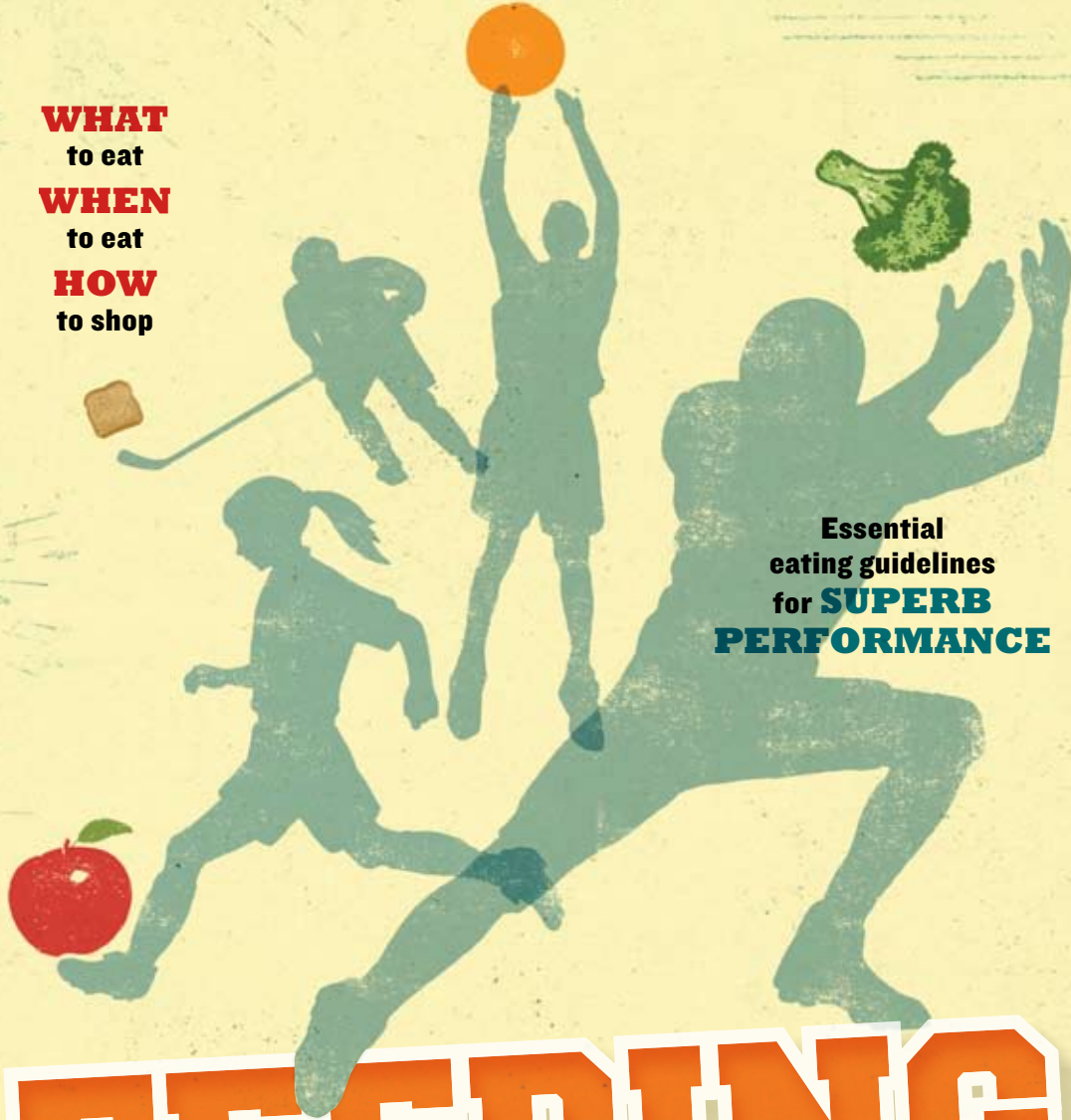


WHAT
to eat
WHEN
to eat
HOW
to shop



Essential
eating guidelines
for **SUPERB**
PERFORMANCE

FEEDING

THE YOUNG *Athlete*

SPORTS NUTRITION MADE EASY FOR PLAYERS, PARENTS AND COACHES

CYNTHIA LAIR AUTHOR OF *Feeding the Whole Family*
WITH **SCOTT MURDOCH**, PhD, RD

The information in this book has been prepared thoughtfully and carefully. It is not intended to be diagnostic or prescriptive. Any child playing sports should have a regular physical examination from their health-care practitioner.

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DEDICATIONS

Here's to the Barracudas, the Crunch, the Momentum, the Braves, the Fusion and the Scots. These strong young women turned me into the avid soccer fan and magnified my education about how food works. –c.l.

To Pat and our two wondrous boys, who continually inspire me to spend my time and energy mindfully on those pursuits that matter most. –s.m.

BIO

Cynthia Lair is a certified Health and Nutrition Counselor and author of the popular cookbook, *Feeding The Whole Family*. She is also the co-creator of the humorous online cooking program, **Cookus Interruptus** (www.cookus.tv), where she combines cooking fresh, organic whole foods with improvisational theatre. Videos of how to make many of the recipes in this book can be found there. She is the Director of the Culinary Arts program and is a core faculty member of Nutrition & Exercise Science at Bastyr University. In between her teaching, writing, and cooking, Cynthia was a soccer mom for over 14 years and remains a loyal fan of the sport. She lives in Seattle, Washington.



GRAPHY



Dr. Scott Murdoch received his Master of science degree in Exercise Physiology and a doctorate in Nutrition and Human Performance. He is also a Registered Dietitian. He has over 20 years of teaching, research, and clinical practice in human nutrition and physical performance. In addition, he has competed in over 90 triathlons, including three Ironman World Championships and played tennis professionally for 18 years. He is a proud father of two athletic boys and lives in Bend, Oregon.



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Strive for wholeness.*

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INTRODUCTION

My daughter started playing competitive sports when she was seven years old. I had never been involved in sports as a child or an adult, therefore the sports sideline felt both fun and perplexing. Observing the mêlée post-game of children, parents and packaged junk food flying into hungry mouths disturbed me, especially since I teach family nutrition and cooking with whole foods at a university. As if holidays, birthdays and the kid's menu in restaurants didn't create enough excuses for feeding children poor food, here was another justification for a sugar frenzy. At the very moment when the body needs an intense re-fueling of nutrient-rich calories, parents unknowingly doled out ding-dongs.

As my daughter became a more skilled player and selected to be on more competitive teams, she played in tournaments every weekend. So making sure that she had the fuel to maintain her performance became crucial. Not only was I motivated by helping my daughter maintain the starting position she wanted; I had become invested in the whole team. I wanted each player on the team to be empowered by their food choices.

I sought the help of my colleague, Dr. Scott Murdoch. He has a doctorate in nutrition & human performance and is also a registered dietitian, but more importantly, he was also an athlete who competed in triathlons and professional tennis. Dr. Murdoch is a science non-fiction kind of guy with all sorts of facts, and the research to back them up. I would translate the complex data he gave me into language that could be comprehended by a young reader or into recipes I could make in my kitchen. Then I'd try the food and the timing of eating with my daughter's team.

They won a lot of games.

I was happy to see that with some simple nutrition education, the players on the teams (My daughter played soccer all through middle school, high school and college) began to feel the connection between food and athletic performance. Pumped about sharing what I was learning with players and coaches I generated handouts and folders, and finally with too many pages to wrangle, this book began to emerge.

Young people who are physically active benefit from better health, confidence, and well-being. For activity to be both healthy and enjoyable children need to be fed wholesome foods. Both Dr. Murdoch and I believe that being physically active without eating wholesome foods, or eating wholesome foods without any activity, is simply self-defeating.

There is a huge rise in the number of young people participating in sports, yet there seems to be a dearth of available, easy-to-understand, and practical information on the topic of sports nutrition for kids. Bastyr University, where both Dr. Murdoch and I have taught, is a school on the cutting edge of medicine and nutrition. The nutrition department combines the best of modern scientific research with the wisdom of emphasizing natural, whole foods. Using our combined backgrounds in exercise physiology & sports nutrition and whole foods cooking & family nutrition, we have created a practical, easy-to-read resource to fill this gap.

In this expanded Second Edition, we've reorganized our discussion to highlight what to eat, when to eat, and how to shop, so players can be mindful about snacks they can pack or food to buy when they're traveling to a distant game. Appreciating the crammed schedules of those who are involved in team sports, the book is organized using top ten lists and key take-aways. In this way families and teams can grasp at a glance the reasoning behind our guidelines, as well as ways to apply them.

One further addition is the title now specifies the book as an educational resource for players, parents AND coaches. This had been implied in the

First Edition but never spelled out. Considering the impact that coaches can have on impressionable young people, it seemed important to call them to action. When the coach is on board with helping players understand the impact of food on performance, the message is more likely to be heard and practiced.

Although this book is directed at individuals participating in organized sports, the information is applicable for all people who have a physically active lifestyle.

While everyone seems to feel pressed for time, the push to COOK is less of an undertone and more of a directive in this edition. A small percentage of kids who play sports go on to play in college. Even a smaller fraction of those will play professional sports. But I hope young athletes will carry their appreciation for movement into adulthood and also carry forward their knowledge of the relationship between food and the body. Being around, seeing and practicing the skill of cooking increases the likelihood that the food/body relationship will be a positive one.

There is a golden opportunity here! Eating well increases energy, endurance, and the ability to concentrate, both on and off the field. Players that eat and drink properly have an edge over their competition, especially in the second half of the game, the second game of the day, or the second half of the season. Educating young players, parents and coaches about sports nutrition offers a gateway to both improve performance and improve lifelong eating habits.

Eat better to play your best!

— Cynthia

PART ONE

HOW TO FEEL YOUNG

*Plan ahead.
Timing is everything.
Strive for wholeness.*

ATHLETES



CHAPTER

**The Ten
Essential
Eating
Guidelines
for Superb
Performance**

- 1**
Wise up to how food
creates energy
- 2**
Eat using the timetable
- 3**
Sip sip sip
- 4**
Supercharge
by eating grains
- 5**
Chomp fruits
and vegetables
- 6**
Put protein in its place
- 7**
Sideline the sugar
- 8**
Make your plate
- 9**
Relax, recover
and rebuild
- 10**
Get the whole
team involved

We have listed ten simple guidelines for improving and sustaining athletic performance. People of any age can benefit from understanding the basic science behind how food works. When young people involved in sports apply them, the advantages can be surprisingly immediate. Get down with these positive strategies and find a new groove to your game.

1 Wise up to how food creates energy

Nature designed foods to grow forming a team of nutrients

The main nutritional components of food are: carbohydrates, protein, fat, vitamins, minerals, fiber, and water. Each nutrient has a specific purpose in the body.

Carbohydrates are used to create energy. Foods that contain carbohydrates work the quickest to transform into muscle glycogen – fuel for muscles. *Examples: whole grain bread, brown rice, oatmeal, corn tortillas, quinoa*

Proteins help promote cell growth and repair. *Examples: eggs, fish, chicken, turkey, beef, cheese, beans*

Fats help transport a variety of important nutrients like Vitamin A and D, and are a



major component of every cell wall in our body. Fats are also used as a slow, secondary energy source. *Examples: butter, olive oil, nuts & seeds, nut butters, avocados*

Vitamins help keep many bodily functions, like the immune system, working properly. Their key role for physically active people is to help transform carbohydrates into glycogen (primary fuel for muscles). They are found in whole foods. *Examples of foods rich in vitamins: dark leafy greens, sweet potatoes, strawberries, oranges*

Minerals help transform food into materials the body uses, such as calcium and magnesium for bone development. They are also found in whole foods. *Examples of foods rich in minerals: dark leafy greens, sea vegetables (like nori), dairy products, bananas.*

Fiber helps food move through the body while promoting healthy bacteria in the gastro-intestinal tract. Fiber also helps create a feeling of fullness.

Including food naturally rich in fiber, such as whole grains and beans, help bodies feel satisfied with the right amount of calories.

Examples of foods rich in fiber: whole grains, beans, fruits and vegetables



Water constitutes the majority of our body weight, anywhere from 55-65%. Dehydration compromises all bodily functions. See “Sip Sip Sip” pages ### for more about hydration. *Examples: water, ice chips, homemade sports drink (recipes on page ###)*

NUTRIENTS WORK TOGETHER LIKE A TEAM.

Just as it's more effective to play basketball with a whole team rather than one player, nutrients work more efficiently when they are matched up with the right teammates.

A good example is the nutrient calcium. If you take a pill that is 100% calcium and nothing else, it's on the field alone. But if the calcium has the right amount of other team players like magnesium and vitamin C with it, the calcium will perform at its highest level and your body will absorb more of the nutrients. This is called bioavailability.

Nature creates **WHOLE** foods.

Foods from nature don't just have one of the nutrients listed above, but a group of them. Whole foods are nutrient-rich, meaning they have a whole bunch of great players formed into a team.

Before we put a bite in our mouths, there needs to be a moment, a second, when we consider where the food came from. What was its life like before it came to be on this grocery store shelf? Foods that are in packages can be pretty mysterious.

Just like players on the field, every nutrient has its own purpose. Once you understand what it is, you can create a winning game plan. And realizing that eating whole foods ensures the meal is full of the nutrients the body needs to play well—you're halfway to home plate.

Get in the habit of reading labels. If it's a whole food, you should be able to recognize every ingredient as something that grows in nature.

How to tell if a food is a **WHOLE** food.

Consider these questions when choosing food that is worthy of putting in your body.

1 Does it grow in nature?
It's pretty easy to imagine lettuce growing or an apple on a tree, but not so easy to picture where Twinkies might "grow". The smooth pale green color of an avocado illustrates nature's magic; whereas the turquoise coloring in a beverage does not have natural origins.

2 How many ingredients does it have?
Most whole foods have only ONE ingredient. Foods like bananas, salmon or green beans don't need labels, they are simple whole foods. Count how many ingredients are listed on most packaged foods!

3 What's been done to the food since it was harvested?
Picture how the food might have been made and all the things that happened before the food arrived at the grocery store. Usually the less that was done to the food, the more likely it is to be a **WHOLE** food. Packaged foods that have long lists, with hard-to-pronounce ingredient names have likely had their "wholeness" compromised.

4 Are all the edible parts of the food present?
Juice is only part of a fruit. Oil is only part of the olive. White rice is missing its whole outer shell that is full of fiber and nutrients. When you eat un-whole foods, your body in its natural wisdom will crave the parts it didn't get.

5 Could you make this food in your kitchen?
A good example, of something you can't duplicate in your kitchen is soy protein isolate. Tofu (another soybean product) is quite doable in a home kitchen. One is a complex refined food, the other, a very simple food made from cooked, strained and coagulated soy beans. Asking yourself if what you are eating is something that could be made in your kitchen is a good litmus test. Another reason to learn how to cook!



THREE BIG REASONS TO EAT WHOLE FOODS

1
You know what you're eating – food made by nature, not in a factory.

2
Whole foods have a team of nutrients to help you create energy, not just one.

3
You'll feel more energized because your body is not wasting energy trying to decide how to store or dispose of non-food ingredients.

Don't be fooled by labels.

Big flashy words on labels grab our attention. Packaged foods designed to entice athletes have lots of Batman terms in the titles: Kapow! Zing! Power! ProMax. Hammer. Crunch. Body Fortress. These foods also have promises on the label such as build muscle, increase endurance, boost energy, protect muscles, optimize nutrition and so on.

POW!

In my nutrition class, students will often hold up a bar or drink and ask, "Is this okay?" Much to their annoyance, I never give a straight yes or no. Instead I asked them, "What's in it?" As they read the list of ingredients I may interrupt and ask, "What's THAT?" When they shrugged, I encouraged them to look it up. Which may be complaints of, "But the label says it's good for you!". Yes indeed. Exactly what the food manufacturer wants you to believe!

Harried shoppers often trust the words used to sell products on the front of the package, and often pay the price for foods that have been altered and enhanced with a very long ingredient list. Smart athletes look beyond the dazzle and hunt for the list of ingredients on the back. Now we're talking. Do you recognize all of the ingredients? Are they whole foods or isolates (usually they have scientific names)? What about the first three ingredients? Ingredients are listed in the order of the amount, with the first being the most. If one or more of the first three ingredients are sugar and/or a form of sugar (words that end in the letters -ose) don't throw the packaged food in your cart.

Stay aware. Know what you are putting into your body.

A LITTLE COMPARISON :

These two snack items have about the same number of calories and cost relatively the same (if the latter is made with organic products), BUT you are paying for a lot of things you may not want in your body when you buy the "Way Past Crazy" bar. Notice that the main ingredient in the bar, disguised by the name "4X Energy Fusion", is just sugar.



Example 1: "Way Past Crazy" bar

Ingredient list: 4X Energy Fusion blend (organic evaporated cane juice syrup, maltodextrin, fructose, dextrose), oat bran, soy protein isolate, alkalized cocoa, brown rice flour, and 2% or less of canola oil, vegetable glycerin, salt, chocolate, natural flavor, nonfat milk, almond butter, peanut flour. Minerals: calcium phosphate, potassium phosphate, ferrous fumarate (iron). Vitamins: ascorbic acid (vitamin c), vitamin b6 hydrochloride, riboflavin (vitamin b2), thiamine mononitrate (vitamin b1).



**Example 2:
Stayin' Sane
½ peanut butter
sandwich + ½ banana**
Recipe: Spread 1 tablespoon peanut butter on 1 slice 100% whole wheat bread (whole wheat flour, water, yeast, honey, salt), add ½ banana slices, and eat open-faced or folded over.

2 Eat Using the Time Table



Schedule when and what to eat before, during and after an athletic event.

During middle school my daughter played on a select soccer team. One talented young girl, Allison, played center-mid and was a head taller than most girls her age. Needless to say, she was an important part of the winning team. Allison arrived on the field after the warm-up for an early morning Saturday game. As she was crossing the field, pulling on her cleats, her mother came chasing behind, waving a bagel, yelling, “Here! HERE! You’ve got to eat something.” A bagel made of white flour was not the best or worst choice, but the timing was awful. There was not a chance that Allison would have the fuel she needed to play a strong first half. Even if she had eaten the bagel as she shoved on her shin guards before the whistle, there was not enough time for her to digest the carbohydrates and turn them into muscle energy.



Why is the pre-game meal so important?

If you come to a game or scrimmage without having eaten you will not have the energy or concentration to play at your full potential. Some players try to quickly down an energy bar or a piece of toast a half hour before the game because they didn’t eat earlier. If you do this, the food will sit uncomfortably, undigested, in the stomach. You won’t have given your body time to transform the majority of the food into energy the muscles can use.

Never come to a game, practice or scrimmage without fuel in the tank. When is game time? Check the timetable (page ###).

Sometimes when I have lectured on this topic to teams I will ask them if any of them has ever gone without breakfast and lunch one day. I

usually get a few hands up. Then I ask, “How did you feel?” Without hesitation I hear, “Spaced out.”

The first thing to go down the tubes when you haven’t eaten is not the muscles in your legs, but the big “muscle” in your head, the brain.

Quick decision-making becomes impossible. This paves the way for not only poor performance, but also injuries.

Glycogen is stored inside each of our muscle fibers to provide the muscles with fuel. Muscles can only store a limited amount of glycogen, so we must constantly replenish our stores by eating. When our glycogen levels are low we become slower, weaker and less able to concentrate.

Glycogen is made from foods we eat, particularly carbohydrate-containing foods, so it is critical to eat a healthy meal containing ample carbohydrates prior to a

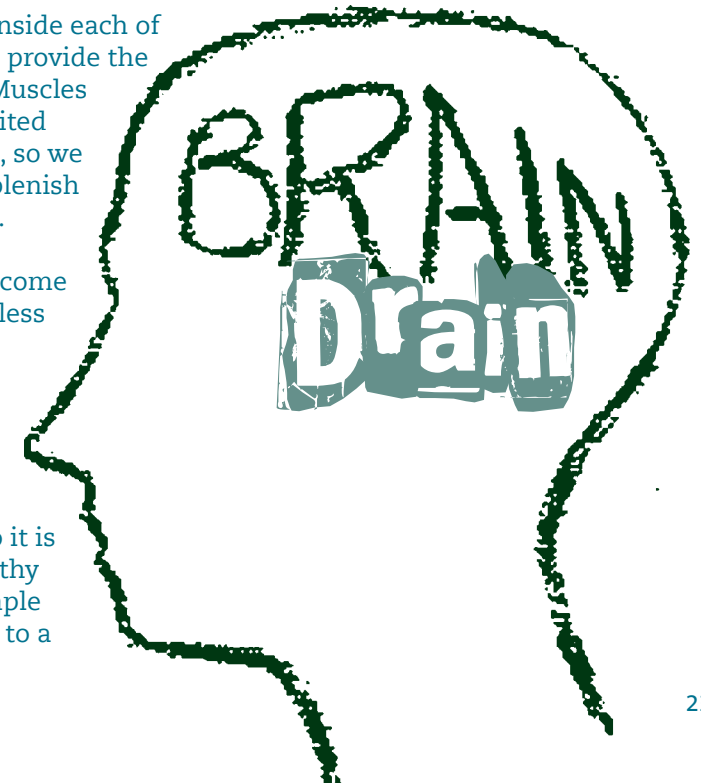
game or practice in order to have the muscle energy needed to play.

Your pre-game meal should be eaten about 2 to 3 hours before your game, practice or scrimmage.

Top the tank at halftime and breaks

Generally no food is recommended for the hour preceding and during the game.

However, young players have smaller bodies and sometimes they can’t pack in enough food before a game to last them until



the final whistle blows. If you're working with players that fall into any or all of these categories you may want to consider a half-time snack to help them maintain energy throughout the event.

FOUR BIG WAYS TO TOP THE TANK AT HALFTIME

1

When you come off the field consume *fluids and carbohydrates*.

2

Whole, juicy fruits work best.

3

Water with $\frac{1}{4}$ cup of lemonade or fruit juice also works.

4

Try snacks out at practice or scrimmage first before using them in a game.

Re-fuel quickly to come back stronger

Research has shown that our muscles are able to replenish glycogen needs more quickly when we eat or drink carbohydrate-containing foods within the first 30 minutes after a game or practice. During this time muscles will convert carbohydrates into glycogen up to three times faster than if the player waits until 2 hours after the game to eat. This is your glycogen window. Take advantage of the glycogen window and eat a small snack post-game or practice.

There are two explanations for this phenomenon. The increased blood flow to the muscle cells caused by physical activity brings more nutrients to make glycogen. The muscle cells are also more sensitive to the substances that transform nutrients into glycogen immediately after play.

The bottom line: eat healthy carbohydrate-containing snacks and beverages as soon as you can after the game or practice has finished.

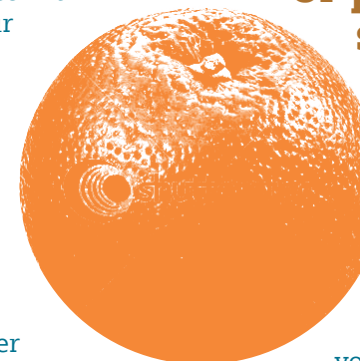
This snack or meal is extremely important if players have another game, scrimmage or practice within twelve to twenty four hours. Ideally, if the players have a second game the same day, they will have a small nutritious snack immediately after the first game followed by a more substantial meal after the second game.

Circumstances don't always allow for optimal sports nutrition. If someone forgot to bring snacks or there's no time to stop and get something to eat, don't panic. Recovery is attainable later; it's just that the body is more efficient immediately after the event. Another thing to remember is that calories of any kind consumed post-game are better than no calories consumed.

Note what time your game, event or practice starts and work backwards.

If the game starts at 10:00 am, be sure that you get up early enough to eat breakfast by 8:00 am. If you don't have gas in the tank, the car can't go. If you don't eat at the right time your muscles won't have fuel for practice or for the game. And any deficit you experience today will make it even more difficult to replenish the next day.

We all do this. We think, "Yeah, everybody else needs to eat a good breakfast but I can tough it out." "I can do fine with soda and an energy bar." If players find this kind of self-talk recognizable, change the way you think. You're



When players pack their sports bags for the game, be sure to include a piece of fruit or crackers — some kind of snacks.

Make it part of the pre-game ritual before you leave the house. This way you'll be less likely to miss the window.



TIMETABLE FOR PLAY

YOUR BEST GAME

2-3
hours before



EAT A PRE-GAME MEAL

A pre-game plate of pasta, rice, bread, potatoes AND vegetables, plus some protein.

Don't stuff yourself.



DRINK FLUIDS
.5 - 1 liter



1-2
hours before



EAT A PRE-GAME SNACK

(optional)

Fresh fruit, crackers, bread, energy bar.

Very light fare, if needed.



DRINK FLUIDS
.5 - 1 liter



0-1
hour before

NO FOOD

DRINK FLUIDS
.5 - 1 liter



Game time
(or training)



EAT JUICY FRUIT

Fruit with high water content, orange, melon slices or grapes

Optional, if needed.

DRINK FLUIDS WITH CARBS
.5 - 1 liter



0-1
hour after

EAT A POST-GAME SNACK

100% fruit juice, fresh fruit, bagel, muffin, sandwich, crackers, energy bars, liquid meals

Any snack is better than no snack

DRINK FLUIDS
2 liters over several hours



not Superman, the Incredible Hulk or any kind of Hornet. You are flesh and blood, requiring food to live, and good food to perform well.

Low muscle glycogen is directly related to fatigue, decreased running speed, slow thinking, and poor recovery.

The timing and choices in the athlete's diet are the most fixable aspect of improving performance...and often the most overlooked.



Don't Forget To Eat Before and After Practice

Many parents and players get serious about eating and drinking when a game or competition is at stake. It is equally important to remember to hydrate and feed the young athlete before and after every practice or training session. All too often, practices are held

SIX BIG REASONS TO FOLLOW THE TIMETABLE

- 1**
Dramatically increases stamina to last the whole game
- 2**
Increase mental focus to play strategically.
- 3**
Helps maintain performance level game after game
- 4**
Aids in recovery from games and practices.
- 5**
Helps prevent performance slumps.
- 6**
Helps prevent injury.

during after-school hours. Most young athletes have not eaten since lunchtime and will need a hearty snack or mini-meal and water before heading out the door. A tired or lethargic athlete will not benefit from practice, nor will the coaches or other team members.



Keep in mind that how you eat today affects how you play tomorrow.

Inadequate intake on training days can make it nearly impossible to fuel optimally on game days.

Take Your Time to Eat

Remember to CHEW! Don't wolf down food. Your stomach will have to do the work if your teeth don't.

You can eat a very nutrient dense meal, but if you don't absorb the nutrients due to poor digestion, you won't benefit from eating. Good absorption and assimilation requires eating food in an unhurried manner. If you don't use your teeth to chew food, your stomach and small intestines have to do the work, which delays absorption

and wastes energy. **Eating in the company of friends, in a relaxed atmosphere enhances digestion.**



PART TWO

WHAT TO EAT TO FEEL YOUNG

*Plan ahead.
Choose whole foods.
Strive for balance.*

ATHLETES



CHAPTER 4

Homemade Sports Drinks

Drink This

Water

Homemade Sports Drink
Fresh Lemonade Hydrator

Lime Boost

Diluted lemonade

Naturally flavored water

Coconut water

Commercial sports drinks
with reservations

Don't Drink This

Carbonated drinks

Artificially sweetened drinks

Caffeinated drinks

Energy drinks

Unfiltered apple juice

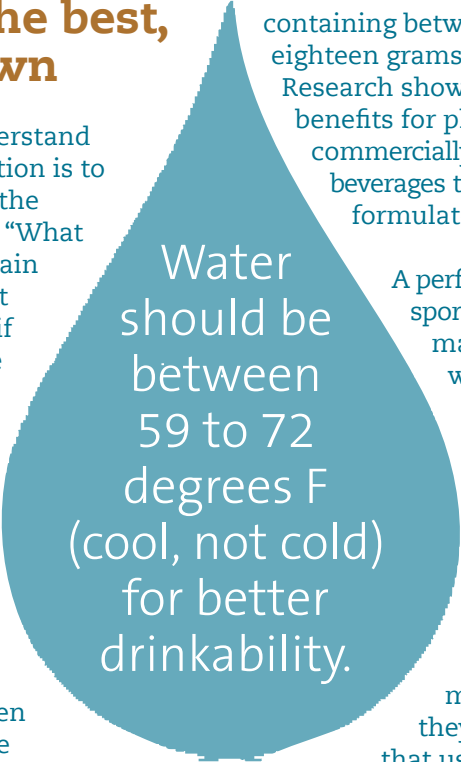
Milk as a hydration drink

Water is the best, hands down

Now that you understand how crucial hydration is to playing your best, the logical question is, “What should I drink?” Plain old water is a great choice, especially if young athletes are eating fruit and other carbohydrate-containing foods while training or competing.

The American Academy of Pediatrics recommends that children and adolescents be taught to drink water “routinely as an initial beverage of choice” and “generally [as] the appropriate first choice for hydration before, during, and after most exercise regimens.”

Research on adult athletes demonstrates that under extreme physical exertions and environment conditions, the addition of small amounts of carbohydrates, sodium and potassium will enhance the rate of fluid absorption. Recommendations for carbohydrate concentration range from two to eight percent (with amounts above eight percent slowing fluid absorption). Simply put, two to eight percent is equivalent to an eight-ounce beverage



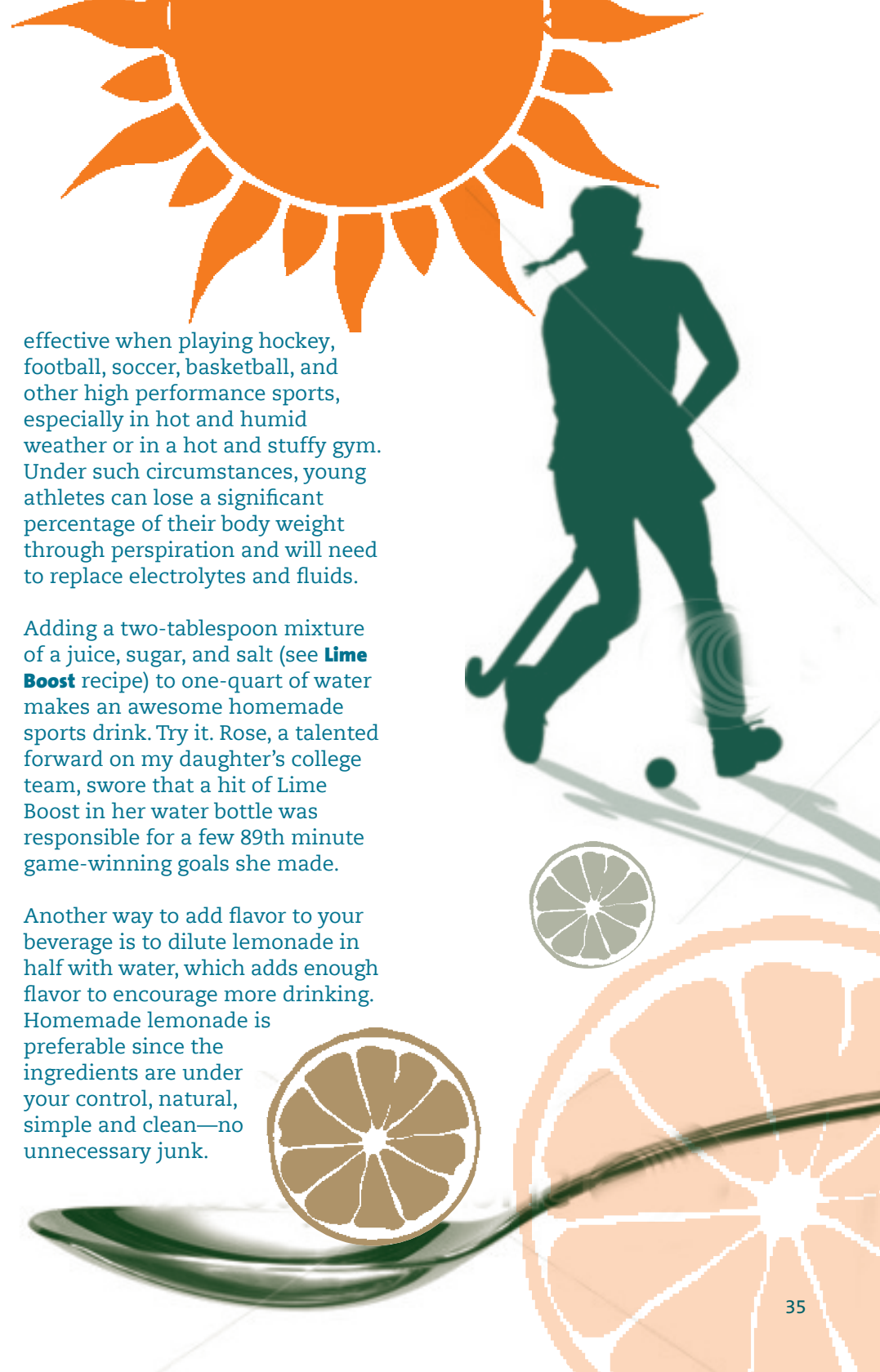
Water should be between 59 to 72 degrees F (cool, not cold) for better drinkability.

containing between five and eighteen grams of simple sugars. Research shows no additional benefits for players drinking commercially produced beverages that are specially formulated for athletes.

A perfectly suitable sports drink could be made at home where no high fructose corn syrup, artificial flavorings, chemicals and colorings are added. These ingredients are unnecessary for an athlete no matter what age they are. Remember that using sports drinks to hydrate also adds calories and cost. If you choose to provide commercial sports drinks, dilute them by as much as one half for younger athletes (twelve and under).

Try a homemade “sports” drink for non-stop endurance sports played under hot conditions.

A homemade sports drink enhances thirst and increases voluntary hydration. This is why it can be



effective when playing hockey, football, soccer, basketball, and other high performance sports, especially in hot and humid weather or in a hot and stuffy gym. Under such circumstances, young athletes can lose a significant percentage of their body weight through perspiration and will need to replace electrolytes and fluids.

Adding a two-tablespoon mixture of a juice, sugar, and salt (see **Lime Boost** recipe) to one-quart of water makes an awesome homemade sports drink. Try it. Rose, a talented forward on my daughter’s college team, swore that a hit of Lime Boost in her water bottle was responsible for a few 89th minute game-winning goals she made.

Another way to add flavor to your beverage is to dilute lemonade in half with water, which adds enough flavor to encourage more drinking. Homemade lemonade is preferable since the ingredients are under your control, natural, simple and clean—no unnecessary junk.

The news that flavors in the water aids hydration has spawned a new breed of commercial “flavored waters.”

Use caution and read labels (see page ###). Do not buy flavored waters that contain unrecognizable ingredients, vitamins, herbs, and other additives and supplements. If you wish, buy flavored waters that only contain water and a small amount of natural flavoring. However, making something similar at home is very easy and much less expensive.

New on the rehydration scene: Coconut water.

Sales have skyrocketed, largely because of its reputation as a healthy and natural source of electrolytes.

Few studies have looked directly at coconut water and exercise. We know of no studies done on younger athletes and coconut water. The carbohydrate concentration of pure coconut water is between two and five percent, falling in the appropriate range.

Coconut water is an acceptable choice if the young athlete readily drinks more liquid because the flavor is preferred, and parents are willing to shuck out some coin. Since few people will be cracking open a home grown coconut themselves, remember to check the product label and ingredient list to make sure additional “stuff” wasn’t added.

Carbonated drinks change the pH levels in the stomach and can cause belching and gas—undesirable when playing sports.

Carbonation is the process of dissolving carbon dioxide, under high pressure, in water. When the pressure is reduced, the carbon dioxide is released from the solution as small bubbles, which cause the solution to “fizz.”

Soda pops should be avoided anyway due to their high sugar content and other added ingredients.

Diet soda or artificially sweetened drinks do not help with weight management.

Researchers from the University of Texas Health Science Center recently presented strong data showing that drinking diet soda can be unhelpful for losing weight. They found that the more diet sodas a person drank, the more weight they gained. Some recent studies on sucralose (Splenda) and aspartame (Nutra-sweet) raise concern that weight gain may be the kindest of undesirable effects. Avoid artificially sweetened beverages.

Caffeinated beverages act as a diuretic, which acts against the goal to rehydrate.

Caffeine can also cause nervousness and shaking in some people. And remember that the typical effect it has on adults is magnified in children and adolescents. No lattes or frappuccinos for young athletes, please.

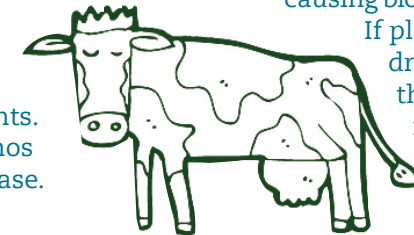
The stimulants in energy drinks are simply not appropriate for young growing people.

The term “energy drink” refers to a type of beverage containing substances that act as nonnutritive stimulants and are marketed as enhancing performance. Avoid these additives in beverages: caffeine, guarana, taurine, ginseng, l-carnitine, creatine and/or glucuronalctone.

Don’t drink unfiltered apple juice or milk before or during a game.

Unfiltered apple juice can cause stomach cramping in some players. Milk is a high protein and sugar food, not actually a drink, if you consider the amount of calories and nutrients present. Also, some people find cow’s milk difficult to digest, causing bloating or cramping. If players choose to drink milk as part of their diet, it’s best not to drink it right before or during a game.

Lay off the moo juice!



Homemade Sports Drink

Do-it-yourself and be sure that the ingredients are what you want to ingest. This makes a carbohydrate concentration of six percent—right in the ideal range. Do not use unfiltered apple juice to make this.

½ cup 100% orange (or other fruit) juice
½ cup sugar
¼ teaspoon salt
2 quarts of water

- ▶ Combine juice, sugar, and salt in a large pitcher and stir.
- ▶ Add water and stir again.
- ▶ Pour into sports bottles and you're good to go.

PREP TIME: 2 minutes
Makes 2 quarts +

Fresh Lemonade Hydrator

It is hard to find pre-made lemonade that doesn't contain high fructose corn syrup or other chemical sweeteners. This made-from-scratch drink refreshes hot, tired players.

2 cups water
¾ cup fresh lemon juice
½ cup sugar or dried cane juice
2 teaspoons lemon zest, minced
About 1½ quarts of additional water

- ▶ Bring water to boil. Add lemon juice, sugar and zest. Lower heat and simmer until sugar is dissolved (about 10 minutes). Remove from heat and let cool.
- ▶ Pour into a large pitcher and add enough water to bring the amount up to 2 quarts.
- ▶ Pour into sports bottles and you're good to go.

PREP TIME: 15 minutes
Makes 2 quarts

Lime Boost

Besides making a spectacular liquid boost to add to water in your sports bottle, this simple syrup also works beautifully in marinades for fish or chicken and as the acidic part of salad dressings.

16 ounces (2 cups) lime juice
1 cup sugar
½ teaspoon salt
1 quart of water

- ▶ Put lime juice and sugar in pan over low heat.
- ▶ Let mixture warm until it thickens slightly and all sugar is dissolved (about 10 minutes). Remove from heat and let cool.
- ▶ Pour into clean jar with lid and store in refrigerator.
- ▶ To make sports drink, add salt and 2 tablespoons of Lime Boost to 1 quart of water.

PREP TIME: 15 minutes
Makes over 2 cups of Lime Boost,
1 quart of homemade sports drink

Remember

1 quart = slightly under 1 liter
4 cups = 1 quart