# The Beacon

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# Med-Cert Medical Management Resources

***"Guiding your way to better health management"***

## DEHYDRATION AND SPORTS: Children at higher risk than adults

Young athletes are at higher risk of dehydration and other heat-related illnesses.

Children don't adapt as well as adults do to exercise in hot, humid weather. They produce more heat, sweat less and may be less likely to drink enough fluids during exercise — all of which increase their risk of dehydration.

Dehydration can cause mild to severe heat-related illnesses, such as heat cramps, heat exhaustion and heatstroke. Children who go out for football, soccer, cross-country and other sports that start in late summer may be at risk of developing dehydration and other heat-related illnesses.

### HIGHER RISK FOR SOME CHILDREN

Your child may be particularly vulnerable to dehydration and heat-related illness during summer workouts if he or she:

- Rarely exercises
- Is overweight or obese
- Has had a recent illness that caused vomiting or diarrhea
- Has had a previous heat-related illness
- Drinks caffeinated beverages or takes medications that can cause dehydration, such as antihistamines and diuretics

### ACCLIMATING TO THE HEAT

Most heat-related problems occur within the first few days of practice. Parents and coaches should take it easy and gradually increase the amount of activity as the days progress. Young athletes may need up to 14 days to safely acclimate to the heat.

Sometimes, it's just too hot and muggy to go full throttle on the field. To determine when heat and humidity make strenuous exercise inadvisable for youngsters, coaches should use a device called a psychrometer to measure wet bulb globe temperature (WBGT).

The WBGT is the standard index of temperature and humidity combined. The American Academy of Pediatrics (AAP) has issued these guidelines for safe outdoor activity based on WBGT:

- WBGT below 75 F. All activities are allowed, but coaches should be alert for heat-related symptoms.
- WBGT between 75 F and 78.6 F. Children should take rest periods in the shade long enough to cool off. They should also drink fluids every 15 minutes.
- WBGT between 79 F and 84 F. Children who haven't yet acclimated to the heat or who are at higher risk of dehydration and heat-related illnesses should stop playing and get out of the heat.
- WBGT 85 F and above. Cancel all outdoor athletic activities.

### KEEP DRINKING WATER

During hot and humid conditions, the AAP also recommends that coaches:

- Reduce the intensity of physical activity lasting more than 15 minutes
- Make children drink 5 ounces of water or a sports beverage every 15 to 20 minutes
- Make adolescents drink 9 ounces of water or a sports beverage every 15 to 20 minutes
- Enforce fluid consumption even if children aren't feeling thirsty

### DEHYDRATION SYMPTOMS

Thirst is not a good early-warning signal for dehydration. In fact, by the time your child is thirsty, he or she may already be dehydrated.

Other signs and symptoms of dehydration include:

- Feeling dizzy and lightheaded
- Having a dry or sticky mouth
- Producing less urine
- Producing dark yellow instead of clear or light yellow urine

### OTHER HEAT-RELATED PROBLEMS

Even mild dehydration can affect your child's athletic performance and make him or her lethargic and irritable. As dehydration worsens, it increases the risk of other heat-related illnesses such as heat cramps, heat exhaustion and heatstroke.

## THE BUZZ (Good or Bad) ON ENERGY DRINKS

**What are energy drinks?**
Energy drinks are beverages like Red Bull, Venom, Adrenaline Rush, 180, ISO Sprint, and Whoopass, which contain large doses of caffeine and other legal stimulants like ephedrine, guarana, and ginseng. Energy drinks may contain as much as 80 mg. of caffeine, the equivalent of a cup of coffee. Compared to the 37 mg. of caffeine in a Mountain Dew, or the 23 mg. in a Coca-Cola Classic, that's a big punch. These drinks are marketed to people under 30, especially to college students, and are widely available both on and off campus.

**Are there short-term dangers to drinking energy drinks?**
Individual responses to caffeine vary, and these drinks should be treated carefully because of how powerful they are. Energy drinks' stimulating properties can boost the heart rate and blood pressure (sometimes to the point of palpitations), dehydrate the body, and, like other stimulants, prevents sleep.

Energy drinks should not be used while exercising as the combination of fluid loss from sweating and the diuretic quality of the caffeine can leave the user severely dehydrated.

Know what you're drinking. Energy drinks are not necessarily bad for you, but they shouldn't be seen as "natural alternatives" either. Some of the claims they make like "improved performance and concentration" can be misleading. If you think of them as highly-caffeinated drinks, you'll have a more accurate picture of what they are and how they affect you. You wouldn't use Mountain Dew as a sports drink. And a drink like Red Bull and vodka is more like strong coffee and whisky than anything else.

**What happens when energy drinks are combined with alcohol?**
Energy drinks are also used as mixers with alcohol. This combination carries a number of dangers:

- Since energy drinks are stimulants and alcohol is a depressant, the combination of effects may be dangerous. The stimulant effects can mask how intoxicated you are and prevent you from realizing how much alcohol you have consumed. Fatigue is one of the ways the body normally tells someone that they've had enough to drink.
- The stimulant effect can give the person the impression they aren't impaired. No matter how alert you feel, your blood alcohol concentration (BAC) is the same as it would be without the energy drink. Once the stimulant effect wears off, the depressant effects of the alcohol will remain and could cause vomiting in your sleep or respiratory depression.
- Both energy drinks and alcohol are very dehydrating (the caffeine in energy drinks is a diuretic). Dehydration can hinder your body's ability to metabolize alcohol and will increase the toxicity, and therefore the hangover, the next day.

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## ASK A NURSE

**Q.** Are there any natural remedies to prevent kidney stones?

**A.** One way to markedly reduce the likelihood of subsequent kidney stones is to drink more fluids, mainly water, to increase your 24-hour urine output to 2.5 or more liters.

**How much do you need to drink to accomplish this?** The amount varies with the individual — based on factors such as activity level, climate and medications. But most people need to drink at least 3 liters of water a day to reach this level of urine output. Ideally, you should drink some of this water at night.

**How does drinking more fluids help?** It decreases, or dilutes, the concentration of substances that can contribute to the formation of new kidney stones or to the enlargement of existing kidney stones.

**What happens if you drink this much water?** Your urine will likely be almost clear or a faint yellow color. Also, you will probably have to get up at least once a night to urinate.

**If you have another medical condition, consult your doctor before markedly increasing your fluid intake.**



## 20/20 SUMMER SALAD

Long, sunny days are blissful for the soul but so-so for your sight.

The problem isn't just the squinting and headaches caused by sun glare; it's the deeper-down damage ultraviolet light can do to the retina and lens. The remedy: wearing sunglasses more often than a rock star, and making crunchy green salads a staple. Why? Bushels of green veggies -- zucchini, spinach, broccoli, kale, romaine, and collard greens -- are loaded with lutein and zeaxanthin, the nutrient combo that's become famous for being a vision saver.

## Recipe Corner

### Sight-Saving Zucchini Salad

***Zucchini is at its best from mid-April through July. Look for squash that's firm, bright green, and blemish free.***

- 1.5 lbs of zucchini, cut in quarters
- 1/2 cup feta cheese
- 1 small bunch of fresh mint, chopped
- Extra-virgin olive oil
- 1 tablespoon red wine vinegar
- Black pepper, freshly ground

**Preparation:**
Cook the zucchini in boiling salted water until just tender, about 7-8 minutes; it's better to undercook than overcook it. Drain in a colander and run under cold water to stop the cooking process. Let the zucchini cool a little, and then transfer it to a shallow serving dish. Crumble the feta over the top, sprinkle with the mint, and drizzle with the olive oil and vinegar. Add freshly ground black pepper to taste. Serve at room temperature or slightly chilled. Makes 4 servings. Prep time: 10-15 minutes.


This newsletter is brought to you courtesy of Med-Cert, Inc. Our sources for this edition were Mayo Clinic Housecall and Brown University Health Education web sites.