



Energy Balance

Parent - Family Newsletter



May 2011

Understanding Energy Balance

An equation for a healthy lifestyle the whole family can adopt

With childhood obesity at unprecedented levels, it is more important than ever to give your children the tools necessary to lead a healthy lifestyle and make positive choices. But any parent knows that it's not always easy to get kids to understand the benefits of nutritional foods and physical activity. James O. Hill, Ph.D., the executive director of the Anschutz Health and Wellness Center at the University of Colorado, realizes the tough job parents have. That's why he's promoting a new concept for

healthy living that may be easier (and more fun!) for your family to implement into daily life.

It's called energy balance, and, put simply, it's the total of calories you consume through food minus the calories you burn through physical activity. Body weight is the result of this exchange, and if you want to maintain a healthy weight, you need a balance between energy in and energy out.

"It's not just about food—that's only one part of it," Dr. Hill says. "And it's not just about physical activity; it's about how the two interact."

How energy balance works

Instead of focusing on portions and what foods are most nutritionally dense, energy balance promotes the concept of food trade-offs, where every calorie taken in is offset by calories exerted through physical exercise.

"Just like we teach kids financial skills by showing how much different things cost, how to balance a checkbook and how much you can earn in different careers, we can teach those same skills for balancing energy," Dr. Hill says.

The biggest lesson to convey is that if you consume more energy than you release over time, you will gain weight. Similarly, if you exert more energy than you consume, you will lose weight. And if the amounts of energy in and out are the same, you will maintain your weight.

But don't think that if you consume 2,000 calories a day, then you need to do 2,000 calories worth of exercise a day. Our bodies burn calories just by living and breathing. It's called the basal metabolic rate, and it's different for everybody (see chart at left).

	1 year	2-3 years	4-8 years	9-13 years	14-18 years
Calories	900 kcal	1000 kcal			
Female			1200 kcal	1600 kcal	1800 kcal
Male			1400 kcal	1800 kcal	2200 kcal

Dietary Recommendations for Children

Daily estimated calories and recommended servings for grains, fruits, vegetables and milk/dairy by age and gender.

A Day's Worth of Energy Balance

Check out 10-year-old Andre's typical day. To maintain energy balance, he's eating the right amount of calories (2,100) subtracted by the calories he's expending through physical activity (300).

Daily Caloric Needs = **1,800 calories**

Breakfast

One serving of shredded wheat cereal with
 half a cup skim milk.....+250 calories
 One banana+100 calories
Total.....350 calories

Physical Activity

Walk to school.....-50 calories
Total.....300 calories

Snack

1.5 ounces trail mix.....+200 calories
Total.....500 calories

Lunch

Lean turkey and one slice of cheese on two slices
 whole-grain bread.....+300 calories
 1 cup baby carrots and 2 tbsp hummus.....+100 calories
 1 cup grapes and 2 graham crackers.....+150 calories
Total.....1,050 calories

Physical Activity

Recess-100 calories
Total.....950 calories

Snack

Apple and celery sticks and 1 tbsp. peanut butter.....+200 calories
Total.....1,150 calories

Dinner

Three chicken tenders+250 calories
 1/2 cup macaroni and cheese+150 calories
 1/2 cup green beans+50 calories
 1 cup salad with dressing+150 calories
Total.....1,750 calories

Physical Activity

30-minute family bike ride.....-150 calories
Total.....1,600

Snack

1 cup skim milk and a chocolate chip cookie.....+200 calories
Total.....1,800 calories



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6 Steps to Teaching Your Kids About Energy Balance

1. Work with your child to determine his or her daily caloric needs. Check out the chart on the first page from the American Heart Association.

2. Present each meal as a choice instead of labeling it as "good for you" or "bad for you." "Empower your kids with the tools to make the right decisions," Dr. Hill says. "Instead of telling them what to eat, they need to know the consequences."

3. Use food and energy trade-offs when making food choices. Help your child become aware that if they want to super-size their French fries, they will

also need to take several thousand more steps to balance out that decision.

4. Study nutrition labeling together, so that your child understands how many calories are in their favorite foods.



5. Make calorie trade-offs a fun game by providing examples of what each food choice would "cost." For example, show how 20 minutes of walking could earn them a certain food.

6. Make it a family game to chart on a calendar total intake versus total exercise each day. Over time, it can become ingrained in the family lifestyle and a fun bonding game.