

NUTRITION FOR ATHLETES

The essential body nutrients are:

(1) fluid, (2) carbohydrates, (3) protein, (4) fat, (5) vitamins, and (6) minerals.

Fluid

Water is performance!!!

Water makes up 60-70% of the body composition.

Dehydration has been shown to be the biggest cause of decreased athletic performance.

The simplest way to avoid problems with dehydration and water loss is to monitor the weight before and after practice and replace the weight loss with 24 oz. of fluids for every pound lost. Also, liberal use of water during practices and competition should be encouraged.

Current research indicates that non-caffeinated fluids with 4-6% glucose and 110 mg sodium per 8 oz. water is a more effective rehydrator than water alone; especially after exercising for as little as 30 minutes.

What are (the) factors which can affect the athlete and the potential for heat stress hazards and reduced performance related to fluid loss?

Temperature and humidity.

As the temperature and humidity rise, there is increased risk for heat stress injury.

Increase in wind

As one is sweating on a windy day, it is easier for that fluid to be removed without the athlete being aware of it.

Sitting outside for long stretches.

As they sit for two to three hours on a hot afternoon, even if it is in the shade, this increases the sensible and insensible loss of fluids from the body. It is easy for the athlete to see the urine and sweat that is lost. It is much more difficult to see the water that is lost from the lungs.

Pre-event ritual

The athlete does not frequently drink before a race because he/she is afraid it will interfere with performance. This has been shown repeatedly not to be true as it does not cause cramps or decreased performance, yet that myth has been ingrained in mythology for years.

Nervousness

Many athletes, because of nervousness before the race, feel somewhat nauseated and do not want to take fluids.

Carbohydrates

These make up the main energy source for most high school athletic activities.

Should be approximately 55-60% of the total calorie intake. An emphasis should be on consuming complex carbohydrates, which are the starches, versus the simple carbohydrates, which are the sugars.

Protein

Protein is very important to optimal nutrition.

Protein does not make protein. The old adage that you had to eat meat to make protein is certainly a fallacy. Protein is used for growth and repair of the human body and is an essential source of energy, but not the immediate source of energy in exercise. Should be approximately 10-20% of the athlete's diet. Use of excess protein can lead to increased depletion of the body's water resources. Meat, fish and poultry, bean, nuts, and dairy products are good sources of protein.

Fat

Fat is one of the energy sources, but not one for immediate energy source. It should be about 20-25% of the calories in the athlete's diet.

Vitamins

Vitamins are broken down to the water soluble vitamins, which are the C and B complex vitamins. The fat soluble vitamins A, D, E, and K, which are stored in fat and are essential to proper nutrition. A well balanced diet will supply these.

Minerals

There are essential minerals needed in the body, such as magnesium, zinc, and selenium. With proper nutrition and eating a well-balanced diet, these essential minerals are met easily.

XI. CALCIUM

Recommended: 1500 mg of elemental calcium & 400 units of Vitamin D every day

CALCIUM COUNTER

ESTIMATING YOUR DAILY CALCIUM INTAKE

Glasses of Milk (8 oz.)	_____	x	300mg	_____
Servings of Yogurt (8 oz.)	_____	x	300mg	_____
Ounces of Cheese (8 oz.)	_____	x	200mg	_____
Orange Juice with Calcium (8 oz.)	_____	x	300mg	_____
General Diet, excluding sources above		=	_____	250
Additional Calcium Supplements			_____	
Your Daily Elemental Calcium Intake		=	_____	mg

CALCIUM SUPPLEMENTS

Type/Brand Name	Elemental Calcium (mg)
<u>Calcium Carbonate</u>	
Tums/Tums EX	200 or 300
Tums Ultra/Tums 500	400 or 500
Alka Mints	340
Caltrate 600	600
Caltrate 600+D	600 mg/400IU Vit D
Os-Cal 500	500
Os-Cal D	600 mg/200IU Vit D
Viactiv	500 mg/100IU Vit D
<u>Calcium Citrate</u>	
CitraCal	200
CitraCal LiquiTab	500
CitraCal	315mg/200IU Vit D

US Dept of Agriculture Top 25 Major Food Sources of Calcium

Serving Size	Food	Amount of Calcium
1 Cup	Yogurt Plain, low fat	415
1 Cup	Yogurt, Fruit, low fat	314
1 Cup	Skim Milk	302
1 Cup	2% Milk	291
1 oz	Swiss Cheese	272
1 oz	Cheddar Cheese	204
1 oz	Colby Cheese	194
1 oz	American Cheese	174
1 Cup	Cottage Cheese	155
1	English Muffin	103
1 Cup	Sardines, in oil, drained	351
3 oz	Perch, cooked	117
1 Cup	Tofu	260
1 1/2 Cup	Chef Salad	235
1	Taco	221
1 Large	Plain Hamburger w/bun	74
1 Cup	Almonds	332
1 Cup	Collards, Cooked	357
1 Cup	Broccoli, Cooked	94
1 Cup	Kidney Beans, canned	89
10 fl. oz	Vanilla Shake	344
1 Cup	Vanilla Ice Cream	170
5 oz	Tapioca Pudding	119

Also see the Oregon Dairy Council Link provided on the WIAA Web site under WIAA Info – Health for more information about calcium intake.

Hydration

Why drink fluids?

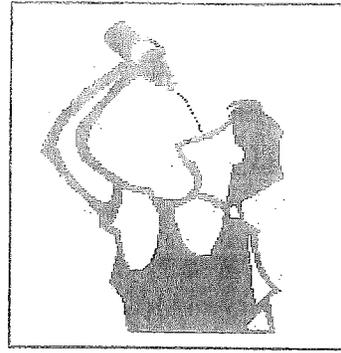
The body needs water to cool itself.

The body uses water for all of its functions.

Too much fluid loss can cause cramping.

Too much water loss you are at risk for heat illnesses such

as heat cramps, heat exhaustion, and heat stroke.



Too much water loss makes you a less effective athlete.

When you are hydrated and your opponent is not you have the advantage.

Rule 1:

Drink throughout the day, not just when you are thirsty. When you are thirsty you are already dehydrated.

Rule 2:

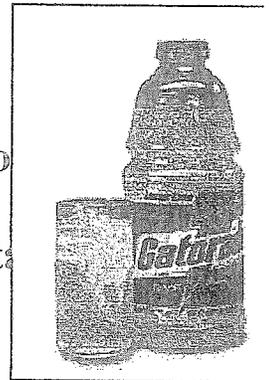
Drink fluids before, during, and after exercise.

+ 2 hours before activity = 2 glasses (16-24oz total) of water

+ 10-15 minutes before activity = 1 glasses (16 oz total) of water

+ Every 15-20 minutes = 1 glass(6-12oz)of water or sports drinks

+ After activity = 2 glasses (16 oz total) of water, sports drinks, or juices for cool days with short events or 24 oz for each pound of weight lost for more intense/longer activities and/or hot days



Rule 3:

Drink cool water, sports drinks, and juices to remain hydrated. Sports drinks such as Gatorade can be better rehydrators than water. Milk is also an excellent post event beverage.

Rule 4:

Avoid carbonated drinks, caffeinated drinks, and drinks that have a metallic taste

These drinks actually dehydrate you and make it hard for the body to use water.

Rule 5:

DO NOT USE ENERGY DRINKS

Drinks such as Red Bull have VERY high amounts of caffeine and can cause many problems with your health because of rapid loss of water an inefficient use of your body's energy.

How do you know if you are hydrated?

When you urinate the color is mostly clear.

