THE RISK OF HEAT ILLNESS
Every year nearly 1.5 million athletes from junior high school to the National Football League participate in football. Although the incidence of heat related illness among football players has dropped dramatically in recent years (awareness of the problem by sports health professionals, coaches and athletes) there are still instances in which athletes become ill as a result of dehydration-related complications.

The equipment and clothing used by football players is designed to protect the athlete from broken bones, contusions, and head injuries. Unfortunately, this equipment was not designed with heat stress in mind. The football helmet substantially reduces heat loss from the head, while the uniform and padding insulate the body and impede evaporative and radiative heat loss. Additionally, because many players may not be acclimated to the heat when they report for summer two-a-day practices, the risk of heat illness is increased. It is not uncommon for a football player to lose 5 to 15 pounds of sweat during a day of summer practice.

FLUID INTAKE RECOMMENDATIONS
Health professionals generally recommend that athletes enter a practice or competition with some fluid in their stomach. Drinking on an “empty” stomach may slow down the rate that fluids leave the stomach, and lead to stomach upset. Therefore, football players should drink eight to 16 ounces of fluids prior to working out or competing.

During practice or on game day, fluids should be consumed on a regular basis. The thirst mechanism is imprecise; if a football player drinks only when he is thirsty, he may be setting himself up to become dehydrated. Drinking four to 10 ounces of fluid every 15 to 20 minutes will minimize the risk of dehydration-related symptoms.

Football players should drink fluids that will absorb quickly and then empty quickly into their bloodstream. A fluid’s composition and the volume of fluid ingested affect how quickly it’s absorbed.

While water is a good fluid replacement beverage, studies show that properly formulated sports drinks (6% carbohydrate, 14gm/8 oz.) promote absorption the most efficiently during exercise.

Here’s a typical day for a college football player during summer practice, and the steps that trainers and coaches follow to avoid heat and nutrition problems.

TWO-A-DAY PRACTICES
During two-a-day practices, the normal drive to drink and eat is often suppressed by an elevation in body temperature, mild dehydration, and fatigue. Most athletes tend to eat a light breakfast prior to morning practice. By lunch, the desire to sleep or rest may be stronger than the desire to eat before afternoon practice. Similarly, the dinner meal is not always well received. When the player finally regains his appetite he may attempt to consume as many calories as possible prior to going to sleep. Unfortunately, these eating patterns can result in drastic weight loss due to an insufficient intake of calories and fluids.

As a Big 12 strength coach/nutritionist responsible for feeding our team’s football players during summer training camp, I will outline some of our strategies to “beat the heat”.

MORNING PRACTICES
Practices are scheduled early in the morning, and breakfast might consist of a high-carbohydrate liquid supplement. Fluid intake during all practices is always emphasized; fluids are readily available throughout the practice field. As the players leave the field following drills, they are handed squeeze bottles containing a sports drink. After practice, players remove their wet clothing and record their body weights, which are compared with their pre-practice weights in an effort to head off potential heat-related disorders. Each athlete is required to take a full bottle of fluid with him to meetings, prior to lunch.

AFTERNOON PRACTICE AND THE EVENING MEAL
During the afternoon practice, fluid intake is emphasized. The afternoon heat requires more frequent breaks. When possible, fewer pads are worn. Fluid is dispensed regularly throughout practice, and fluid bottles are handed out at the end of practice. In an effort to promote cooling and restore appetite, players are encouraged to take cool showers or, if possible, get into an unheated swimming pool following practice. Body weights are recorded and compared with the morning pre-practice weights.

Players attend meetings in the early evening. Prior to and during the meetings, the players consume high-carbohydrate beverages, as well as fruit, frozen juice bars, and cereal. Dinner is served at about 7:30 p.m.; by this time most of the players have regained their appetites, and are more apt to eat nutritious foods.

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