CENTRE ICE
FITNESS

Fundamentals of Fitness and Nutrition

IN ORDER TO GET WHERE WE ARE GOING IT HELPS TO UNDERSTAND WHERE WE HAVE BEEN!

The Journey

As we grow

Patterns of Growth - Changes in Size

There are four characteristic stages of growth from birth to adult:

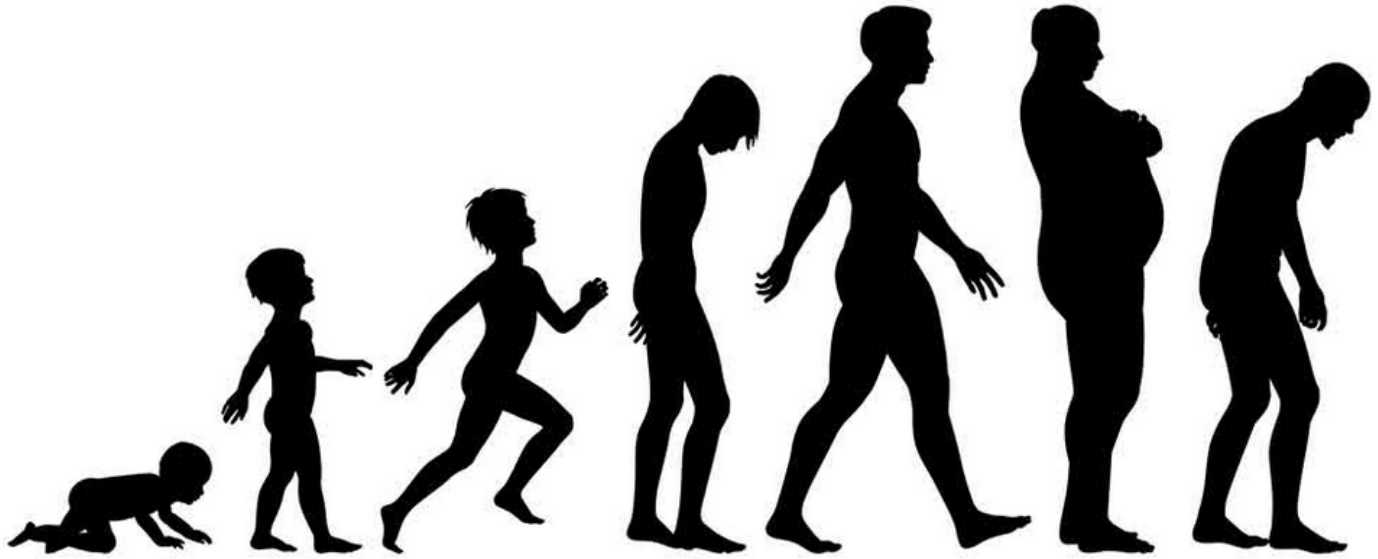
- Rapid growth in infancy and early childhood
- Slow, steady growth in middle childhood
- Rapid growth during puberty
- Gradual slowing down of growth in adolescence until adult height is reached

Calories

Teenagers need lots of calories to support rapid growth. Girls need approximately 2200 calories, while boys need 2500-2900 calories.

Before puberty, females have approximately 19% body fat, which increases to about 22% after puberty. Males maintain body fat percentage of approximately 15%, but during adolescence, males gain two times more muscle mass than females.

Chronological Age vs Biological age



According to science, there's a difference between chronological age and biological age, which means you can be 50 years old and literally have a body of a 40 year old. I'm sure you've met someone that not only looks 10 years younger, but has boundless energy and stamina. That being said, I'm sure you've seen the exact opposite as well, someone that looks and acts much too OLD for their actual age.

From then till Now!

AS We Age

- BMR Basal Metabolic Rate slows down.
- What is your BMR? The number of calories you'd burn if you stayed in bed all day.
- Lose bone density (Osteoporosis)
- Lose muscle density and strength become Hypotonic moving toward a state of atrophy
- Increase body fat both **Intermuscular vs. Subcutaneous**
- Slower metabolism…… directly related to muscle density

What are the Contributing Factors:

- Sedentary Lifestyle vs. Active Fit Lifestyle
- Use it or lose it!

Fitness Fundamentals

Aerobic vs. Anaerobic Activity

Cardio Equipment….. Burning Fat vs Targeted Heart Rate Training

Aerobic with oxygen utilizes fat as primary energy source

Anaerobic activity in the absence of oxygen taps into microchondria or stored energy carbohydrates with in the muscle cells.

Interval Training

- Increased oxygen uptake VO2Max
- Build stored energy reserves

VO2 max refers to the maximum amount of oxygen that an individual can utilize during intense or maximal exercise.

Stroke volume The amount of blood pumped out of the left ventricle of heart with each contraction is called the stroke volume. Although some conditions can affect a person's stroke volume, endurance and high intensity cardiovascular exercise training often increases stroke volume. A larger stroke volume results in a lower (resting) heart rate.

Fast Twitch vs. Slow Twitch Muscle Fibers

Slow Twitch Muscle fibers

Marathon Runner Engages Slow twitch helps to pump out miles

Fast Twitch Muscle Fibers

Sprinter Fast Twitch fibers provide Strength and Power

EPOC effect

Excess Post-exercise Oxygen Consumption

Otherwise known as the EPOC effect. Combining activity that includes both slow and fast twitch muscle fibers will help you burn calories even after you've finished working out.

Balance Stability Sensory-Motor Function

Flexibility Balance & Stability --- Functional Training into your workouts!

Incorporating specific functional exercises that ***challenge the body's nervous system to improve sensory-motor function*** is advised for optimal performance and quality of life.

Proprioception refers to a sense of joint positioning. This is a subconscious understanding the brain has of its joints and limbs.

Kinesthetic sense is the ability to sense where you are in 3-dimensional space. Both of these require a sensory understanding that depends on a strong relationship between the parietal lobe in the brain, spinal cord & peripheral nerves, and the muscle/joint receptors of the body.

An individual's "proprioceptive tone" refers to their ability to sense and continually adapt to where they are in space.

Circuit Weight Training vs. Free Weights

Primary Muscle *(Weight training increases muscle density, strength and stabilizes joints)*

Secondary Muscle (supports the movement)

- Circuit one plane of movement vs Several planes of movement (full range of motion) join rotation exist on a three dimensional plane
- Free weights engage neuromuscular movement ***sensory-motor function***
- Muscle groups vs. Individual muscles …..examples: Shoulders Triceps

High Intensity Short duration

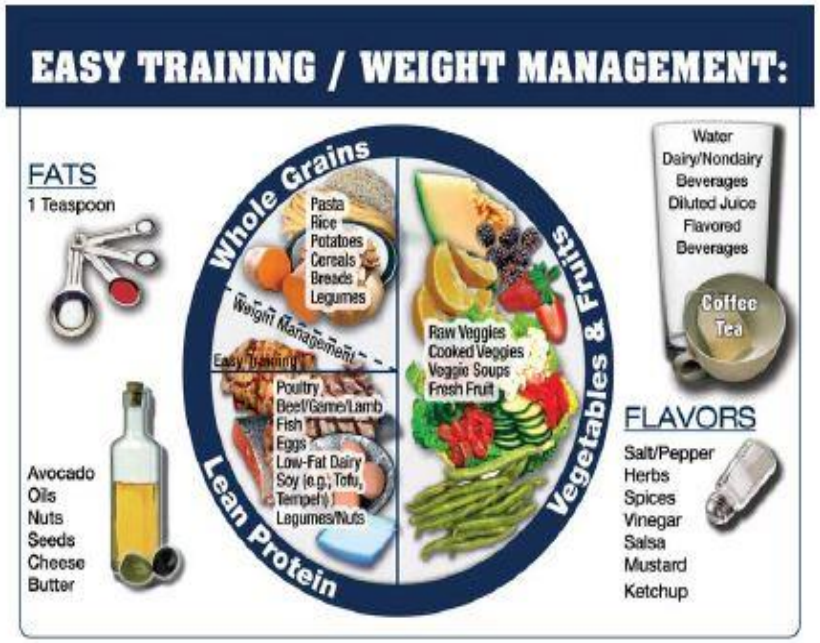
- Heavier Weight few repetitions = Increased strength and muscle gains

Low intensity Long duration

- Lighter weight more repetitions = Muscle endurance and maintenance

Nutrition Basics

Watch the 3 USA Hockey Nutrition Videos : http://www.admkids.com/page/show/944942-nutrition



The Athlete's Plates are a collaboration between the United States Olympic Committee Sport Dietitians and the University of Colorado (UCCS) Sport Nutrition Graduate Program.

BMR Basal Metabolic rate

Increase BMR

3500 Calories = 1lb Theoretically, about 3500 calories equals one pound of body weigh

Eating several meals through out the day There is good evidence that frequency of food intake and proper hydration H2o Consumption has effects on metabolism.

Increased lean muscle: Muscle tissue is about 8 times more metabolically demanding than fat.

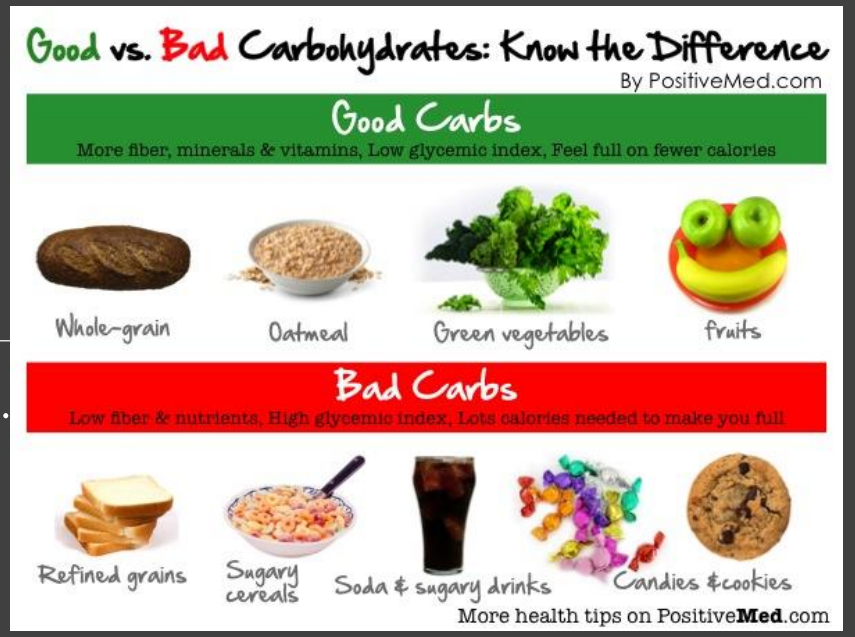
Three factors that have an impact on your energy expenditure are:

Basal metabolic rate - the number of calories the body needs to maintain body functions while at rest.

Thermic effect of food - the number of calories required to digest, absorb, transport, and store food.

Physical activity - the number of calories expended during daily activity, lifestyle and exercise.

Carbohydrates



- Stored in the liver and muscles as glycogen for use when energy is needed.
- Fuel during high intensity exercise
- Spares protein (to preserve muscle mass during exercise)
- Fuel for the Central Nervous System (your brain!)

Recommended Allowance

Sedentary Individuals: 40-50% of your total daily calories should be carbohydrates

Exercises Regularly: 60% of your total daily calories should be carbohydrates

Athletes or persons involved in heavy training: 70% of your total daily calories should be carbohydrates (3.5-4.5 grams of carbohydrate per pound of body weight)

Food Sources

Grains (choose mostly whole grains for added benefits) Fruit (choose whole fruits more often than fruit juices) Vegetables

NOTE: 1 gram of carbohydrate = 4 Calories Food Sources

Proteins

Proteins often called the building blocks of the body.

- Protein consists of combinations of structures called amino acids that combine in various ways to make Tissue structure (part of organ tissues, muscle, hair, skin, nails, bones, tendons, ligaments and blood plasma)
- Part of cell plasma membranes involved in metabolic, transport, and hormone systems
- Make up enzymes that regulate metabolism Involved in acid/base balance to maintain a neutral environment in our bodies

NOTE: 1 gram of protein = 4 Calories

Food Sources

Examples of complete protein sources include soy,

dairy products, meat, and seafood.

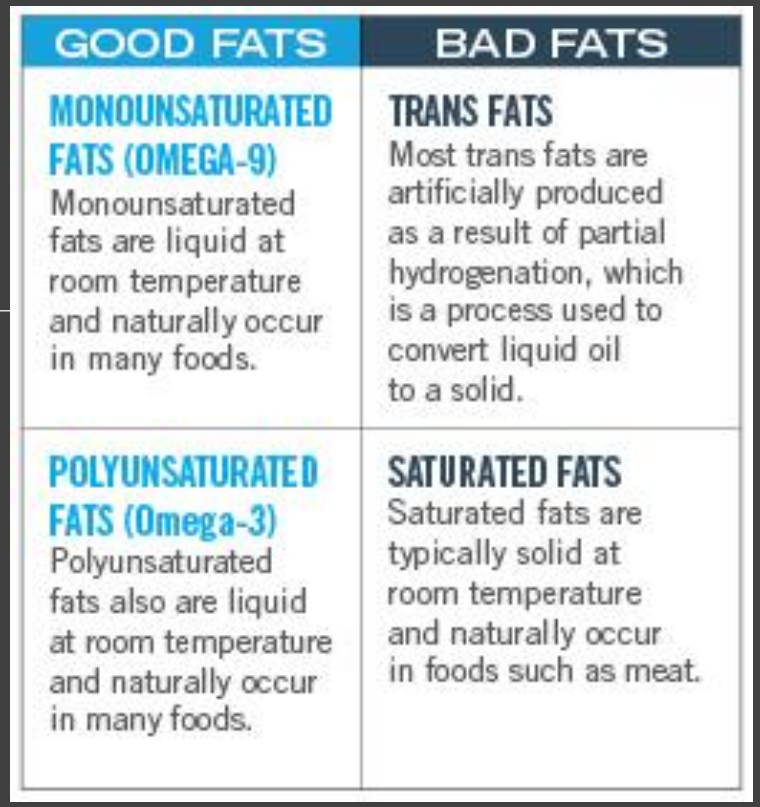
Fats

Fats

- Energy reserve
- Protects vital organs
- Insulation
- Transport fat soluble vitamins

Saturated vs Polyunsaturated Fats ???

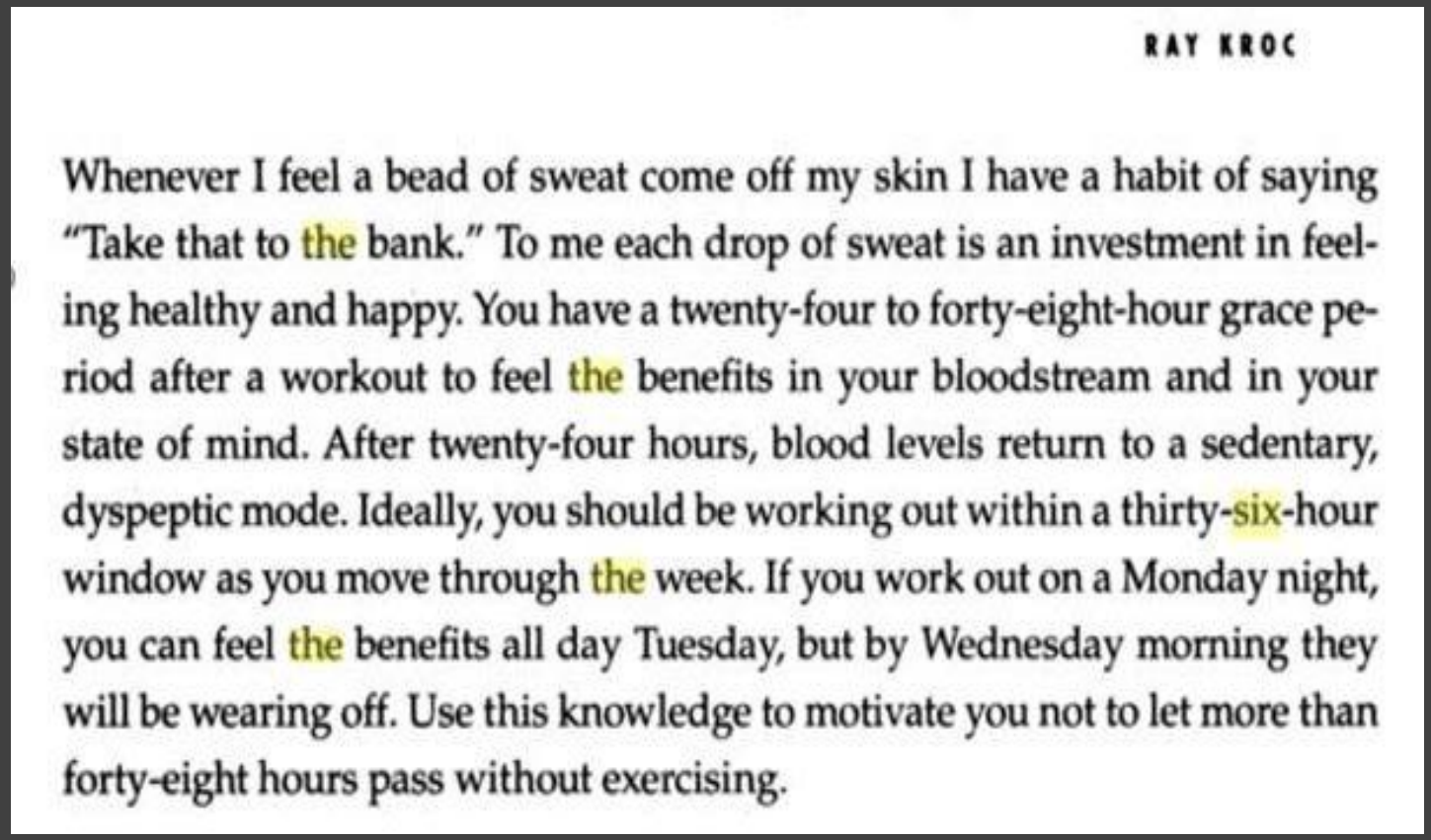
- 20-35% of your total daily calories should come from fat
- Less than 10% of total daily calories should come from Saturated Fat (coconut and palm kernel oil, shortening, butter, cream cheese, full fat dairy products)
- NOTE: 1 gram of fat = 9 Calories Food Sources Oils, Nuts Seeds Meat, fish, dairy Micronutrients



Plan your Work ….Work your Plan

Your new mantra:

If it’s to be
it’s up to me!



RAY KROC

Whenever I feel a bead of sweat come off my skin I have a habit of saying "Take that to the bank." To me each drop of sweat is an investment in feeling healthy and happy. You have a twenty-four to forty-eight-hour grace period after a workout to feel the benefits in your bloodstream and in your state of mind. After twenty-four hours, blood levels return to a sedentary, dyspeptic mode. Ideally, you should be working out within a thirty-six-hour window as you move through the week. If you work out on a Monday night, you can feel the benefits all day Tuesday, but by Wednesday morning they will be wearing off. Use this knowledge to motivate you not to let more than forty-eight hours pass without exercising.

Goal Setting: *If not now then when?*

It's not a secret to make change; *You are where you are supposed to be based on what you did up till now. You can be where you want to be based on what you do today!*

GOAL SETTING: Key factor = Set individual quantifiable obtainable goals!

You control 3 things; the thoughts you think the images you visualize and behavior-the actions you take. You determine your own destiny. ***Accept personal responsibility*** or not.

Understand: Each day is a test of self-discipline. Set goals and make commitments you can achieve and the result is confidence in your ability to accomplish more. Be aware if you make even a small commitment to your self and fail to meet expectations the opposite effect takes place. That's why goals need to be quantifiable and obtainable.

Be willing to pay the price in full - Practice persistence - Improve in small increments - Achievers are committed to continual improvement.

Behind every great achievement and success story is self-discipline and sacrifice

CENTRE ICE FITNESS

Get Off Your Butt: 13 Ways to Get Motivated

13 Ways to Get Motivated and Reach Attainable Goals

- ❑ Find inspiration *(complete the free workshops & clinics)*
- ❑ Get excited *(create an incentive worth working toward)*
- ❑ Build anticipation *(the classes you booked are on your app and calendar)*
- ❑ Post your goal view daily reminder
- ❑ Commit publicly *(those that love you will support you)*
- ❑ Think about it daily
- ❑ Get support *(a class or group training shares encouragement and accomplishment)*
- ❑ Realize that there's an ebb and flow
- ❑ Stick with it
- ❑ Start small. Really small
- ❑ Build on small successes
- ❑ Think about the benefits, not the difficulties
- ❑ Squash negative thoughts; Be positive

CENTRE ICE FITNESS

Hydration

Hydration

Are you hydrated? Dehydration is the first sign of fatigue in activity

Moistens tissues such as those in the mouth, eyes, and nose

Protects body organs and tissues. Helps prevent constipation

Helps dissolve minerals and other nutrients to make them accessible to the body

Regulates body temperature Lubricates joints

Lessens the burden on the kidneys and liver by flushing out waste products

Carries nutrients and oxygen to cells

Having FUN It's about you!

Taking classes…. Participating in a competitive event or class pushes you beyond your comfort zone providing results.

Hard work outs that generate results, breaking a great sweat helping to eliminate toxins and waste from your system feels great!

Do It For You! No one admits it but training hard and making progress is one of the few things we do for ourselves it ***builds self confidence a positive out look and happiness!***