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AMERICAN COLLEGE OF SPORTS MEDICINE

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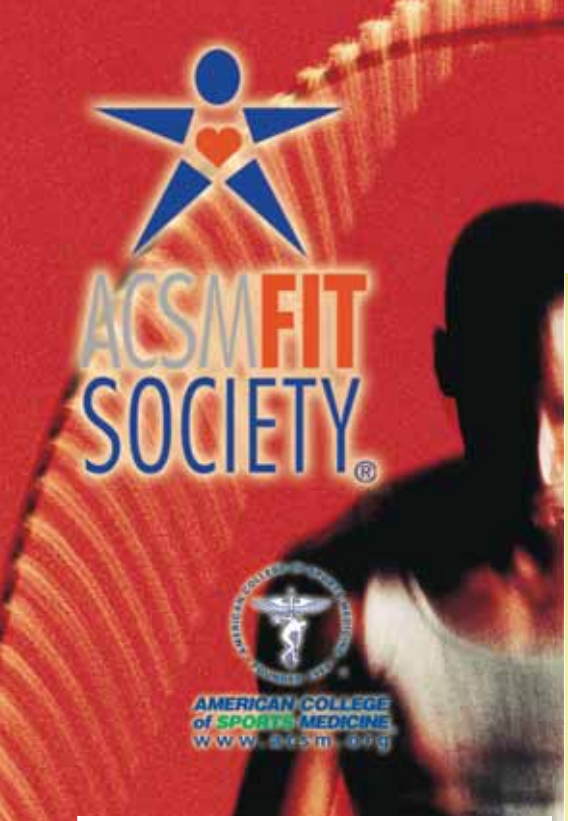

INSIDE THIS ISSUE:

Letter from the editor

by Jeffrey A. Potteiger, Ph.D., FACSM

Welcome to the Summer issue of the *ACSM Fit Society® Page*. In this issue, we'll take a look at the youngest athletes among us with the theme of "Youth Fitness and Physical Activity." We'll explore how kids can get the most from sports and activity, both physically and mentally, and will also examine some safety considerations.

We hope you use this information to enhance your health and wellness, and the health and wellness of others. Remember to visit ACSM online for additional health and fitness information (www.acsm.org).

Jeffrey A. Potteiger, Ph.D., FACSM
Editor, ACSM Fit Society® Page
E-mail: potteija@muohio.edu

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THEME:

Team Sports and Character Development

by Kristen Murray

We often hear that sports build character, providing opportunities for youth to develop skills needed to become responsible, confident adults. Many athletes see sport as a way out of a current situation and into a better life. Sport has the potential to teach lessons that prepare its young participants for life. We hear stories about people like quarterback Troy Smith, who has used sports to make a better life for himself despite all odds. Smith spent part of his childhood in foster care, but used his athletic abilities to earn a scholarship to The Ohio State University, where he won the Heisman Trophy in 2006. Politicians and top business people also talk about the benefits and lessons learned from sports participation such as commitment, responsibility, and teamwork.

However, if sports builds character, why do we hear stories about hazing, binge drinking, drug abuse, and fighting in sports? In 2006, why were 31 college football players suspended after a brawl during a game? Why do some talented players commit crimes that send them to jail? Instances of misconduct go beyond the professional level and have begun to permeate into youth sports. Players face suspensions and juvenile court, while parents and coaches face charges of aggravated assault.

Character development does not happen automatically. Many factors influence whether sports build character or characters. Sport science research consistently shows that it takes the right conditions and the right people to develop good character. It involves purposeful and direct approaches to teaching youth about prosocial values, emotional control, and responsibility. Building character involves parents, coaches, and the entire community consistently emphasizing values and never placing winning before character development. Athletes' relationships with significant others, level of development, and definition of success can all influence character development.

Good character development stems from one's ability to determine what is right or wrong in a given situation. Because society places such high values on winning and being the best, decision making can become murky when on the court or field. More specifically, athletes may make choices or act in ways that they know are unacceptable outside of sport. They may further develop excuses or reasons for their behaviors, such as believing it is acceptable as long as the referee does not see it or that others were doing it too.

Athletes learn and model behavior from those closest to them. Coaches are the most influential significant others when it comes to influencing aggression or willingness to injure another player among athletes. Athletes often look up to their coaches and want to please them. Coaches can create environments that stress strategies to promote personal growth and development or environments that reward aggressive play, rule bending, and taunting/injuring other players. When athletes perceive that their coach would want them to cheat or hurt another player, they are more

Team Sports (continued from page 1)

likely to do so and are more likely to approve of such behaviors.

Winning is important. However, creating an environment that stresses fun and mastering skills is also critical and may positively influence athlete development. Athletes need connections with positive adults in their community. A single coach or a caring parent can make a significant difference in the lives of today's youth.

To influence youth character development, coaches need to be more than just sports instructors. They must be mentors, counselors, leaders, motivators, and role models. Coaches should teach game skills *and* life skills. Their attitudes and behaviors set the tone for athletes to follow. Coaches should set clear rules and expectations that are fairly enforced. Coaches should acknowledge how each member contributes to the team at every game or practice, and encourage athletes to do well outside of sport by asking questions and providing support. They should teach responsibility by respecting players, referees, and the integrity of the game.

Teaching character is everyone's responsibility, not just coaches. Parents and spectators should model appropriate behaviors. They should provide a supportive and caring environment and encourage athletes to think through their actions and the potential consequences that may result. Parents and others involved in the sport process should use teachable moments by reflecting upon, discussing, and solving problems as they arise. For example, they can use moments such as when the media reports a fight in a professional game to discuss choices one can make, and use these opportunities to learn how to consider the point of view and feelings of others. They should also acknowledge and reward players for positive efforts. Parents, spectators and coaches should understand that although officials may make mistakes, they should always be treated with respect. Everyone should applaud the plays of all athletes including those made by the other team.

Do team sports build character? The answer is a clear no. Sports do not build character, the adult leaders involved in sports do. They do so by creating a positive environment and consistently placing emphasis on character development. Winning can be emphasized but should never supersede personal development. We should all remember that character is taught, not caught!

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Q & A

by Anthony Luke, M.D., M.P.H.

Q: I'm looking to start my six-year-old daughter in team sports. Is she old enough? Is this too much pressure for her?

A: Many six-year-old kids are already participating in team sports; or rather, "team activities." The emphasis with team sports at early ages should be on having fun and skill development. Once children are around eight years old, they mature enough to understand the concepts of team play and working together. Before eight years of age, children typically excel better at individual sports, such as tennis, golf, skiing and gymnastics. Team sports have been shown to be great for learning teamwork, discipline, socializations skills and good communication. Children can learn to play with others; however, complex team concepts are hard to grasp and best emphasized at older ages. So, emphasize learning how to the play the sport with your child rather than strategy and winning. It'll be more fun and help her gain the skills and confidence to excel when she's ready.

Q: My 14-year-old son is running cross country and is getting pain in the front of his knee. He doesn't seem to be running more. Is there something wrong with him?

A: Pain in the front of the knee is very common in a lot of young athletes, especially those in running sports. One risk factor for injury is whether he's undergoing a growth spurt. Young athletes who are growing experience growth at the end of the long bones. These growth plates represent areas that are vulnerable to stress injuries. Also, the long bones are felt to grow faster than muscles and tendons can lengthen so that adolescents are less flexible during growth spurts. With a lot of running, a classic growth plate that gets injured is the anterior proximal shin, which is referred to as Osgood-Schlatter's Disease. This is a diagnosis that is recognized easily by most sports medicine specialists and pediatricians, who can provide proper advice on how to modify his activities to keep him participating in sports without worsening pain.

Q: How much activity should a young athlete have? My young soccer player practices almost six hours a week and plays on a school team and weekend club team.

A: How much is too much is one of the most asked questions I get in my sports clinic. It's a tough question to answer, since each athlete has his or her own individual limits. However, if young people seem fatigued, have overuse injuries, or aren't having fun, then you have to consider whether that level of activity is too much. It's always good to keep track of how much and what activity an athlete is doing to make sure it's not too much (or in many cases not enough!). The American Academy of Pediatrics (AAP) Council on Sports Medicine and Fitness recently put out a

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FEATURE

Encouraging Kids to be Active: The Importance of Play

by Rhonda Clements, Ed.D.

Play exists at the heart of childhood, and all children play regardless of age, culture, or physical disabilities. Through physical play activities, children take in information about objects and people, practice new motor skills, create situations they can deal with and control, gain confidence in their own physical abilities, and learn to solve problems. They also explore adult roles and work out their feelings through dramatic play. The freedom to physically explore, experiment, and make believe is a key ingredient in the healthy development of every child.

Community playgrounds have a strong play value and spark the child's desire to be physically active. They became a common element in society in the early 1900s, when they were initially built to provide a space for children to release energy, socialize with peers, acquire understandings about the outdoors, and awaken the young child's urge to be physically active. Why are they still popular today? First, most early childhood experts agree that children possess the human desire to be competent and independent learners to better control their environment, and after obtaining a level of success they instinctively seek the next level of difficulty for a new and greater challenge. Since most playgrounds today are multi-faceted and afford a variety of movement challenges for young bones and muscles, their appeal and importance has not wavered in more than a hundred years.

Age-Appropriate Physical Play Considerations

Unfortunately, playground challenges do offer some physical risk and dangers. Therefore, it is important to recognize several fundamental differences in childhood characteristics that help ensure that the physical play experience is safe, and that the playground design coincides with the child's stage of development for on-going interest. The following identifies three age levels of children and their typical play patterns as they relate to a playground setting to assist in selecting the best possible space for child-directed physical play.

Toddlers manifest a desire for independence and mastery through periods of intense physical exploration. Most are able to use words to represent people and objects, and are happy when the playground equipment provides for perceptual motor activities such as touching and grasping, crawling, moving through, under and around fixed objects, and simple balance challenges. Gradual sloping ramps, platforms or decks with a maximum height of three feet, inclines that include a variety of ways by which they can ascend and descend, as well as rubber tires embedded vertically in the ground stimulate their yearning to continually explore. Toddlers are content to play alone or alongside one other playmate. They often become more physically active when given the opportunity to investigate crawl tunnels, rocking equipment, or water tables and sprinklers.

Much of a four-year-old or "preschool" child's play focuses on fantasy and imitation. Play to a four-year-old is a way to create a sense of mastery over both immediate and imaginary situations. Most four-year-old children have developed a sense of self and their personality has become increasingly autonomous. Problem solving by trial and error evolves into elaborate role-play scenarios on favorite playground structures resembling transportation vehicles (*e.g.*, a fire engine, train, bus, or boat) oversized animals, sea life, or insects. A standard-sized playhouse (a six-by-six foot structure with 16-inch window sills for better supervision), provides a steady series of challenges for small group interactions because the child has increasingly developed the ability to attend to more than one attribute of an object or a situation. Most preschoolers have also established hand dominance. They feel accomplishment when climbing to the top of a five-foot slide, when swinging on a tire that is supported from three points, or when using a stationary climbing apparatus that promotes the use of the arms and legs in opposition, such as a climbing wall attached to a composite structure. When given a choice, preschool children are more likely to choose the same-sex playgroup as they establish their gender identity.

Most "school-age" children share an in-depth relationship with adults, peers, and the physical environment. They have moved from the egocentrism common to the preschool child's behavior to an awareness of their capabilities and strengths both as an individual and as a member of a peer group. The desire to impress adults and friends often triggers displays of physical feats that test their ability to hang from, climb up, crawl through, stretch beyond, and perform balance stunts that sometimes extend beyond their physical maturation since their coordination skills still need to be refined. However, daily vigorous physical play is essential for this age group since children in the United States are notorious for having poor upper-body strength. Therefore, the school-age child's interests can be sustained through playground pieces that afford some mental and physical test, since the urge for adventure and eagerness to control the surroundings can no longer be satisfied in activities that do not interest his or her curiosity. Many of today's commercial climbers are wheelchair accessible, require advanced motor planning, and offer increasingly greater heights to conquer (up to eight feet) that strengthen the child's calves, hamstrings, and lower back muscles, as well as the shoulders, biceps, and triceps muscles.

Most importantly, the failure to make adequate provisions for physical play activities can result in unfit, bored, and disaffected children. Therefore every community must continue to provide its youngest citizens spaces for physical play.

Physical Play Provides Opportunities to…

- **B**alance and control the body
- **E**xpress emotions and discover physical likes and dislikes
- **C**arry out imaginary plots that involve chasing and fleeing
- **O**vercome physical obstacles and develop strength
- **M**ove and stretch groups of muscles and body parts
- **E**xperience the sensation of spinning, twisting, and twirling
- **F**ind novel ways of moving vigorously
- **I**magine possibilities and expand upon previous physical tasks
- **T**ransfer the whole body's weight into the air!

FEATURE

Building an Active Mindset in Children

by Robert M. Malina, Ph.D., FACSM

Physical activity is a behavior that occurs in a variety of forms (games, play, transport, sport, exercise) and settings (home, street, playground, school). Children do not think in terms of physical activity. They think in terms of things they do — moving, playing, running, climbing, *etc.* — and where and with whom they do these activities. Children who walk to the store or school do not think in terms of exercise — the purpose is to get to the store or school and the medium is walking. It is only as they get older that children think of competing in sport, staying or getting into shape or doing fitness activities.

Why is it important for children to have an active mindset? Children are in many ways "wired" to move. Movement, of course, is the key to physical activity. Children need to move to develop and refine their motor skills, explore their environments, and learn. These activities dominate the early years of life and primary grades of elementary school. Activities of young children are spontaneous and occur in short bouts.

As children get older, activities tend to be more purposive and continuous. Focus shifts to refinement of skills, often in informal and formal competitive settings with peers, and to activities with the potential to improve physical fitness. Regular physical activity among school-age children is associated with improved aerobic fitness and muscular strength and endurance, bone health, and to a lesser extent, with lower levels of fatness and improved levels of HDL-cholesterol (good cholesterol) and triglycerides. It has the potential to assist in the prevention of unhealthy weight gain, the precursor of obesity. Programs of physical activity can improve the fitness, fatness, blood lipids and blood pressures of obese youth and those with the metabolic syndrome.

How can we get children to develop an active mindset and be regularly involved in physically active behaviors? The key is to provide opportunities and appropriate stimuli for activity, specifically in safe environments.

The process must begin early in life — at home. First experiences with physical activities are with parents and perhaps siblings around the house or immediate neighborhood. The importance of parental modeling cannot be overemphasized. An active adult role model is an important step in nurturing an active lifestyle.

As children get older, ground rules change. How can we get children to think active? The answer lies, in part, in why children do what they do. There is no one-size-fits-all strategy. Individual differences — biological and behavioral, and differences in circumstances of living – are considerable and need to be recognized.

First, the lifestyle of children needs to change. Some children's lifestyles are over-organized, unfortunately beginning early in life. Many children are enrolled in organized programs both active (sport clubs/teams) and inactive (art, music, computer, language classes, hobbies). Parental concerns for "getting a good start," getting ahead, and safety are key factors. Opportunity and perhaps motivation for spontaneous physical activities are thus reduced.

In many ways, it is necessary to rediscover city streets, playgrounds, and school yards as play areas. Safety is the concern most often raised; yet, it is not an impossible task to provide safe places for children to be involved in a variety of physical activities of their own choice and creation, such as games of chase, hiding and seeking, ball games off walls and stoops, and others. Play and sport, the two most common forms of physical activity, should be a "smorgasboard," offering a variety of activities and choices. This, of course, contrasts the trend for early specialization in many youth sports. What happened to the days of changing sports with the season?

Second, most children do not want/like to be told what to do. This happens in school and often at home. They do not like to be told to be active; rather, they need encouragement via modeling, instruction, opportunity and so on. They also need a say in the decision to be active (or inactive) and in the selection of activities.

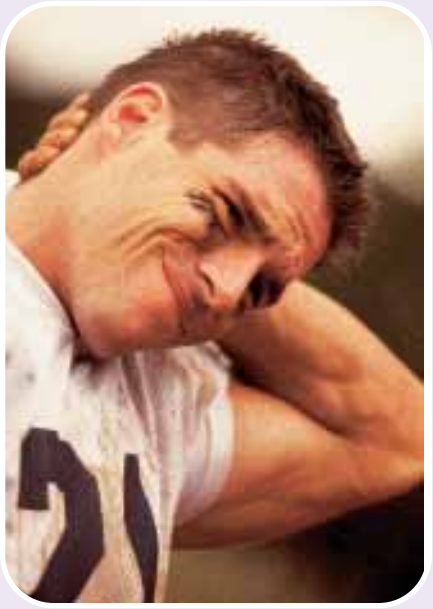
Third, activities need to be enjoyable: children will not do things they dislike! But, what is viewed as enjoyable changes with age. Young children tend to enjoy activity itself, including moving about, running freely, climbing, refining skills, and developing new skills. As they get older, they enjoy mastering movement skills and the social dimension of being active with friends increases. With adolescence, social dimensions strengthen and competition with peers gains importance among many youth, especially in sports. Youth often equate physical activity with sport. At these ages, however, sport opportunities for the majority of youth actually decline as sport systems (leagues, clubs, schools) focus on the skilled elite athletes who have primary access to coaches and facilities. What are the prospects for those who are not sufficiently skilled? An option might be to drastically modify interscholastic sport at middle- and high-school levels to make programs (especially personnel and facilities) more available for all students and not just the select.

Physical activity is largely an adult concept that holds center stage in public health, medicine and sport science — specifically health promotion and disease prevention. Children are not miniature adults and should not be treated as such! Build an active mindset, encourage children to be active.

FEATURE

Heat Injury: Reducing the Risk, While Enhancing Performance

by Michael F. Bergeron, Ph.D., FACSM



One of the biggest challenges facing numerous young athletes is attempting to train or perform safely and effectively in the heat. With many regions of the country still having hot weather during early fall sports, or even if you are not going to be in the heat until next summer, now is a great time to reassess your approach for minimizing the risk of heat injury and improving your tolerance and performance in hot weather training and competition.

Why now? If you had heat-related problems during the past summer, the circumstances leading up to these incidents may be still fresh in your mind. Secondly, having a plan well ahead of time will help you to organize and more effectively implement your strategy when it is hot. These recommendations are directed toward youth athletes and their parents and coaches.

Preparation:

Get fit. High aerobic fitness and an appropriate level of body fat can give you a big advantage when it comes to tolerating the heat, reducing heat storage, and effectively regulating your body temperature.

Acclimatize to the heat. Progressive training in the heat prompts certain physiological changes that reduce the risk of heat illness and help you to perform better. If you are traveling to a much hotter environment, plan to arrive at least a few days early. Even though full heat acclimatization can take up to two weeks (if you are not used to the heat at all), two to three days can really help.

Acclimatize to the intensity and duration. A gradual introduction to practice and competition intensity and duration is critical.

Clothing and uniforms — White or other light, loose-fitting, breathable, clothing designed for the heat is preferable. During pre-season training, uniforms and protective equipment should be introduced progressively and reduced appropriately as weather conditions warrant.

Taper your training. Reduce the volume of training during the days preceding a hot weather competition. This gives your body a chance to recover, so that you don't start the event fatigued.

Hydration:

Drink plenty of fluids (water, juice, milk, sport drinks) throughout the day.

Check your urine – it should be fairly light-colored. If you are constantly in the bathroom to urinate (*e.g.*, every 45 minutes), you may be drinking too much!

Drink regularly during all practice and warm-up sessions and competitions. Typically, older adolescents can comfortably drink and match sweat losses up to 48 ounces (or a little more) per hour. Younger athletes need and should drink much less.

Continue drinking after practice or play, to restore any fluid deficit that remains. If you produced a lot of sweat and have to train or play again soon, additional fluid intake should begin immediately.

Add some salt to your diet (by eating certain high-salt foods or adding it to meals or drinks) before and after you work out or compete in a hot environment, especially if you are prone to cramping (which is more common with teenagers). This helps your body to retain the fluid that you drink and avoid problems such as heat-related muscle cramps.

Other Factors:

Eat plenty of carbohydrates (bread, cereal, potatoes, rice, fruit, *etc.*). Working out or competing in the heat causes the body to use more carbohydrates for energy.

Get plenty of sleep. Insufficient sleep increases your susceptibility to heat illness. This is a common challenge when young athletes are away from home.

Stay in a cool environment as much as possible between training sessions and games or matches.

Practice in the morning or early evening when the temperature is generally not as high.

Medications: Ask your doctor about any medication that you are taking with respect to its potential effect on hydration or tolerance of the heat.

Recent illness: Especially if it involved fever, a respiratory tract infection, or diarrhea, a recent illness (within the past week) can make you more susceptible to problems in the heat. Consult your doctor about participation.

Sunburn: Sunburn can increase your susceptibility to heat illness. Use sunscreen (SPF 30 or higher) on all exposed areas of the skin when you practice and play.

Athletes, coaches, and parents should be advised of the early signs of heat illness, including headache, nausea, dizziness, clumsiness, weakness, muscle twinges or cramps, irritability, apathy, and confusion. One or more of these symptoms may be enough to immediately discontinue further activity and seek medical attention.

Part of the responsibility also rests with youth sports administrators and governing bodies that are in control of scheduling and setting guidelines for tournament events in certain sports (junior tennis and soccer are notable examples). Insufficient recovery time between same-day matches increases the risk for poor performance and heat injury during the next competition bout. The same is true for multiple same-day training sessions in the heat.

ACSM CURRENT COMMENT

Introduction by Martha Pyron, M.D.

The preparticipation exam can be a valuable tool for parents, athletes, and physicians to ensure that athletes are fit for their sport and without apparent disorders which place them or other athletes at risk for injury or death.

If not for the preparticipation physical exam required by schools and athletic teams, it is possible that a young person may go years between doctor visits, so I take advantage of this time to cover a variety of important topics which may otherwise go unaddressed.

As a team physician, I utilize this time with the athlete to make sure that all their medical needs are taken care of, whether they directly impact their sport or not, to discuss ways to optimize their performance with proper nutrition and training for their sport, and to discuss preventative medicine topics, when appropriate, such as immunizations, sexually transmitted infections, smoking, alcohol, and drug use. In this way, I hope to ensure that the athletes are healthy, fit, prepared for their sport, prepared to deal with their medical needs as they relate to their sport, and educated to prevent commonly encountered medical problems.

Preparticipation Physical Exams

Before sports participation, student athletes are required to undergo a preparticipation physical exam (PPE). It is important to understand that the purpose of the PPE is not to disqualify or exclude student athletes from competition, but to help maintain the health and safety of the athlete in training and competition. There are three primary and three secondary objectives of the PPE:

Primary Objectives:

1. Detect conditions that may predispose to injury
2. Detect conditions that may be life-threatening or disabling
3. Meet legal and insurance requirements

Secondary Objectives:

1. Determine general health
2. Counsel on health-related issues
3. Assess fitness level for specific sports

Although there is some disagreement among health professionals as to the frequency and timing of the exam, the PPE is generally a formal requirement prior to participation in high school, college and professional sports each year. The qualification of the health care professional who performs the PPE is based on practitioner availability, clinical expertise and individual state laws, but the training of MD/DO physicians makes them the best qualified to perform the exam. The exam may be performed in an office-based or a station-based setting, depending on the number of exams to be performed, cost, and privacy needs. Either method has advantages and disadvantages, and may be tailored to the individual situation.

The content and extent of the exam should include a medical history and a physical exam. A complete medical history to include review of past injuries, surgeries or illnesses, medication usage, signs or symptoms (especially during exertion) and drug allergies should be obtained. An interim history should be obtained for follow-up PPEs on a regular basis. Detailed history questionnaires may be used, depending on the situation. The physical exam should always include a measure of height, weight, visual acuity, and vital signs (blood pressure, pulses). The extent of the examination of the head, ears, nose and throat, lungs, cardiovascular system, abdomen, genitalia, skin and musculoskeletal system varies and may be customized depending on the sport.

If concerns are identified during the PPE, determining clearance for participation should be undertaken with the following principles in mind:

1. Does the concern place the athlete at increased risk for injury?
2. Is another participant at risk for injury because of the problem?
3. Can the athlete safely participate with treatment (such as medication, rehabilitation, bracing, or padding)?
4. Can limited participation be allowed while treatment is being completed?
5. If clearance is denied only for certain sports or sports categories, in what activities can the athlete safely participate?

Restriction from participation must be made based upon the best medical objective evidence, and should be determined with the cardiac and aerobic demands of the proposed activity in mind. An understanding of the strenuousness of the activity in relation to the physical limitations is crucial. If clearance is denied, recommendations for correction prior to participation should be communicated, and a follow-up evaluation should be scheduled. If acute illnesses or correctable conditions are resolved prior to the sport season, clearance should be given.

Each case should be evaluated individually. Understanding the value of participation should guide the practitioner in determining a suitable approach for clearance.

The American College of Sports Medicine endorses the principle of Preparticipation Physical Examinations prior to athletic activity. By working with the physician, the majority of athletes can enjoy the benefits of sports participation.

THE ATHLETE'S KITCHEN

Liquids with Calories

by Nancy Clark, MS, R.D., FACSM

If you are among the many sweaty athletes who wonder what to drink to quench your thirst, you may feel confused by the abundant choices of fluids. There's plain ol' water, sports drinks, soft drinks (sugar-sweetened or diet), 100-percent fruit juices, juice drinks, milk (skim, low-fat, or whole), beer, wine… and the list goes on. As a sports dietitian, I get lots of questions about what's best (or worst) to drink. Here are my answers to a few commonly asked questions about liquids with calories.

Liquids with Calories (continued from page 6)

Q. Should I stop drinking orange juice because it is loaded with (fattening) carbs and sugar?

A. No! To start, carbs are not fattening, but rather an important fuel for your muscles. Please do not knock OJ out of your breakfast (and then, gulp, replace it with a large latte). OJ offers a strong dose of vitamin C, potassium, folate and other health protective nutrients. Yes, eating the whole orange is slightly better because solid foods are more satiating than liquids, but you can simply balance the juice calories into your daily calorie budget.

Q. After a hard workout, I really like having a Coke or Pepsi. How bad is this for recovery and for my health?

A. Many tired athletes welcome the combination of sugar + caffeine + water to refuel, rehydrate and revive themselves. While juice would offer far more vitamins and minerals, dietary guidelines indicate that 10 percent of calories can appropriately come from refined sugar. Hence, most athletes can enjoy, if desired, 200 to 300 calories of daily sugar — a can or two of a soft drink. Would spending those calories on "premium nutrition" contribute to greater health benefits in the long run? Unclear.

Q. Are soft drinks causing the obesity epidemic?

A. In 1942, the average person drank 90 eight-ounce sodas per year. By the year 2000, this jumped to 600 sodas per year. America's obesity problem mirrors this increase in soft drink consumption. The beverage industry states many other changes have occurred in this time-span, specifically, an increasingly sedentary lifestyle, so soda is not entirely to blame.

Independent studies (not funded by the beverage industry) suggest people who drink sugary beverages tend to be heavier than those who do not. This might be because fluid calories fail to "register" (that is, they may not satiate one's appetite), so soda drinkers consume more calories per day. Other studies report soda might trigger the desire to eat more food. Hence, if soda drinking culminates in consuming more calories than you burn off, the result is indeed weight gain.

You, as an athlete, can likely enjoy a daily soda without fat gain if you keep the soda-calories within your daily calorie budget. (And please, choose wholesome foods for the rest of your sports diet!)

Note: If you are concerned about soft drinks being fattening, also pay attention to sports drinks. Many thirsty athletes overlook the fact that chugging a quart of sports drink after a workout (or during lunch, for that matter) contributes 200 to 300 sugar calories—and these calories do count!

Q. Soft drinks are sweetened with high fructose corn syrup (HFCS). Is this really bad for our health?

A. Animal research suggests consuming pure fructose can lead to weight gain due to changes in insulin and leptin, two hormones that influence appetite. In humans, whether or not HFCS (comprised of about 55 percent fructose, 45 percent glucose) promotes obesity requires more study. Food industry research leads us to believe HFCS is not fattening. However, other research hints that fructose is digested, absorbed and metabolized differently than glucose in ways that favor fat production. Your best bet? Eliminate the concern by drinking less soda.

Q. Which is the healthier choice: regular soft drinks (sweetened with HFCS) or diet soft drinks?

A. That's a personal choice; I'd vote for water for myself! Regular soda is filled with empty calories of sugar; diet soda has artificial sweeteners—"unnatural" substances that are rumored to cause cancer. Two recent studies show no link between artificial sweeteners and cancer. Pick your choice of beverage.

Q. Is green tea health protective?

A. Green tea is made from fresh tea leaves and, compared to black or oolong teas, has a higher concentration of compounds that may protect against heart disease and cancer, particularly cancer of the breast, stomach and skin. Many of the green tea studies have been done on animals or in research labs. To date, the FDA says there is not enough scientific evidence with human studies to prove that green tea reduces the risk of cancer. Stay tuned.

I have clients who have started drinking Starbucks' green tea latte. This is a questionable way to invest in good health. Starbucks' 16-ounce Tazo Green Tea Latte offers 230 calories, 60 of which are from fat and 140 from sugar. This likely wipes out the possible health benefits of the green tea.

Q. What about green tea beverages that claim to burn calories…?

A. These beverages are unlikely to solve your weight concerns. While claims that caffeine plus green tea extracts in three cans will result in burning 60 to 100 additional calories, you could just as easily create that calorie deficit by drinking less sports drink or eating one less cookie. Yet, desperate dieters will try any gimmick. One green tea-enhanced drink, another "calorie-burning soda," had more than $1.5 million in revenue in 2006 and expects to exceed that figure this year. Do you really want to fatten them up with your efforts to slim down? I hope not…

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Q&A (continued from page 2)

position statement in the journal *Pediatrics* in June 2007. Highlights of their recommendations include planning one to two days off per week from sports and training for recovery; gradually increasing one's training volume by no more than 10 percent each week, calculated by sport (*i.e.,* number of pitches, miles run per week, *etc.*), and encouraging an athlete to participate on only one team during a season. This is a useful article to read for parents and coaches involved with youth sports to get an idea of the issues and some general guidelines (www.pediatrics.org).

Q: My daughter is going to high school next year. My husband and I have always been active; however, she doesn't really play sports anymore. What can we do to get her more active?

A: Encouraging physical activity is always a challenge at any age, but particularly for young adolescent women. Young high school girls are the most likely group of individuals to stop playing sports and being physically active. It's great as parents that you are active, as you serve as the most important role model for your daughter (believe it or not). If there are family activities that she'll participate in, it can be a great way to get in exercise as well as family time. It's important she finds something she enjoys. If she doesn't like competitive or team sports, there are other activities that young women often find interesting, including different types of dance, cycling and running, rollerblading, skiing and going to the gym (light weights, aerobics). Have her try different activities and see what she enjoys. Try to encourage and support her in what she chooses. Getting her to understand the importance of exercise and letting her pick what she'd like to do is probably the best way for her to decide for herself and hopefully start a lifelong habit.