that teach life lessons without adult supervision. With local exceptions, those days are in the past. Today youth sports are a form of adult-driven organized play that speaks of player development, training, achievement, winnowing out the weak, and specialization. These are words that sound like work not play.

Magnified by a global 'sportsmanship' crisis and a health-challenge of childhood obesity closer to home, the youth sports model that replaced player-organized games is being closely watched. While some children clearly benefit, experts are concerned this new 'professionalized' model may limit important developmental, wellness, socialization and decision-making skills once acquired by children through active, playful unsupervised games. Since organized sport is the dominant model of play, adults need to know its opportunities and limitations. As they embrace organized sports, parents need to know the lessons their children are no longer learning from youthful games as well as understand the stress levels that accompany this new 'professionalized' sports community.

As pickup or neighborhood games are crowded out by organized sports an important question needs to be asked; where can kids stay active if not on an organized team. In many areas if children quit playing organized sport there is virtually no place for them to remain physically active with friends. This shortfall is illustrated in at least five areas; child wellness, family costs, suffocating pressure to win, burnout rates and increasingly serious injuries to ever younger children.

Parents are on new ground in need of new perspectives about the importance of the games their children play. For the volunteer youth coaches who manage in this hyper-organized environment you will need to be able to temper the expectations of parents with knowledge, standards and a coaches training program that is centered on the youngest members of our communities.

### **It's Time for Minimum Standards**

In recognition of the influence organized sports have on the formative years of millions of New York's children and their families, the State University of New York has chartered the SUNY Youth Sports Institute to be a catalyst for positive change in non-school, organized youth sports in New York State.

Youth coaches are generous with their time and resources and through their involvement, they frequently become community leaders. Yet, in too many instances any adult with a whistle, access to a playing field and access to children can start a youth sports program. While youth sports beg for trained coaches, training is rarely required by youth programs, recreation departments or government bodies who permit use of their fields or facilities. Hence only in organized non-school sports are so many children are governed by unrelated adults, who have no minimum standards in safety, knowledge, conduct or practice. Since adults created organized youth sports, the best way for adults to ensure sports programs are child-centered is by training coaches to a single set of standards across all sports, The bi-product of this will reduce the unrealistic expectations of parents..

## **The One Thing Every Child Receives from Youth Sports**

The only one thing we know for certain that every child will receive from their time in youth sports is a memory of that experience. The head coach can have a tremendous impact on whether or not a child's memory of their formative years in youth sports was positive or negative. The SUNY Youth Sports Institute's training program, *Youth Sports New York*, is singularly focused on helping all coaches create great memories for the youngsters they are coaching. We know that positive memories help children stay physically active, which helps them in many ways. We instruct to this goal through our curriculum, with on-site SUNY Community College based trainers, through a dynamic web environment and by providing exceptional teaching tools.

## **School Sponsored Youth Sports vs. Non-School Sponsored Youth Sports**

In New York State's middle and secondary schools all athletic coaches are required to be certified and to adhere to coaching standards established by the New York State Education Department and New York State Public High School Athletic Association. These coaching standards are recognized as among the highest in the nation for coaches in scholastic sports. However for the vastly larger pool of non-school coaches and administrators there are no similar standards. As a result, youth sports in New York State and nationwide are a polyglot of travel teams, community teams, elite programs, camps, recreation teams, summer teams and town teams without any consistent set of minimum coaching standards.

Youth Sports New York's coach's training development program is not a sport specific coaching program. While some sports encourage this, some even require it, the institute believes a general coaching approach provides a more well rounded "teaching" approach. The NYSED requires "general" coaching as a more effective way to teach children. Rather than enforcing a variety of sport specific coaching approaches, The SUNY Youth Sports Institute follows that approach by promoting *minimum standards* across all sports. These standards include health and safety, character development, training techniques, teaching tools, risk management, coaching to the middle, game and practice coaching. Without these critical tools coaches may unduly influence young children during their most formative years. Nothing good can come from this.

## **Youth Sports NY™ - Training & Certification for Coaches**

In March 2008 the SUNY Cortland based Academic Advisory Board of the SUNY Youth Sports Institute established an evidence-based curriculum, with minimum standards for non-school youth coaches. These standards are being voluntarily accepted and put in place by many non-school youth sports programs. By April 2009, the institute's 50+ trainers at 29 training sites trained over 2,000 coaches. This low-intensity curriculum is presented in a face-to-face classroom session along with a certification exam. Once registered as having passed the exam, youth sports administrators, coaches, parents and eventually officials have access to outstanding sport-specific material and online support for their specific sports needs as well as research and news about youth sports. This will provide valuable ongoing communication with coaches in their respective sports across New York State.

## **Sports Leadership Training Network**

The State University of New York (SUNY) consists of 64 geographically dispersed campuses which lay within commuting distance of virtually every New Yorker. The SUNY system is a natural network for the training and communication work of the SUNY Youth Sports Institute. In the spring of 2008, the Institute launched the Youth Sports Leadership Network with technology, curriculum, and resources to work with trained faculty or athletic professionals instructing our non-credit coursework.

Operationally centered at the State University of New York College at Cortland, the SUNY Youth Sports Institute is committed to instructing a *common language of minimum unified standards* across all youth sports. By sharing a common language of we will renew the legacy of youth sports in New York State.

Through the Youth Sports Institute, SUNY's academic and community leadership will contribute to the important discussions taking place in boardrooms, at schools, on playgrounds and in homes about the changing culture of youth sports. In so many ways this discussion is not about youth sports at all, but about the health and future of New York's children, their families and all of our communities.



**[www.youthsportsny.org](http://www.youthsportsny.org)**

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