2006 DUPAGE COUNTY INSTITUTE
for Physical Education, Health, and Driver Education

Navigating the Partying, Purging, and the Pressure to Be Perfect: A Prep Course in Confidence

By Marla Richmond, M.S.

Eating disorders, excessive drinking, substance abuse, and other maladaptive coping behaviors are rarely about food or drugs. They are perhaps more about an individual perceiving themselves as being "out of control", unable to effectively cope with the chaos of their internal and/or external environment(s). Last year's presentation, "Had she known this in high school ... Preparation for the Challenges of a "Disordered" College Environment" introduced an innovative and powerful approach to health education of adolescent females. The facts, statistics, interviews, and surveys discussed in that session shed a new light on disordered behaviors and explored our roles as guides in providing students with the confidence they need to transition from adolescence into successful adulthood. This year's program continues the investigation and digs deeper so that we might get closer to the core of an ever-growing problem.

Questions to ponder:

Is an adolescent equipped to responsibly navigate the difficult transitions and experiences he or she faces leaving junior high school and childhood, and dealing with both the academic, social and emotional challenges of high school and college? If not why?

As educators, how might we become more sensitive to and better equipped to recognize our students' needs and issues, as individuals and as a group?

Once we recognize what the needs and issues are, how might we more effectively intervene? What are we doing now? Is it working? If not, what must we do?

This exciting and thought-provoking session will:

- Provide you with updated information, facts, statistics and student perspectives
- Present highly effective and innovative lessons and materials used in an ongoing pilot program at Northwestern University
- Inspire you with fresh ideas and possibilities in bringing students closer to confidence and their authentic selves

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WANTED

ENTHUSIASTIC AND ENERGETIC PHYSICAL AND HEALTH EDUCATORS TO PREPARE FEMALE STUDENTS FOR COLLEGE AND BEYOND; MUST BE A CARING, NON-JUDGEMENTAL, CREDIBLE ROLE MODEL, READY FOR NEW APPROACHES

⁎ MUST BE WILLING TO ...

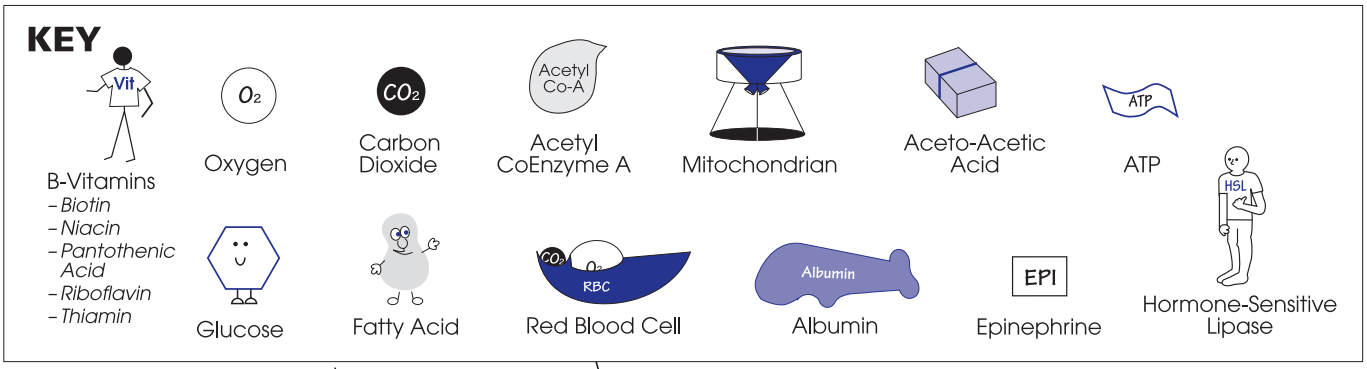
- **Educate students**
  Effectively communicate information supported by science; provide them with skills and tools to successfully navigate healthy lifestyle choices
- **Instill confidence in students**
  Validate their opinions
  Help them realize their value
  Facilitate awareness of their potential and possibilities for the future
- **Foster independence in students**
  Provide them with multiple opportunities to learn
  Promote individual and diverse interpretations
  Mandate continuous analyses and practice of skills as well as real life application
  Create opportunities and assignments for development of unique methods
- **Learn from students**
  Allow them to prepare segments of your curriculum

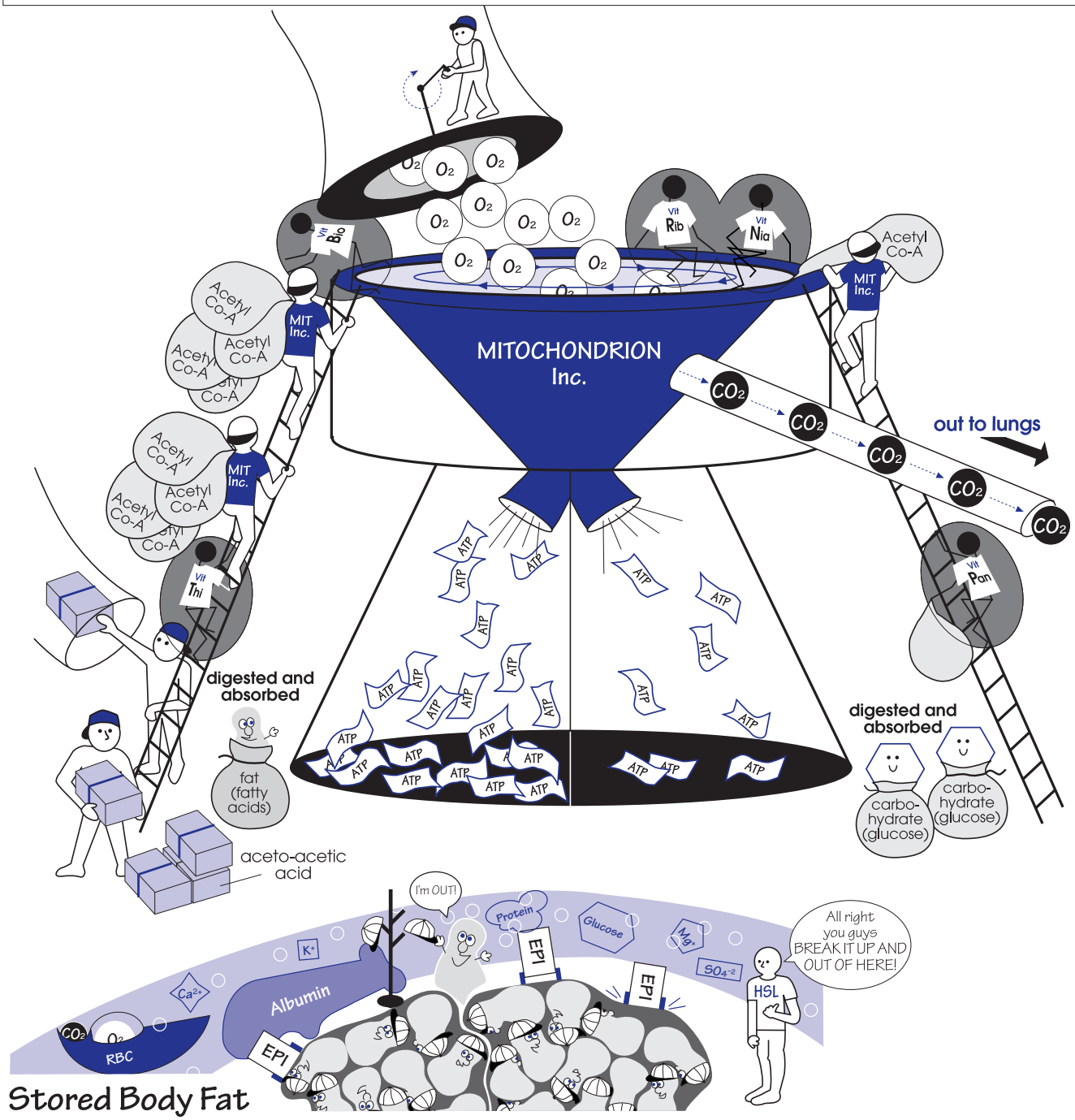
⁎ *This outline was created with the assistance and guidance of Lindsay, 21, University of Illinois, Champaign*

MUST HAVE THE ABILITY TO OVERCOME
THE FOLLOWING OBSTACLES AND/OR BARRIERS ...

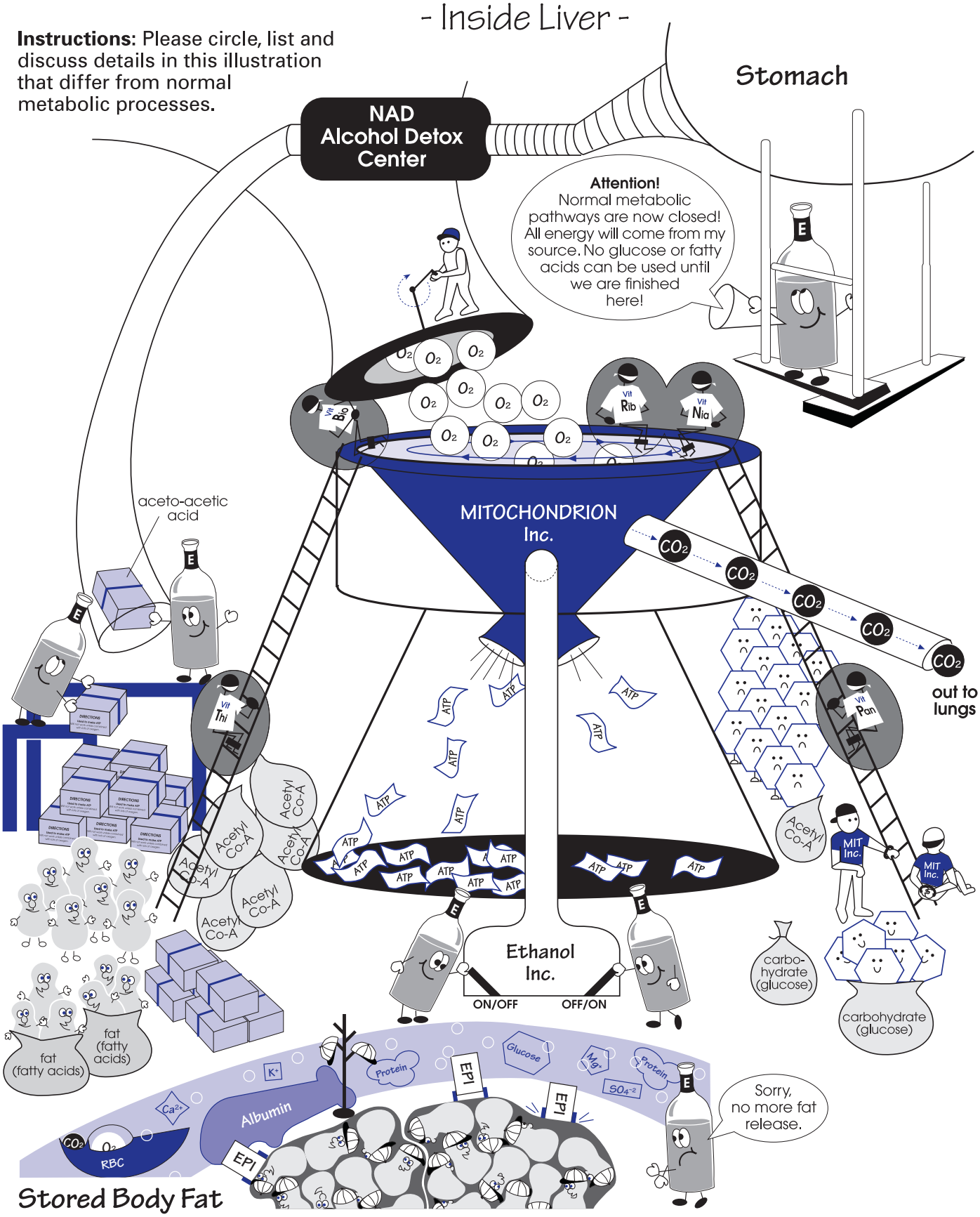
- **Personal Fable**
  "Most adolescents share a delusion known as a personal fable, allowing them to believe that they are infallible, invulnerable, and in fact, free from any of life's common harms. It is this fantasy that makes outrageous behaviors seem perfectly acceptable and reasonable activities. "
  — *Melanie, Age 18, Northwestern University*
- **Insecure or absent parental guidance**
- **Illusions and misinformation presented in the media**
- **Lack of prior education**
- **Already existing unhealthy lifestyle habits**

Normal Metabolic Processes





The Metabolic "Cost" of a Night Partying



NORTHWESTERN UNIVERSITY FIT BITE

Vol. 2, Issue 1 January 2006

The Truth About Using Fuel (Calories) and Staying Full

by Marla Richmond, M.S., ACE-certified

Missed conceptions about using calories during exercise …

Missed Conception #1

After performing your typical cardio routine on the gym equipment, you proceed through a memorized resistance routine on weight-stacked machines. As your skin becomes a deep red and perspiration saturates your heavy sweatshirt, you assure a concerned friend that you get a better workout if you sweat more.

True or False?

How much you sweat indicates the quality of your workout.

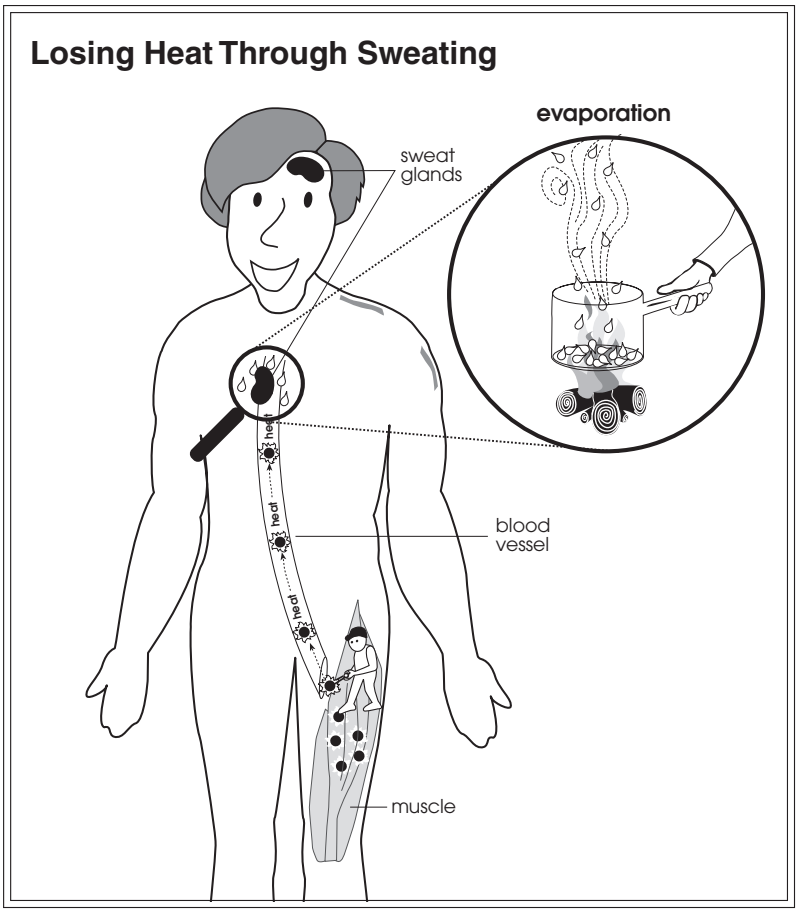
False: Rather than the quantity of sweat, the intensity and duration of a workout determines the quality of (as well as the calories used in) a workout.

HEAT IS A GOOD THING

Body tissues move more smoothly and freely in fluids that are warm and "liquidy" rather than cold and gelatinous. Think about the pliability of putty stored in a cold garage. Additionally, elevated body temperature, i.e., 100-101 degrees Fahrenheit (not to be confused with that of a fever from illness) enhances a number of chemical reactions that support muscular work.

LOSING HEAT THROUGH SWEATING

As working muscles use fuel, heat is released as a by-product, thus raising the temperature of body tissues. While such heat supports physical activity, too much heat surging through the body will "cook" your brain and shut you down. Sweating, followed by evaporation are the body's primary ways of getting rid of excess heat. The important processes described below ensure that body temperature is maintained in a safe range. Heat



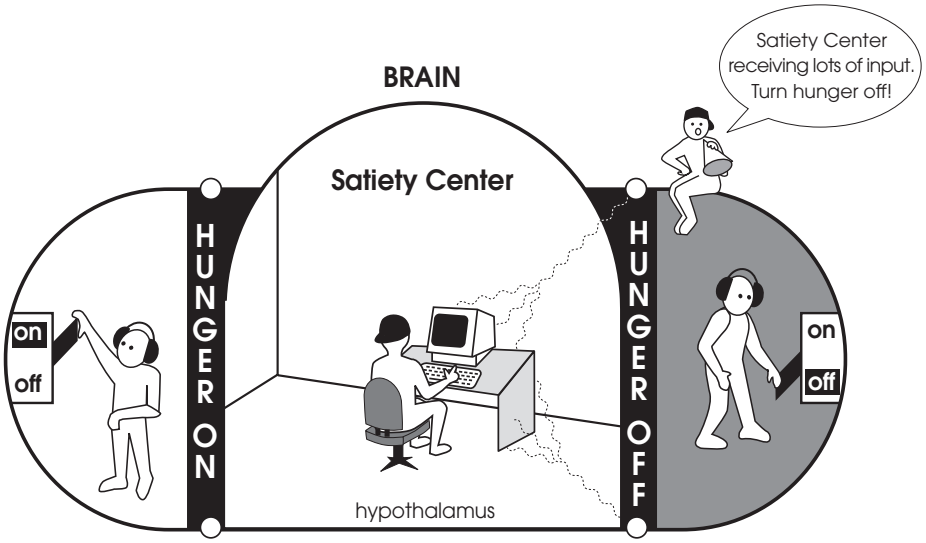
that accumulates in muscle must somehow find its way out of the body.

- Heat is released as a by-product of using fuel to perform work.
- Such heat accumulates in muscle, thus raises body (core) temperature.
- Muscles and other body tissues require increases in body temperature for optimal function.
- Excess heat within working muscles is conducted into the fluid of the blood.
- The heated blood fluid flows through the blood vessel system to the skin surface.
- Sweat glands throughout the body squirt out beads of water.
- Water beads capture the heat and like a pot of water cooking on a stovetop, the beads come to a boil.
- The beads of sweat evaporate into the air, taking the heat with it.

Wearing heavy clothing or that which prevents evaporation actually prevents you from reaching your desired intensity and diminishes your ability to sustain a quality workout.

The Physiology of Fullness

by Marla Richmond, M.S.



TAKE CONTROL OF YOUR HUNGER

You might recall times when you were very hungry and you just started wolfing down a whole bag of chips, crackers, or cold cereal. Chances are good that you didn't realize why you couldn't control yourself. The fact is too much hunger causes you to binge. Hunger signals will get so strong, they will take control of your behavior. And there is nothing that you can do about it. It is important for you to take control of your hunger so that it does not take control of you.

Hunger is a basic drive. Like any other animal, when you feel hungry, you are driven to eat. You will seek food in order to satisfy your hunger need, without necessarily thinking about making healthy food choices.

When your immediate fuel supply is low, or when your fuel storage is running out, the hunger center in a part of your brain called the hypothalamus drives you to seek food. Your body has several ways to remind you to eat. Your stomach growls and aches; you may get a headache or shaky. Strong hunger signals continue until you eat.

Hunger signals from your brain are strongest when you haven't eaten for a while. For example, if you skipped your last meal, it is likely that your blood levels of the energy-yielding nutrients (carbohydrates, fats, and protein) are low. This is especially true of your blood levels of glucose. Healthy foods that provide glucose are fruits, veggies, low-fat dairy, and whole grains. The presence of various nutrients in your blood indicate that you have eaten, digested, and absorbed foods recently.

Hunger signals from your brain are also strong when your stomach is empty. Stomach walls have special stretch detectors that tell you how full you are. When you are full, signals are sent to your brain to turn off hunger. These signals tell you to stop eating (that is, if you pay attention and listen). Hunger signals continue until your stomach is full.

Your body makes sure that you have enough energy to be physically active. In fact, a report of your fuel storage status is regularly sent to your brain. As your body runs low on its fuel storage (both carbohydrate and fat), a variety of mechanisms cause hunger signals to drive you to seek food in order to replenish it.

The opposite of hunger is satiety. When you achieve satiety, or a feeling of fullness, hunger signals are turned off. (FYI, research has shown that alcohol interferes with satiety signals.)

Pop Quiz – *by Merle Levy, LDN and Marla Richmond, M.S.*

What do you suppose has more calories? Which foods would fill you more?

1. Six cups of air-popped popcorn or eleven baked chips?
2. 4 ounces of orange juice or two tangerines?
3. 2 tablespoons of raisins or an apple, orange, or pear?
4. 15 jelly beans or a bowl of oatmeal
5. A one-ounce cube of cheese or a bowl of vegetable soup?

If you guessed that the calorie values are the same, you are correct. If you wonder which foods would fill you the most, compare them yourself and feel the difference in fullness.

Convert Your Snacks to Energizing Mini-Meals by Adding Protein

by Merle Levy, LNC & Marla Richmond, M.S.

During the course of a busy day, it is not uncommon to go four or more hours without eating. While you may ignore your hunger and keep going, you body will send you both subtle (hunger pangs, sleepiness) and blatant (dizziness and irritability) signals to urge you to eat. The longer you go without eating, however, the more you set yourself up to overeat at your next meal.

Healthy snacking is a great way to avoid hunger and the resulting overeating, help keep your metabolic engine revved up, and keep your energy level high. It is also a great opportunity to incorporate healthy foods into your day. In addition to eating a healthy balance of all of nutrients, it is important to include a small amount of protein each time you eat a meal or a snack. There are several reasons. One that is particularly important for weight management is that protein takes longer to digest. All of the processes involved in protein digestion keep your stomach full and your hunger at bay longer. Additionally, resistance training stimulates the building of strong, metabolically active muscle tissue. Protein is your primary building material.

The foods on the shopping list can add just the right amount protein to your snacks and meals.

Shopping List

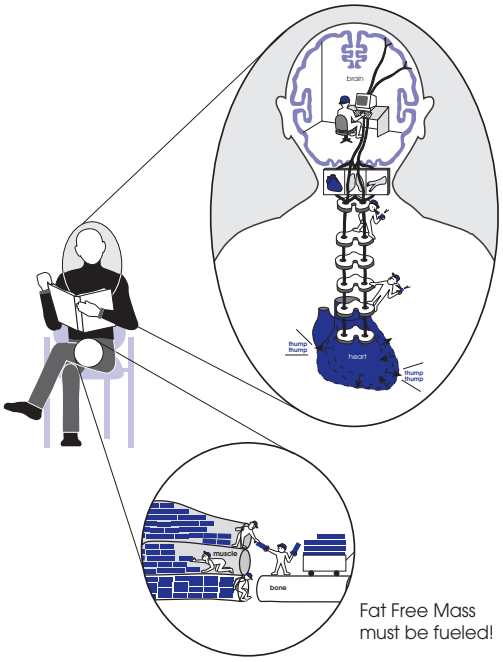
- ☑ 1 Carton Cascade Yogurt (Nonfat or Low-fat)
- ☑ 1 Cup Organic Valley Milk (Skim or Low-fat)
- ☑ 1-2 Tbsp. 365 Peanut Butter or Almond Butter
- ☑ 1 Slice Jarlsberg Lite Cheese
- ☑ 6-12 Raw Almonds (365 Brand) or Mixed Nuts
- ☑ 1 Phil's Best Organic Hard Boiled Egg
- ☑ 1/4 -1/2 Cup Friendship Cottage Cheese
- ☑ 1 Slice Applegate Farms Sliced Turkey Breast
- ☑ 1/2 Cup Westbrae Organic Beans or Lentils

Think you cannot fit resistance training into your busy schedule?

Yes, you can. You can combine your workout with studying or anything else you are doing, anywhere, anytime! Your body doesn't care if you do it all at once or in five-minute mini-circuits. Come join me each month at SPAC on selected Wednesday evenings from 8:30 to 9:30 pm and learn more about how you can achieve your best body from the inside out in ways you may never have considered!

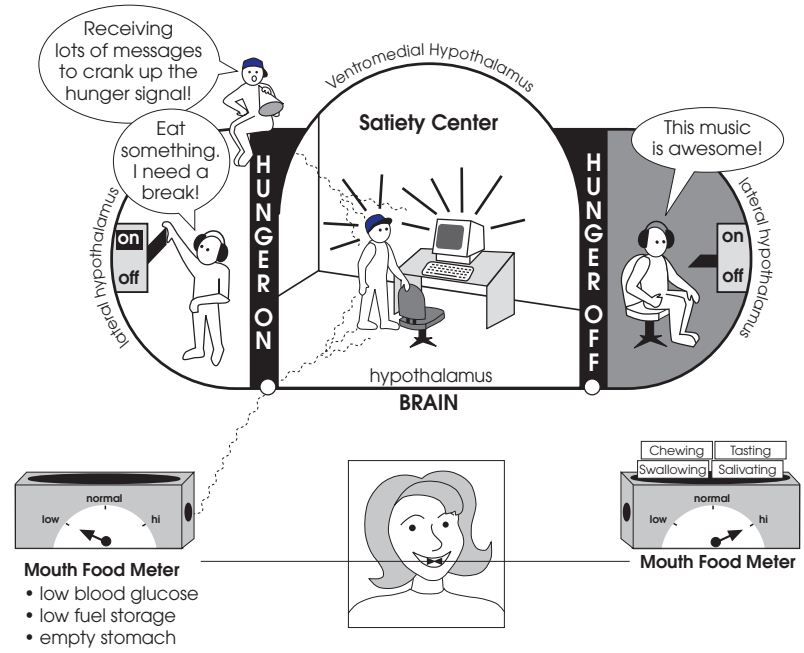
POWERFUL TRIGGERS FOR EATING DISORDERS
Inappropriate Dieting + Resulting Hunger

A **Healthy Diet = Strong Metabolism**



Fat Free Mass must be fueled!

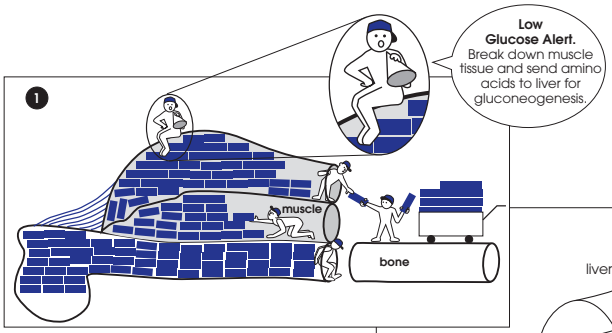
B **When you don't eat you LOSE control and ...**



Mouth Food Meter
- low blood glucose
- low fuel storage
- empty stomach

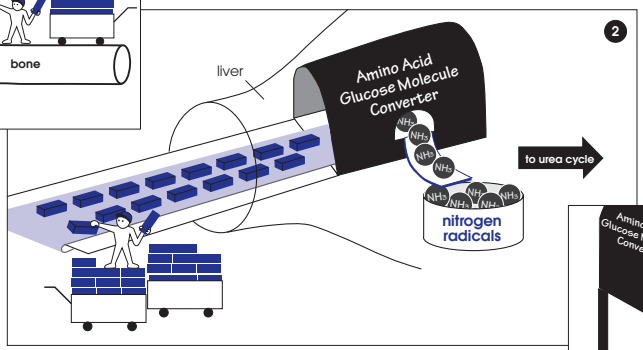
Mouth Food Meter

C **Metabolically Active Body Tissue (Fat Free Mass)1**



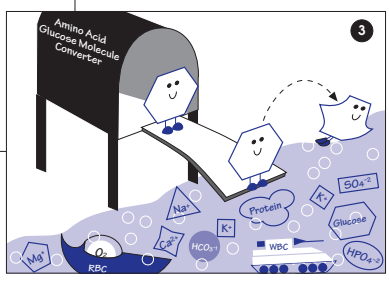
1. Your body seeks fuel from its own tissues (especially muscle), which are broken down into their component amino acids.

Gluconeogenesis (making new glucose)
When you don't eat enough food, especially carbohydrates ...

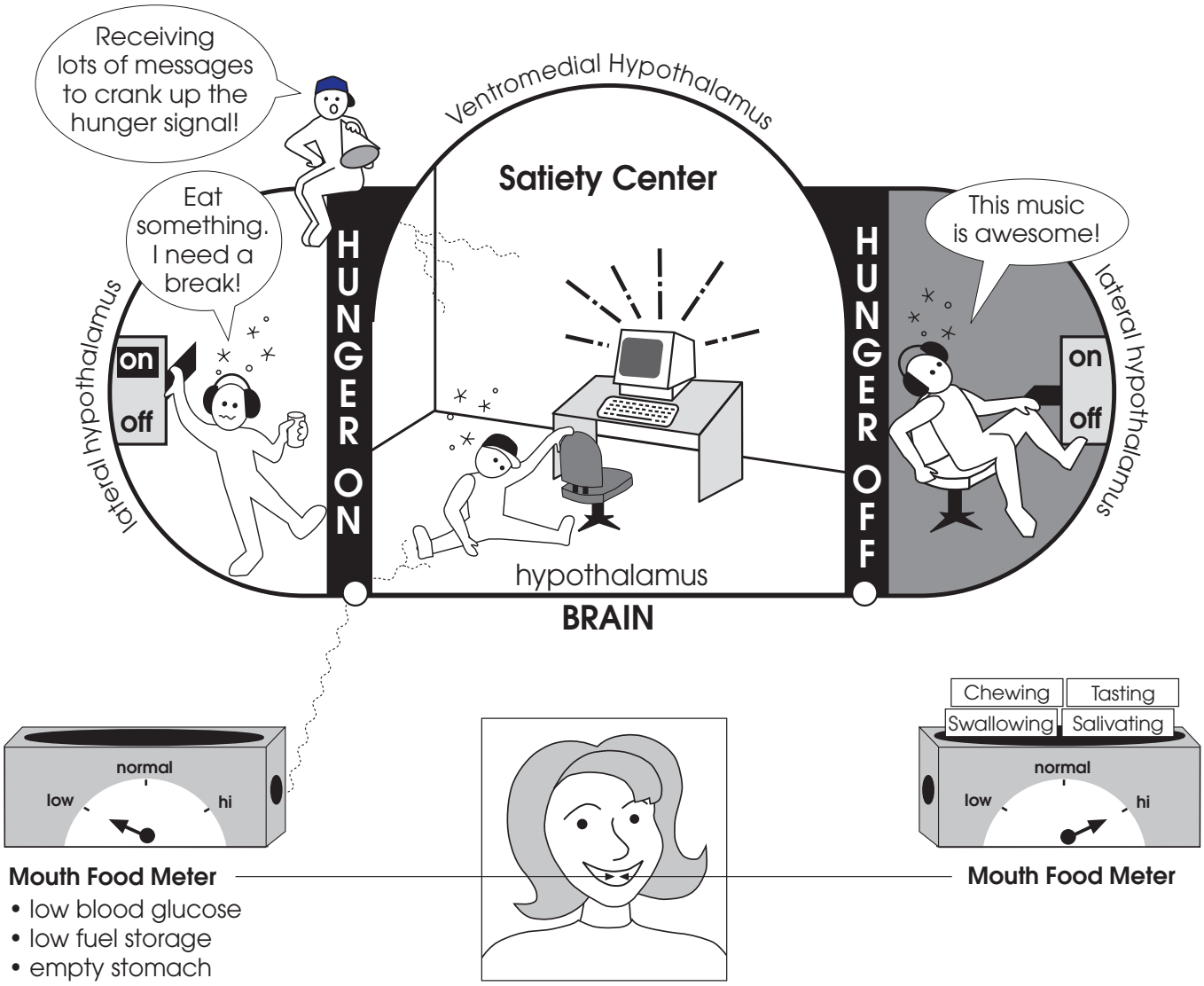


2. In your liver, the amino acids taken from your muscle tissue are changed into glucose.

3. The newly-made glucose serves as a steady fuel supply for your brain until you eat carbohydrate-containing foods.



The Cost of a Night of Partying



The six essential nutrients, the foods you eat contain
You must include them daily to keep your cells sustained
Three of them yield energy to fuel all that you do
Carbohydrates, fats and protein, mainly the first two
If you feed them alcohol, your fat, cells will not burn
They'll use acetylaldehyde, the rest to fat will turn
Not only is the fat not used, but hunger pangs get strong
After shots of alcohol, your brain gets it all wrong
It thinks that you're not satisfied, that you need more to eat
You wolf down food in buckets, your fat cells scream with greed!

NORTHWESTERN UNIVERSITY FIT BITE

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Metabolism: The Calories You Spend

by Marla Richmond, M.S., ACE-certified

Metabolism is the rate at which your body burns calories to perform all of its work over a given time period. Such calorie "spending," also known as the total daily energy expenditure (TDEE), is influenced by several factors.

Three primary factors are:

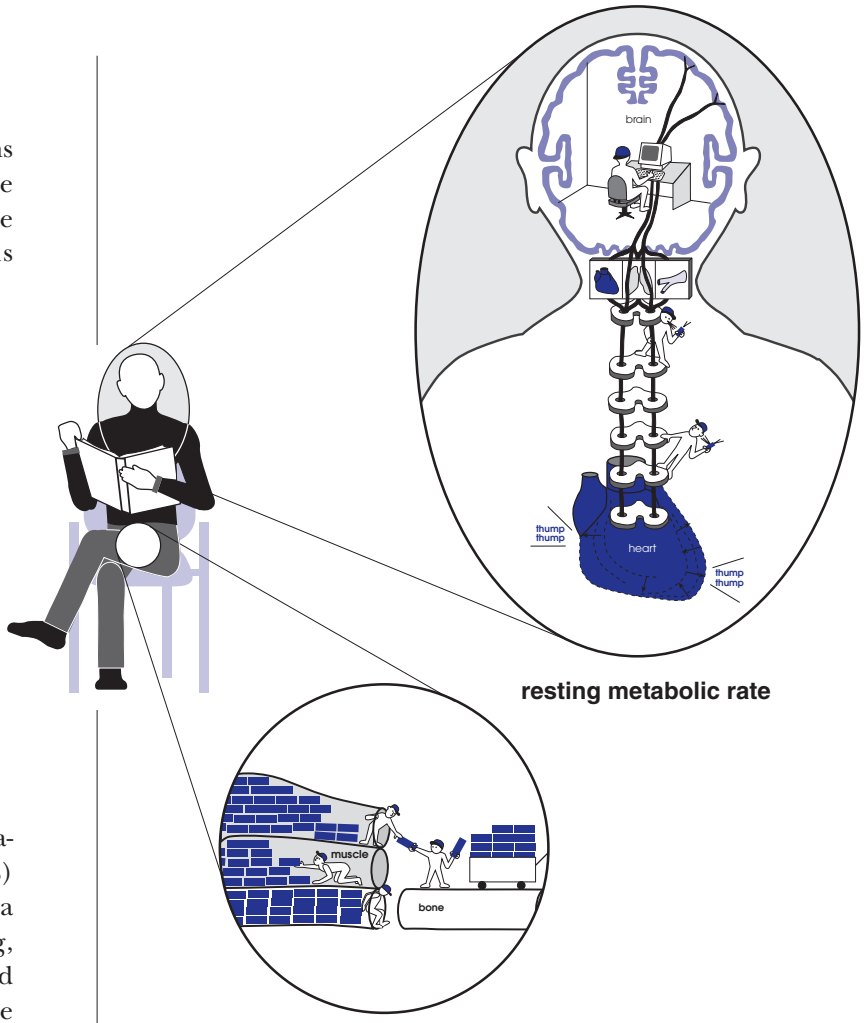
- **RESTING METABOLIC RATE (RMR)**
  The rate of energy expenditure that maintains basic life processes (i.e. breathing and heartbeat) in the absence of physical activity.
- **THERMIC EFFECT OF FOOD (TEF)**
  The calorie cost of processing the nutrients contained in the foods you eat.
- **DAILY PHYSICAL ACTIVITY**
  The energy required to fuel physical work.

Resting Metabolic Rate (RMR)

Even without physical activity, all of your metabolically active tissues (i.e. muscles, bones, organs) require energy to function. During the course of a day, cells operate like tiny factories, building, breaking down, reconstructing, packaging, and transporting materials in and out. All of these processes require calorie or energy expenditure. Such energy expenditure is called the resting metabolic rate.

Thermic Effect of Food (TEF)

Chewing and swallowing foods as well as breaking down and absorbing the nutrients contained in them also use energy or calories. The energy expenditure involved in these processes is called the thermic effect of food (TEF). TEF may account for ten percent of your total calorie expenditure in a day. For example, a healthy college-age female requiring two thousand calories of food in a day will spend two hundred of those processing foods.



resting metabolic rate

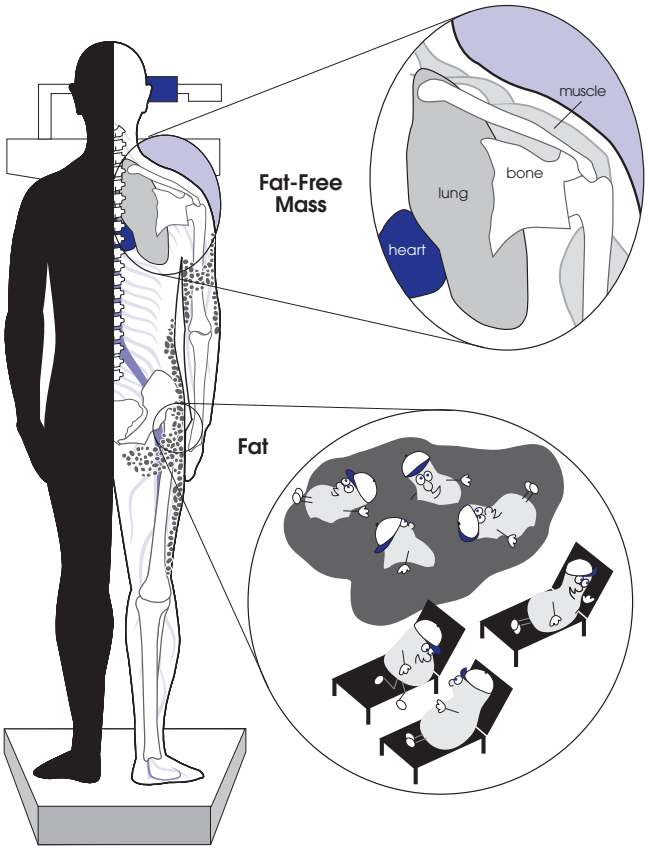
Daily Physical Activity

Daily physical activity is the most controllable and significant factor influencing metabolic rate or TDEE. While every cellular activity performed by the body costs energy, moving costs a great deal more than sitting. For example, if you sit while studying, you may use approximately one and a half calories per minute. Yet if you studied in the gym while walking slowly on a treadmill or recorded your lectures and took a walk while listening to them, you would use at least twice that. Three seven-minute cell phone calls while pacing can accomplish a mile, doubling the energy expenditure of sitting at your computer or lying on your bed. Think about that during the course of a crazy busy day. You can get in a lot of moving while accomplishing typically sedentary tasks.

Body Composition

Your TDEE is influenced by several interacting factors. Some of these include frame size, age, stage of growth, gender, genetic predisposition, hormones, environmental temperature, and medications. However, one of the most important factors is your body composition, which is your body's proportion of fat-free mass to fat mass.

Considered metabolically active tissue, fat-free mass includes such tissues as muscles, bones, organs, blood and its components. The functions of these tissues are more clear-cut than that of fat tissue. Although fat is essential for several important body functions, its functions are not as obvious. Fat serves as an integral component of reproductive hormones and digestive materials. Every cell in the body is surrounded by a double layer of lipid or fat. Fat provides protection for organs, insulation and energy, and other nutrient storage. While fat serves all of these important functions, in terms of metabolic activity, fat is relatively lazy tissue.



What is your body composed of?

When you step onto a scale and see a number in pounds or kilograms, you do not see a breakdown of what that weight is composed of—how much fat and how much fat-free or muscle mass you have. It may be surprising to know that a chunk of fat on your body that is equal in weight (mass) to a chunk of muscle takes up a great deal more space in a pair of jeans—a least one size.

It is important to note that women who participate regularly in resistance training get stronger, leaner, more toned and defined. However, they do not typically get "big." Unlike men, who produce large quantities of the sex hormone testosterone, which strongly influences strength and size of muscle tissue, women produce only tiny quantities of this hormone. Such quantities are not nearly enough to grow big, bulky muscles.

Resistance Training

Muscles that are challenged and active spend a lot of calories, even if only to maintain their structure. Muscle mass also uses about 20 calories more per pound than body fat.

Resistance training presents such a challenging activity. It is an exercise program in which the intensity and the volume of exercise are increased gradually. The intensity is increased with heavier loads and volume is increased with more exercise or repetitions.


neutral alignment

The American College of Sports Medicine (ACSM) recommends a minimum of two resistance training sessions per week. The sessions should include one to three sets of approximately ten exercises that utilize all of the major muscle groups. The major muscle groups include the muscles of the chest, upper and lower back, abdominal muscles, the front and back of the arms and legs and the buttocks.

Exercises should be performed in neutral body alignment, under proper supervision, moving muscles through their full range of motion in a slow, controlled manner. Proper breathing techniques should be used, exhaling on the effort phase and inhaling on the lengthening phase of each exercise. The loads used in resistance training should be sufficient to approach complete fatigue of the muscles or muscle groups while performing eight to twelve repetitions of an exercise.

Regular participation in resistance training helps to maximize calorie spending, maintains a healthy body weight and composition, builds and maintains strong bones and good posture. It even helps to manage and dissipate stress.

Progressive Resistance Training Checklist

- ✓ Consult a physician before participating in a progressive resistance exercise program to address any diseases or physical limitations.
- ✓ Seek guidance from a qualified fitness professional certified through a nationally or internationally accredited certifying agency. This is particularly important should the program require modification due to physical limitations or disease.
- ✓ Maintain neutral body alignment while performing all exercises.
- ✓ Perform approximately eight to twelve, up to fifteen, repetitions of each exercise for all major muscle groups.
- ✓ Move muscles or muscle groups in a slow, controlled manner, moving through a full range of motion to complete muscle fatigue.
- ✓ Count two seconds on the lifting (effort) phase and four seconds on the lowering phase of each repetition of an exercise.
- ✓ Exhale on the effort phase and inhale on the lowering phase of each repetition of an exercise.
- ✓ Progress gradually; increase the resistance approximately five percent after being able to perform 12 repetitions of an exercise easily.
- ✓ Perform static stretches following the program to return muscles to their neutral resting length
- ✓ Hold static stretches for 15 to 30 seconds
- ✓ Pay close attention to areas of chronic tightness. These areas often include the muscles of the calves, front and back of the hip, the back of the thigh (hamstrings), the lower back, the chest, and the front of the shoulder. Perform multiple repetitions for these areas.

NORTHWESTERN UNIVERSITY FIT BITE

Vol. 2, Issue 2 February 2006

Define Your "Self" with Strength; Empower Yourself with Confidence

by Marla Richmond, M.S. ACE-certified

YOU NEED CARBS TO MAINTAIN YOUR SELF AND YOUR METABOLISM

Everything that you do, feel, and think is a function of the information that enters and leaves your brain. Whether it be falling in love or taking an exam, the brain needs fuel to flow. The brain's primary and preferred fuel is glucose. Glucose is derived from the digestion and absorption of carbohydrate-containing foods, Yes, carbs—vegetables, fruits, milk products, and starchy foods. If you don't consume sufficient food calories, especially those provided by carbohydrates, neither your brain nor your body can operate optimally—at least not for more than a few hours.

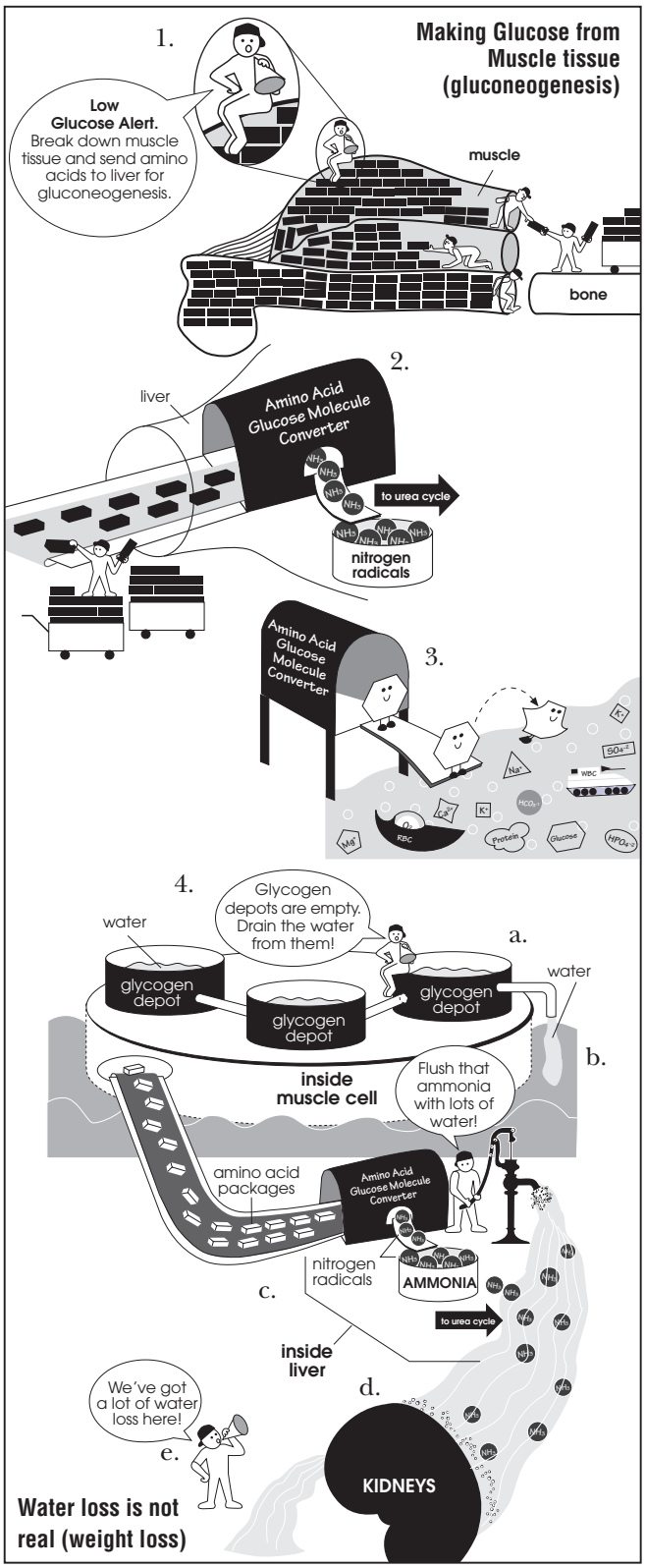
When you don't eat enough food, especially carbohydrates, the body makes its own glucose through a process called gluconeogenesis.

HERE'S WHAT HAPPENS:

1. Your body seeks fuel from its own tissues (especially muscle tissues) which are broken down into their component amino acids.
2. In your liver, the amino acids taken from your muscle tissue are changed into glucose.
3. The newly made glucose serves as a steady fuel supply for the brain until you eat carbohydrate-containing foods.
4. You lose water. Here's why:
   a. Inside muscle cells, glucose is stranded together and stored in a form called glycogen. The glycogen is stored in depots or tunnels in water or fluid.
   b. If muscle tissue is broken down and its component amino acids are used to make glucose, the fluid storage is lost; the water is drained.
   c. During the process of converting amino acids into glucose, a great deal of ammonia is produced as a waste product.
   d. Because the accumulation of ammonia in the body is dangerous, water from the body is used to flush it out.
   e. It is flushed out in the urine. Dehydration is the result.

Eating the right number of calories in the right proportion of essential nutrients to fuel your body's structures and all of the things that you do, combined with resistance training and staying physically active will keep your metabolism running strong.

To make sure that you are getting the calories and carbs you need based on your lifestyle and activity level, log onto **www.mypyramid.gov**. This valuable website provides the current United States Department of Agriculture Guidelines and new Food Guide Pyramid.



DEFINE YOUR SELF WITH STRENGTH
LIFT LOADS THAT YOU ARE NOT USED TO LIFTING

Resistance or strength training is a key component to building strength and maintaining metabolism.

For best results, perform strength training at least two nonconsecutive days per week. Your schedule will affect how much time you can commit to it. You can adjust your training schedule to your needs and to your lifestyle. In fact, once you know what you are doing, you can "fit in" resistance training segments any time, anywhere. An effective program will take a total of about 20-30 minutes (at or away from the gym).

Strength improvement, tone and definition result from overloading your muscles with loads they are not used to lifting.

A safe recommendation for resistance is a load that you can lift eight to twelve times in good form. This resistance is equal to about 70 to 80 percent of what you can perform in an *all out,* single maximal effort. The safest way to determine appropriate resistances is to see what loads you can lift to approach complete fatigue of your muscles after performing ten repetitions in good form (under proper supervision). As you get stronger, you can increase the resistances. When you can easily perform 12 repetitions of an exercise in proper body alignment, without "cheating", you can increase resistance approximately five percent.

If you are a beginner, professional guidance is highly recommended.

To avoid injury, follow correct training principles and learn proper technique; use correct body alignment and appropriate resistances. Learn the proper use and maintenance of equipment.

FYI

It is common to observe individuals who:

- Move very quickly through the repetitions of exercises. Unless they are training for a particular sport that requires such rapid movement, this practice may be risky. It also uses a great deal of momentum rather than muscle strength.
- Perform only a partial range of motion during an exercise, leaving half of their muscle fibers unused. Resistance exercises should be performed moving through a full range of motion, along the entire length of muscle groups. The recommended duration of repetitions is about six seconds; two seconds on the effort phase and four on the lowering phase. Breath holding should be avoided.

Adding stability and core training to your resistance program will help keep you balanced and moving through daily life and physical activities more safely, gracefully, and confidently.

YOUR CHOICES BECOME YOU

From my perspective as an exercise physiologist, a comprehensive fitness program and a physically active lifestyle in general, combined with a healthy diet are essential in achieving and maintaining strength and balance. However, confidently navigating the chaos of campus life is equally important to achieving success, both in school and in life.

For optimal health and balance, be mindful of the choices you make. There is little else you truly can control. The people with whom you spend time, the places you go, and the activities in which you participate must be those that nurture and enhance your growth. If they do not, perhaps it is time to reevaluate *your* perspective, schedule, your SELF.

Your choices become you. Take a moment to think about yours ...

1. **Identify three to five people with whom you are genuinely happy spending time.**

   Are these people with whom you are completely authentic?

   Would they revel in your successes?

   Are they there for you when you are down?

   How much time (hours, days) each week do you spend with them?

   How much time do you spend socializing?

   What proportion of your time socializing is spent with the *right* people for you?

   Are there other people with whom you believe you could be happier?

   Are you giving yourself opportunities to meet them?

2. **Discuss three to five activities, courses, or interests about which you are passionate.**

   These may be activities that challenge, frustrate or even present obstacles to you.

   Do you invest a great deal of time exploring and conquering them?

   How much time each day or week do you spend participating in these activities?

   Do other responsibilities or activities prevent you from participating in these?

   Can you rearrange your schedule to include more of what you like to do?

   (Required question for all exercise physiologists to ask) Do any of these activities involve physical movement?

3. **Describe three to five places you frequent.**

   These places need not be any further than your room, a walking path, the gym, a special place in your dorm, sorority or fraternity house.

   Do you feel safe, fulfilled and happy in these places?

   Are you spending time in environments that are conducive to your health and balance?

   Are these environments ones in which you feel safe and joyous?

Make time to reevaluate your schedule and your SELF.

Healthy Carbs Help Maintain Fluid Balance

By Marla Richmond, M.S. and Merle Levy, LDN

Have you ever taken a good look at your complexion after a bout of the stomach flu or a hard night of partying? Well, if it looked discolored, dried out and disgusting, it probably had a lot to do with a substantial fluid loss. You can, in fact, survive without any of the other essential nutrients (carbohydrates, fats, protein, vitamins, and minerals) for extended time periods, but without water, or fluid, you cannot. This is because every biochemical process or reaction in the body takes place in water. Actually, all we are is a bunch of biochemical reactions.

Our bodies are comprised of more than 65 percent water or fluid. In order to maintain fluid balance, the average woman requires about nine cups of water daily; the average man, about twelve. Sound like a lot? Don't panic. Foods can supply approximately half of our daily fluid needs. We can get the rest from beverages. It should be noted, however, that caffeine-containing drinks and all alcoholic beverages have a diuretic effect on the body, which means they cause a loss of fluid. As a rule of thumb, a caffeine-containing beverage will contribute only approximately 50-60% of its total fluid volume.

Most foods (even those that appear dry), contain water. Fruits, vegetables, soups and low-calorie smoothies are wonderful, healthy and delicious ways to bring water into the diet. In fact, most fruits and many vegetables are comprised of 90% water. They are also the most nutrient-dense foods available. It is no coincidence that these foods contain the most fiber, vitamins and minerals and that they are also the lowest in calories!

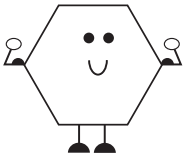
As a result of powerful marketing and a lot of misinformation, many people today have become carb-phobic. As you have already learned, the glucose derived from carbohydrate-containing foods is the preferred fuel of the brain. While you might want to limit your starch portions, be sure to learn the value of what you need and what you don't. As in life, you must choose wisely and separate the great from the not so great. Limit the empty energy. Be mindful of the candy, cookies, regular soda and white bread. Instead, look for all of the delicious, life-enhancing, nutrient-rich, fluid-filled fruits and vegetables you can get your hands on!

Just to remind you, water weight loss is not real weight loss. The scale is not a place to go after substantial loss of fluid. Ounce per ounce replenishment or loss of fluids cause an equal gain or loss in body weight (not fat).

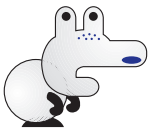
Fuel Fun!

The Six Essential Nutrients The Foods You Eat Contain

You must include them daily to keep your cells sustained


Carbohydrates*
(45%-60%)


Fat*
(20%-30%)


Protein*
(12%-20%)

Vitamins


Minerals

Water

** energy-yielding nutrients*

Calorie Recommendations

Female	Male
Ages 11-14 Approx. 47 calories/kg of body weight	**Ages 11-14** Approx. 55 calories/kg of body weight
Ages 15-18 Approx. 40 calories/kg of body weight	**Ages 15-18** Approx. 45 calories/kg of body weight
Ages 19+ Approx. 33 (up to 40) cal/kg of body weight	**Ages 19+** Approx. 38 (up to 47) cal/kg of body weight

Number of Portions Based on Calories

Food Group	1200 Calories	1500 Calories	1800 Calories	2000 Calories	2500 Calories	2900 Calories	3200 Calories
Whole Grains & Starchy Foods 80 Kcals/serving	4**	6**	8**	10**	12**	14**	16**
Meat & Meat Substitutes	4-6	5-7	5-7	6-8	7-9	9-10	10-12
Vegetables 25 Kcals/serving	3*	3*	4*	4*	5*	6*	6*
Fruit 60 Kcals/serving	3	3	4	4	5	6	6
Milk/Yogurt 90-120 Kcals/serving	2	2-3	2-3	3	3	3	3
Healthy Fats 45 Kcals/serving	4	5	7	8	9	11	12

** Minimum number of servings* *** A minimum of 3 servings from whole grains*

Food Category / Portion	Carbohydrate	Protein	Fat	Total Calories
Whole Grains & Starchy Foods 1 slice bread, ⅓ c. rice or pasta, ½ c. cereal	15g	3g	0-1g	80
Meats/ Meat Substitutes 1-oz. meat	—	7g	Very lean ..... 0-1g Lean ..... 3g Medium-fat ..... 5g High-fat 8g	35 55 75 100
Vegetables – ½ c. cooked, 1 c. raw veggies	5g	2g	—	25
Fruits – 1 4-oz. apple, ⅓ melon, ½ c. of juice, 1 6½-oz. orange	15g	—	—	60
Milks 1 c. milk, 1 c. yogurt	12g	8g	Skim ..... 0-3g Low-fat ..... 5g Whole 8g	90 120 150
Healthy Fat* – 2 tsp. peanut butter, 1 tsp. oil (canola, olive or peanut), ⅛ avocado, 10 olives, 6 almonds or cashews, 10 peanuts	—	—	5g	45

Analyzing Your Meals

a. time of meal
b. content of the meal (the food groups represented)
c. approximate portion size of the food
d. approximate balance of carbohydrates, fat,& protein
e. satiety level (how full you were) on a scale of 1 to 5 (one is not at all full, five is very full)
f. number of hours before you got hungry again

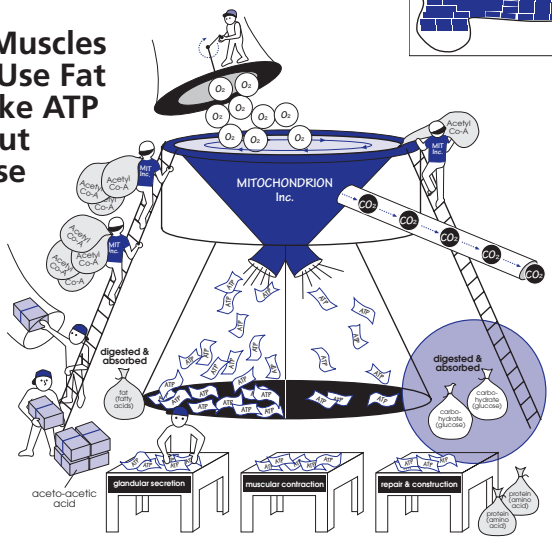
Best Eat Foods That Keep You Full and Give You More Than Calories.

Fuel Fun!

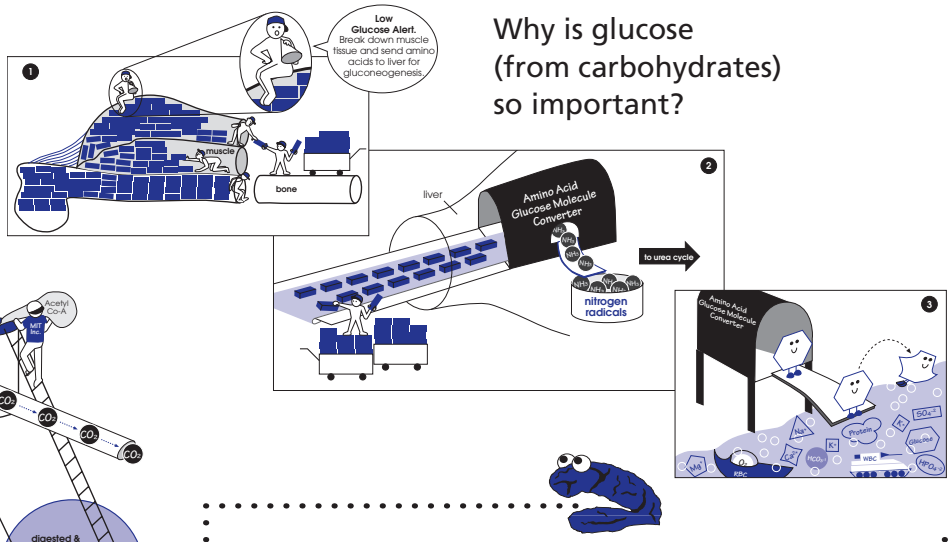
Important factors in metabolic rate

1. Resting metabolic rate (RMR)
2. Body composition
3. Thermic effect of food
4. Body temperature regulation
5. **Activity Level**

Your Muscles Can't Use Fat to Make ATP without Glucose



Gluconeogenesis (making new glucose)



Why is glucose (from carbohydrates) so important?

Mind Munchie

How do you think severe dieting or starvation might affect your metabolic rate?

Mind Munchie

Did you know that without glucose from carbohydrates, your muscles can't use fat to make ATP?

Food Group	No. of Portions*	Grams/Portion	Total Grams
Vegetables	4	5	20
Fruits	3	15	45
Milk products	3	12	36
Whole grains/Starchy foods	10	15	150
Total Grams			**251**

**Don't forget to review portion sizes of these foods!!!*

List three to five of each of your favorite carbohydrate-containing foods.

Vegetables

1. _____
2. _____
3. _____
4. _____
5. _____

Fruits

1. _____
2. _____
3. _____
4. _____
5. _____

Milk Products

1. _____
2. _____
3. _____
4. _____
5. _____

Whole Grains/Starchy Foods

1. _____
2. _____
3. _____
4. _____
5. _____

Note how often you eat them. Also note if you are supplying your body with a healthy variety of these foods.

Full Texts of Some of the Narratives

B., 19, University of Wisconsin, Madison- Recovered Anorexic

"I lay in bed every night desperately trying to fall asleep, but helplessly unable to because my stomach never stopped growling at me. I'd add up the day's calories. Lunchtime in the cafeteria was spent counting everybody else's calories because my own lunch had been reduced to one measly yogurt. I scrutinized my body under a microscope, carefully dissecting each and every part. Although I didn't see my self as disgustingly fat, I saw myself as imperfect.

How did I get better? Fear made me get better. I hadn't gotten my period in a year. When told I that down the road I could suffer life-altering consequences perhaps even infertility, I promised myself I'd change. I learned how to eat and plan meals using the ADA exchange system. I ate like a regimented soldier, made sure I ate the exact recommended portions of each food group. I was promised that I could work out and get strong once I gained back the weight I needed. The advice that I would give to others with anorexia ... well, there is a similar set of characteristics seen among young women with anorexia. We are smart, driven, self-motivated, goal-oriented perfectionists, with lots of self-control. I believe that these qualities can cause but also cure the disorder."

G., 20 University of Indiana, Bloomington; Struggling Bulimic

"In the 10th grade, I broke up with a boy, lost my best friend at the same time that my mom was recovering from a hysterectomy. This was hard for me and eating was comforting. By junior year, I was about 127 lbs—it was freaking me out. I started working out with my mom and got down to 116. I did this from working out and eating right but also discovered making myself vomit which I did every once in a while for a month.

Being able to lose this weight was a rush and made me feel great. In all of the time when I was losing weight, I started bad habits that I learned while doing a research project on eating disorders in sophomore year. I created journals with "thinspiration" pictures, wrote down everything I ate, and the horrible things I felt if I ate too much — to make myself feel bad. Things hit an all time low last summer when one of my panic attacks about my size drove me to by xenadrine-efx, ephedrine free diet pills.

I got down from 116 to 111 in about one week; was amazed by the quick results. I continued to take them until they had my heart going so fast, my mom took me to the hospital. It was a scary experience and I got rid of the pills but continued to work out a lot. My weight fluctuates because I go through periods of panic where I exercise and starve and other times when I eat normal."

How Girls Look to Guys ... Way Too Much!

M., 20, U OF I

"I find girls attractive when they have a lot of self confidence. I think I speak for the majority of guys. The words "high maintenance" often come up when describing girls who need to be taken care of A LOT, those girls that don't have confidence and need constant reassurance; they definitely fall under the high maintenance category. Trust me when I say this is not attractive at all!"

N., 19, USC

"Appearance is not the motivating factor behind a guy's real desire for a girl ... the notion that there is a difference between a girls physical and emotional attractiveness is one I believe to be false. Not only does a focus on the physical neglect emotional development, but a girl who is constantly worried about her weight or appearance is often too self-absorbed to care for others. Guys like girls with self-confidence. Striving for healthiness or to be attractive – those goals are not the problem. The danger is how girls tend to pursue those goals. Honestly, guys like girls who are strong and don't measure their self worth relative to what guys think of her."

James O. Prochaska's Six-Stage Model for Permanent Self-Change

1. PRE-CONTEMPLATION: pleas from loved ones to change fall upon deaf ears
2. CONTEMPLATION: you consider change as well as reasons for continuing bad habits
3. PREPERATION: you arrange your schedule to include new behaviors, enlist assistance and support from others
4. ACTION: you regularly practice new healthy behaviors
5. MAINTENANCE: you fight temptation; may relapse, backslide and recover
6. TERMINATION: you no longer participate in the unhealthy behavior(s)

Tips on How to Get Yourself Going

Seek professional assistance

Consult with competent, qualified professionals to guide you through change processes

Set appropriate, realistic, ACHIEVABLE goals

Create time frames for your goals, both short and long term

Demand that others respect your commitment

Reveal your intent to change and enlist the support of family and friends

Remove potential temptations and obstacles

Keep all home equipment visible and in good repair. If you join a health club, use it.

Schedule exercise appointments into your calendar just like any other appointment and obligate yourself

Attach a meaningful consequence or make it embarrassing to not show up; set specific meeting times with a coach, friend or family member

Keep records of and periodically measure your progress

Keep a log with short, but consistent entries; note problems, obstacles and any and all daily, weekly and monthly improvements

Get right back up if you fall

Move on immediately following a backslide

Reward yourself

Applaud yourself frequently with reminders of your follow-through; stars, stickers, outings, or gifts