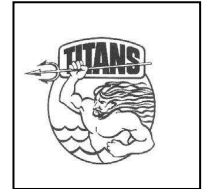


TITANS Training Table



We're All in This Together!

A NOTE FROM COACH SCOTT...

Sue Epstein is an author and former world-class runner. She was ranked 10th in the world in the Women's Marathon in 1984, competed in two Olympic Trials, and participated in the '84 Olympics in LA. Sue was a member of the US Track and Field Team representing her country across the globe. Her background is in Speech Pathology and Exercise Physiology. Sue and Len Epstein have two Titan swimmers, Aleza and Haley.

"We're All in This Together" came to mind because I heard the tune so many times last summer while carpooling to the Aquatic's Center. We can all relate! While our children are the ones putting in the hours of training at the pool along with Scott, Tim, and the rest of the coaching crew, the parent is left on the outside to consider the best approaches to a healthy lifestyle necessary to support their young swimmer.

I decided to do my part and use my expertise to

write a column about properly fueling the athlete and maximizing energy; sort of the what, why, and how of maintaining a healthy body for optimal performance.

In my experience both as a former athlete and now a parent, much of what is promoted about nutrition and exercise is not scientifically based. The purpose of this newsletter is to provide accurate information regarding appropriate eating habits for fueling the athlete; allowing the coaches to

focus their energies on getting our swimmers well trained and ready for competition. So many variables can influence performance, both physiologically and psychologically. The format will include a feature article; latest research to support the subject; and an interview with a Senior TITAN selected by the coaching staff. Questions and topics of interest can be submitted to me at: sueiepstein@yahoo.com. Coach Scott will review all submissions and choose which topics to include in future newsletters.

FEATURED SENIOR TITANS



Marissa Dressel

Victoria Jacumsky

Burning Calories

An understanding of daily caloric needs is a good start to developing a knowledge base for meeting the needs of an athlete. A calorie is a unit of heat released when producing energy. Your body uses this energy for digestion, breathing, circulation of blood, and growth and repair. Calories are required to fuel the body and sustain bodily functions. The goal is to maintain an energy balance by taking in and using about the same number of calories so that

weight remains stable. For the most part, the number of calories you consume, not the types of food that you eat, determines your weight. Individual calorie needs vary depending on percent muscle mass, gender, and activity level. If athletes don't take in enough calories their bodies are less likely to achieve peak performance and in some cases may break down rather than build up muscles. Calories must be recognized as FUEL.

You must figure the

number of calories required at rest for your individual body weight and type, before understanding the additional calories necessary to support your athletic lifestyle. Basal Metabolic Rate (BMR) is the number of calories that you would burn if you did nothing but lay in bed all day. BMR is an important factor in determining your overall metabolic rate and the amount of additional calories necessary to fuel your training workload. The biggest determinant of BMR is body composition or more specifically, the ratio of muscle to fat. The more muscle mass you have, the more calories you burn.

There are scientific methods available to determine the exact number of calories a person requires on a daily basis. However, for the purpose of getting a rough estimate of calorie needs I'm using a simplified method to make the "math" user-friendly. Remember that all of our kids are unique individuals with varied body types, activity levels, and personal needs. Keep these variables in mind when considering the calorie requirements for your swimmer. In general the average child today is heavier and less active than children of our generation, causing them to require less calories, yet super-sizing portions has become the norm. A basic understanding of calories can help you choose a healthier alternative to the "super-sized" snacks so prevalent in today's lifestyle.

Look at the following 3-examples of children with different calorie requirements. (I'm using 100 lbs. as the weight only for simplicity and to make my point. You can use the same formula to estimate your child's needs.)

Sarah (100 lbs.)

Sarah spends much of her day sitting at a desk at school. Gym classes have been reduced to 1 time per week and recess has been cut due to the demands of the State curriculum. In her free time she watches TV and plays video games. Sarah would be considered **mildly active**.

Michael (100 lbs.)

Michael too attends school but has a different day than Sarah. He walks the ½ mile to and from school each day and plays soccer before going home 5-days a week. Once home he barely has his homework done and is out the door to play basketball with his friends. Michael would be considered **very active**.

Kara (100 lbs.)

Kara's favorite hobby is reading, but she also enjoys recreational tennis and rollerblading. Kara walks home from school on most days and would be considered **moderately active**.

Some points to remember:

- A very active person in general burns more calories per pound of bodyweight to maintain their weight.
- Typically males burn more calories than females, due to a greater amount of muscle mass. Muscle burns more calories than fat.
- Competitive swimmers burn additional calories beyond their basic needs to meet the physical demands placed on their bodies.
- The heavier you are the more calories you burn because you have to expend more energy to move the extra weight.

THE MATH

Individuals burn approximately **11-14** calories per pound of bodyweight, on average. These multipliers provide only an estimate and can vary greatly based on the points listed above. Let's say that Sarah, Michael, and Kara become competitive swimmers. You can see their daily activity levels differ, yet they all swim Level 5 practices.

<u>Calories for Daily Living</u>	<u>Swim Calories</u>	<u>Total</u>
Sarah		
100 lbs. X 11 = 1100 calories per day	Plus 500 calories =	1600 +
Michael		
100 lbs. X 14 = 1400 calories per day	Plus 500 calories =	1900 +
Kara		
100 lbs. X 12 = 1200 calories per day	Plus 500 calories =	1700 +

If you add an hour of vigorous swimming to their day, they may require up to **500 additional calories** to meet their needs. * This is only an approximation to put you "in the ballpark."

An example of a **moderately active 150 lb. (Level 8) swimmer's** caloric needs might look like this:

150 lbs. X 13 = 1950 calories per day	1950 c
Workout- 1 hour of weights = 211 calories per hour	211 c
2 hours of swimming = 700 calories per hour (700c x 2hrs.)	<u>1400 c</u>
Approximate caloric needs for one day =	3561 calories

Calories Burned Per Hour during Exercise

Exercise	Weight			
	100 lb	130 lb	150 lb	190 lb
Swimming, vigorous	453	590	700	863
Swimming, leisure	272	354	420	518
Running (10-min. mile)	453	590	700	863
Running (12-min. mile)	363	472	560	690
Weight lifting (vigorous)	272	354	420	518
Weight lifting (moderate)	136	177	210	259
Bicycling (14-15.9 mph)	453	590	700	863
Bicycling (10-11.9 mph)	272	354	420	515

Interview with Marissa Dressel

Age 16

Marissa works hard to stay fueled. She attributes her understanding of sports nutrition to Coach Scott and her former teammates who have gone on to swim in college. Here is what she had to say:

Q: Do you think the foods you choose to eat are important to your swimming performance?

M: Yes. I try to make sure I get in enough calories to replenish my body both before and immediately following a workout or competition.

Q: Do you eat any foods marketed toward athletes that contain extra protein, vitamins, minerals, etc.?

M: No. There is no scientific research using controlled studies to support them

Q: Can you tell us what a typical meal might be for you during the training season?

M: I love pasta with broccoli. I can prepare it quickly and it's easy to digest. I also try to make sure I get some protein in before and after practice. A peanut butter sandwich is always good. I just want to make sure I replenish all of the calories I burn during my training.

Q: You have quite a mature understanding of the extra stress placed on your body as an athlete. Girls in your age group sometimes are so influenced by appearance and bodyweight that eating problems may creep up. Has this ever been a concern?

M: Not really. Coach Scott has always emphasized healthy nutrition and proper fuel for training. I know I have to be strong to compete at my best so that's what I concentrate on. My goal is to swim "smart" which means concentrating on technique as well as restoring my body with healthy foods.

Q: Do you have a favorite "junk food"?

M: Uh...yeah! I love any kind of cookies. I try to not include too many in my diet while training for an important competition like the upcoming Speedo Championships.

Q: What about Gatorade or other sports drinks?

M: I prefer water because the Gatorade often upsets my stomach during practice. If I'm swimming outdoors in an all-day meet I will concentrate on taking in a sports drink both for the calories and the electrolytes, but usually water is all I need.

Interview with Victoria Jacumski Age 16

Victoria has a refreshing outlook on swimming. She trains hard, is a wicked competitor, and makes each day full of fun.

Q: Do you think the foods you choose to eat are important to your swimming performance?

V: I don't over-think what kinds of foods I eat. I just make sure I get in enough calories. I emphasize fluid replacement because I know dehydration is common, especially when swimming hard in a heated natatorium or out in the sun all day.

Q: Do you eat any foods marketed toward athletes that contain extra protein, vitamins, minerals, etc.?

V: No. I can get what my body needs through regular foods and beverages. Scott really warns us against using such products.

Q: Can you tell us what a typical meal might be before a race?

V: Well, not that this was magic; but one time we were in a rush to get to the meet and I was starving. There was controversy between my parents about what I should eat but all I wanted was a Big Mac. Got it, ate it, and ended up with all best times!

Q: So has this meal become a pre-race ritual?

V: No! I do love hamburgers, but now I try to eat something that is easy to digest; maybe a sandwich or pasta. That particular day it didn't matter what I ate because I was so psyched and I had plenty of time to digest the food before I got on the blocks. Sometimes I think people get so stressed about eating a specific food that it gives them a nervous stomach.

Q: You also have a mature understanding of the extra stress placed on your body as an athlete. Girls in your age group sometimes are so influenced by appearance and bodyweight that eating problems may creep up. Has this ever been a concern?

V: I never worry about my size or shape. I train hard, listen to my body, and Scott takes care of the rest! He does comment that I'm very muscular so he emphasizes a good warm down after hard practices and competitions which always include lots of stretching.

Q: What about Gatorade or other sports drinks?

V: I usually just drink water unless I'm at an all-day meet that's outdoors. The sun really can drain you so I make sure I replace the fluids and electrolytes I may lose during the competition. I think the young kids feel like Gatorade is critical, but really all you need is water.