

## **Recharging the System -- Diet and Rest for Distance Recovery**

Any complete presentation of dietary and rest needs for a high school distance runner must begin with an understanding of the basics of *recovery*. If recovery was not an issue in high level training, it would be simple for the most inexperienced coach to produce champion athletes routinely . . . just pile on the intensity and mileage and the athlete with the most available time to train would win. But recovery *does* matter, and the seasoned coach realizes that recovery is based upon two variables that are completely within the purview of each athlete to affect, nutrition in the diet and rest, although they rarely address these issues seriously.

Coaches have varying degrees of expectations from athletes with regards to intensive workouts and the recommendations in this section apply without concern for the peculiarities of individual programs. Whether you are regarded as a high mileage athlete or coach or sit on the 'minimalist' side of the fence, the parameters of diet and rest remain the same. Perhaps an athlete training and/or competing on the 'ragged edge' of breakdown has a bit more urgency in his or her needs, but the basic principles still apply. Following through on the monitoring of diet and rest may be one of the most menial and difficult jobs of coaching, but it accounts for almost *all* of the difference between the mediocre and the superior runner when training methods are equal.

### **DIET**

To begin with, the focus of this topic will be fueling of the body for training and competition through traditional foods available to all athletes in virtually all seasons. Although supplementation is a pressing issue with the new generation of athletes, with some exception for generalities here, it is a separate topic. Hydration is another critical topic that warrants intensive study beyond its connection to nutrition.

Although many coaches feel parents do a credible job of taking care of the nutritional needs of their children, critical examination of adolescent diets reveals gross inadequacies which at times border on negligence. I constantly think of a return trip from a summer 'travel run' with 6 better athletes in my van, posing a simple question to break some silence. "What did you have for dinner last night? I was astounded at the responses. The *best* any of the 6 had was a 'loaded hot dog'. Others ran the gamut from chips and salsa to a Coke and some rice and gravy. This is dinner? As coaches, if you trust that your athletes will get the diet they need without even attempting to educate parents, you will end up getting 'what you paid for'.

On an elemental level, the re-fueling of the body is done to relieve hunger. In an adolescent, a variety of things can satisfy that requirement, chiefly led by what is quick and effortless to prepare. Fast food, sodas, processed foods, and anything in a microwave dominates the list, and that is just considering dinner. At a public high school, school lunch and the inevitable vending machine present not only a nutritional problem, but a social one as well. Often, it isn't trendy to eat school lunch when all your friends have chips and a pop. Bringing a lunch from home is the best alternative but requires preparation time and can be considered 'nerdy'. Breakfast is often completely forgotten, since busy parents with demanding work schedules don't have time to worry about getting a good start to the training day. So what can a coach do to help an athlete eat a diet that allows recovery?

First, many athletes themselves are ignorant about the effects of a proper diet and what it does to the body. Runners should be informed of the basics of nutritional needs, using any of the

commonly available references from the government of home economics departments. A coach should also present at this time a discussion on what the nutritional needs of the body are and how they relate to training. Athletes need to view their bodies with a race car analogy. Although it is possible to make a race car run without the best fuel, a high-performance engine demands it. The same is true for elite distance runners. If the fuel is lacking in the basic 'octane', the runner suffers in recovery or training and the results are usually cumulative. What starts as a minor problem may rapidly develop into a deficiency that drastically alters ability to recover, train, or race.

Diet is closely intertwined with the principle of training accommodation. Principles of training accommodation states that as training load is increased with speed, resistance, or endurance, the body *accommodates* by adapting to that greater training load by developing physically and psychologically. This accommodation requires *nutritional* components (as well as rest which provides the time-frame for the nutritional components to do their job) in order to proceed at the optimal rate for continued training. The nutritional part of training determines whether you develop at the optimal rate with a sound diet, progress at a slower rate due to dietary deficiencies, or actually de-train due to gross inadequacies and a consequential destruction of the physical ability to perform. Training load can actually cause an athlete to get *slower* and *less motivated* if each exercise bout depletes nutritional stores sufficiently even though the training ideology might be sound. The end result is a de-training runner losing motivation and a coach questioning otherwise sound principles . . . all as a result of a poor diet.

Elite high school distance runners *can* maintain a healthy training body by the consumption of traditional foods from the daily food 'pyramid'. Although many coaches and quasi-informed individuals promote supplementation based on the fact that these athletes are performing on a higher physical level and therefor require additional elements in the diet, in most cases the additional supplementation is not *in addition to* standard nutrition, but rather *in the place of*. High school athletes need information and persistent follow-through in dietary monitoring, yet laziness in this area makes a program or coach ripe for the supplementation route, which argues that you can 'cover' for a lack of nutrition with a pill, mixture, or formula. In actuality, a balanced training diet needs few if any supplements, and any administered to an athlete should be provided by parents only after a documented physical need corroborated by a physician's request after a complete physical examination and blood testing. Nutrition that provides the elements necessary for training and recovery is simple . . . yet in our era of the 'quick fix', the pill often replaces the food pyramid in the hierarchy of diet determination. The only possible exception made for health concerns would be a basic multi-vitamin (with iron for women) to ensure all amino acids, minerals, and vitamins are present.

## **The Specifics**

Every coach should make available a 'food pyramid' chart to every athlete and parent, usually through a parent meeting at the beginning of a distance season. A discussion of the pyramid, presented by a nutritionist, would be the best option for a coach and many colleges and universities have departments that would be happy to provide such a presentation. The food pyramid is sanctioned by numerous federal agencies such as the USDA as well as nationally recognized food organizations like the National Dairy Council. Information is reviewed by independent agencies such as the American Academy of Family Physicians. In short, it suggests daily intake in these ranges:

- 6-11 servings from the 'grain' group
- 3-5 servings from the 'vegetable' group

- 2-4 servings from the 'fruit' group
- 3-4 servings from the 'milk' group
- 2-3 servings from the 'meat' group
- Limited use of fats, oils, dressings, and sweets

Initially, the athlete may look at the quantities with shock, but 'combination' foods deliver a real punch nutritionally while volume and calories are quite reasonable. Combination foods use quality elements of each of the food groups in combination and realistic portions, such as chicken stir-fry and rice (grain, vegetable, and meat), a chef's salad (vegetable, milk, and meat), and lasagna (grain, vegetable, meat, milk). An athlete should look at these combinations for breakfast, lunch, and dinner, with added snacks that also take care of required food groups, such as fruits and vegetables that are portable and easy to eat. With care, an athlete is able to get everything needed from a quality diet using the food pyramid as a guide.

When to eat is another question. Those with multiple workouts in a day will want to experiment with what is comfortable yet provides the energy to complete workouts while keeping alert for school and other activities throughout the day. A possible schedule with sample menu items might be:

5:00-5:30am	Morning light run
6:30-7:00am	Cereal and fruit with non-fat or 1% milk and ½ bagel
7:00-10:00am	Class
10:00am	Energy bar, apple, Fig Newtons, or pretzels
10:00-12:00pm	Class
12:00pm	Tuna sandwich, celery and carrot sticks, juice, and grapes
12:30-2:30pm	Class
2:30pm	Afternoon workout
4:00pm	½ bagel, banana, or granola bar
4:00-6:30pm	Homework, family time
6:30-7:15pm	Spaghetti with meat sauce, garlic bread, fruit cup, tossed salad, milk
7:15-9:00pm	Homework, recreational time
9:00pm	Bed

The objective is to maintain a constant energy level through a combination of meals and snacks delivering nutrition throughout the day. Always be sure to add hydration to the diet by toting a water bottle with a sports drink, plain water, or diluted juice and refilling it 3-4 times per day.

Caloric intake is best determined by individual needs. Endurance athletes tend to burn calories as fast as they can ingest them, so storing these calories as fat is not an issue. A general rule of thumb is that fewer than 1800 calories per day makes it difficult to get all the required servings from the food pyramid, so those athletes who eat less may need dietary supervision. Close examination of the diet by the athlete or coach will often trace a lack of recovery directly to errors in dietary intake. These errors make it *impossible* for the body to get the nutrients necessary for recovery, increasing the chances of a de-training downward spiral.

## **REST**

Overall rest for the distance runner is addressed in two forms . . . the neurological rest of the energy systems after each workout, particularly the harder ones, and the overall *sleep* portion of rest, which allows the body in general time to re-charge and get ready for all the taxing needs of

the next day. Post-workout rest is determined by the coach and after evaluation of training methods and athlete's reaction. Consequently, these are variable. But, the need for sleep is not.

Rest is a matter of priorities. In a high school life, there are numerous draws upon the waking hours of a student-athlete, including class work, study time, social life, church and community activities, work, and recreation. Balancing those is a difficult task, made only more difficult by a desire to excel in a sport and having practice time entering into the equation. Here is where the priority comes in. Excellence in athletics involves a certain cost, and part of that cost is time. If the cost is too high, athletics ceases to be a priority. If an athlete chooses to try to excel at all things and fails in time management, then activities disappear from the priority list. Unfortunately, one of the first things to go when an athlete decides to attempt more than they are capable of is sleep. Sleep ultimately affects all the other elements of a priority system in a high school student-athlete. If sleep suffers, then every other activity is diminished by the same degree. Performance at an elite high school level will tend to show a lack of rest first as this is the activity where the student-athlete is closest to the 'edge' of his or her comfort zone. When the 'tank' is empty of sleep or rest, no amount of motivation, training, or desire can result in making up for the lack of it. A lack of rest does not allow the body time for reparations and training 'accommodation' so the body is unable to 'train' while you are asleep . . . ultimately the most important part of your training! The stresses that we apply during training 'break down' the body. True adaptation to physical training stresses occurs while we *sleep* . . . not during the workout (although *mental* adaptation certainly does occur).

Sleep is to some degree a variable depending upon the habits and metabolic rates of individuals, but elite high school athletes seem to perform best on a median amount of 7.5-9.0 hours per night. General stress levels of the athlete also need to be taken into account as more stress equates to a higher need for sleep, and more stress may mean that an athlete has a difficult time falling asleep or wakes up often. Quality sleep may be enhanced by a 5-10 minute 'relaxation' drill before going to bed. Various 'scripts' are available for this and can be self-taught and administered. In any case . . . sleep has to be approached just as training and diet. If you over or under train, you won't race effectively. The same holds true for rest.

An evening 'routine' helps an athlete in training as well as under the stresses of competition. After your final workout of the day, scheduling the evening activities so that you can accomplish the things you *have to do* as well as the things you *want to do* puts your mind at ease. A plan of how you will spend the evening helps to keep you on track, prevents a 'wasted' night, and helps to put your mind at ease for restful sleep. But, always plan a bit of personal time no matter how busy you get. Perhaps this will be in the form of a favorite TV program (although TV is a luxury for the higher-performance distance athlete!), time on the phone, playing video or board games with your family, reading time, or just plain 'down' time. But as you are heading to bed, make sure the family knows how important the sleep is for you . . . that no matter who calls or comes to the door, your rest as an athlete is critical, and you'll deal with other issues in the morning.

Finally, the 'old wives' tale' of the hours of sleep before midnight counting 'double' the hours after is not entirely improper to believe. For most athletes, the biologic clock seems to favor an 'early to bed' schedule, and early morning summer runs before the sun gets hot, or 'two-a-days' being spaced hours apart for recovery would seem to dictate that the early hours of sleep are very important.

## **SUMMARY**

Training in the event-specific energy systems of distance running is certainly a critical aspect of continued improvement for the high school elite athlete, but it is conceivable that a *majority* of our elite athletes in the United States fail to support their intensive training with proper nutrition or rest. These two aspects of the athletic 'triad' of training-nutrition-rest are left up to chance a majority of the time, resulting in lessening the degree to which specific athletic training can be of benefit.

Attention to details in nutrition and rest will result in an athlete getting even more benefits out of training and consequently more rapid improvement resulting in the ultimate lowering of personal bests.

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