

Exercise for Weight Loss

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All you need to know

FREQUENCY

30 – 90 min on 4 – 5 days/wk

INTENSITY

How intense? MORE intense

BALANCE

Synergize to Maximize



Metabolism... the bottom line

- ✦ Metabolism is energy!
- ✦ According to Webster's = the sum of the physical and chemical processes by which protoplasm is produced, maintained, and destroyed, and by which energy is made available for its functioning.

Metabolism

◆ YOU = energy in, energy out

◆ "Energy in" = food! (i.e. Carbs, Protein, and Fat)

◆ Either used immediately or stored as fat or Glycogen

◆ "Energy out" = Basal Metabolic Rate + additional work throughout the day

◆ *BMR = the amount of energy that you use in a state of rest.



Basal Metabolic Rate

- ✦ The amount of energy you use in a state of rest

- ✦ Linearly related to lean body mass.

- Each pound of muscle burns 30-50 cal per day – resting!



So how do you impact metabolism?

✦ Work!

- ✦ 1st take the stairs

- ✦ Dedicated exercise program

- Distinct motor qualities enhanced by exercise:

- ✦ Increase in lean muscle mass

- ✦ Loss of body fat

- ✦ Aerobic endurance

- ✦ Improved maximal strength

- ✦ Improved speed

- ✦ Improved strength endurance



Constructing an exercise program

- ◆ Frequency is critical

- Plan to exercise on most days (4-5 / week)

- ◆ At least 30 min of exercise on most days

- ◆ Minimum to prevent chronic disease

- ◆ Goal should be for 60-90 min on most days

- ◆ To turn things around and maximize results



Constructing an exercise program

✦ Intensity is critical

– Intensity increases “excess post-exercise oxygen consumption” or EPOC

✦ Greater intensity causes non-linear results!

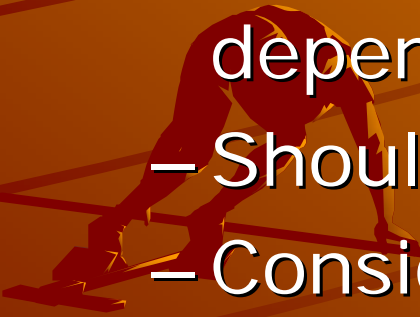
– How intense... MORE Intense!

✦ “exercise efficiency”



Constructing an exercise program

- ✦ The most effective program will be a *combination* of cardiovascular exercise and strength training.
 - What combination is up to you and depends on your personal goals.
 - Should be fun and entertaining.
 - Consider a partner or group with similar goals.



Cardiovascular training (aerobic exercise)

- ◆ Burns fat preferentially
- ◆ Strengthens the heart
- ◆ Requires little expertise and equipment
 - if running or walking good shoes are important



Cardio basics

- ✦ Cardio, by definition, must raise your heart rate

- Should stay between 60 – 90 % of your Maximum Heart Rate for at least thirty min three to four times a week.

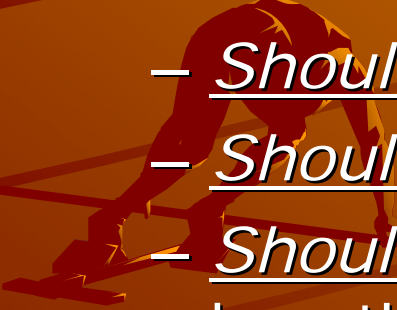
- ✦ $MHR = 220 - \text{age}$

- ✦ $MHR \times 0.6 - 0.9 = \text{your target range}$



Cardio basics

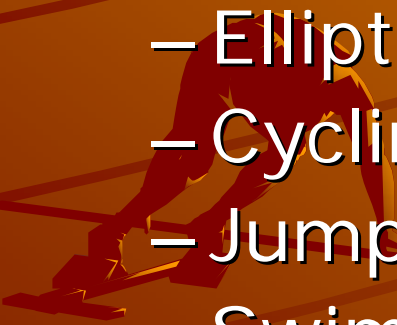
- ◆ An alternative method to gauge intensity
 - Should be breathing hard, but still capable of conversation (in short sentences)
 - Should notice an elevation in heart rate to about double your usual rate.
 - Should not be light-headed or dizzy
 - Should not be panting for air
 - Should not be able to say abc's in a single breath.



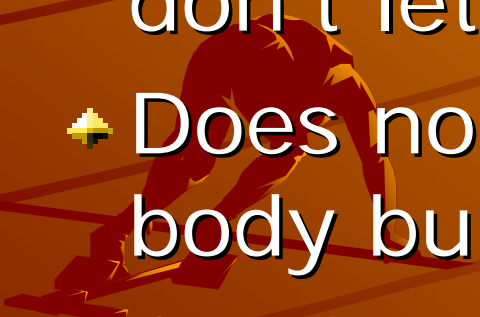
Cardio basics

✦ Just a few examples of cardio activities:

- Walking / jogging
- Stairs
- Elliptical
- Cycling
- Jumping rope
- Swimming
- Rowing



Strength training (anaerobic exercise)

- ✦ Uses Glycogen preferentially
 - ✦ Can sometimes be intimidating – don't let it be.
 - ✦ Does not mean you will look like a body builder.
 - ✦ Can be done in a gym or at home.
- 

Strength training basics

✦ There is no “best way”

– Many approaches can and do work – should be matched to your personal goals.

✦ Isotonics

- High rep / low weight
- Low weight / high rep
- Body weight

✦ Isometrics

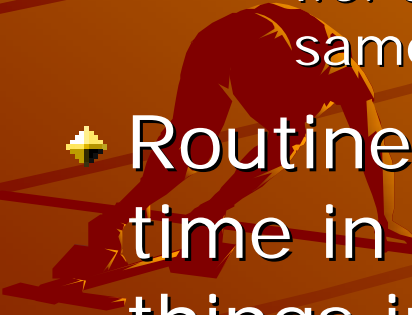
✦ Plyometrics

✦ Resistance band



Strength training basics

- ◆ Everything works.... but nothing works forever
 - “exercise efficiency” improves with training resulting in a reduced adaptive response
 - ◆ i.e. over time you will burn fewer calories with the same activity
- ◆ Routines should be altered from time to time in order to continue gains (and keep things interesting)
 - Program should be changed every 1-8 weeks



Strength training basics

◆ The Specificity principle

- Each type of training will yield a specific result
- You must train for a specific goal
 - ◆ Your body rises to the exact challenge laid before it

– Examples:

- ◆ Stronger legs
- ◆ Speed
- ◆ Endurance
- ◆ Baseball swing
- ◆ Jumping



Strength training basics

- ✦ Quality is more important than quantity!
 - Correct form protects you from injury and maximizes results
 - It is more important to execute correctly than to add weight or increase reps (i.e. you should only do what you can do properly)
 - Good pain vs bad pain.



Strength training basics

✦ Progressive overload

– Over time you will have to increase the weight or repetition in order to continue success (even to maintain current levels of fitness)

✦ Ex: Avid runners must add 1.7 miles/week every year to avoid age-related weight gain.



Strength training basics

◆ Understanding Training Load

– Your goal in exercise is to work.

◆ Work = force x distance

◆ Tension = weight x speed

– Avoid injury by using weight that you can control

– Form and speed are the priority

– Do not compromise intensity

◆ The idea is to manage fatigue (not just seek it)

◆ Exercise “density” and rest periods



Strength training basics

- ◆ Individuality – everyone's response is different
 - In any given training program, results will vary



Arranging a work-out routine

- ◆ "Just do it" - timing isn't everything
 - ◆ Don't feel like it
 - ◆ A little sore from the last work-out
 - ◆ A little under the weather
 - ◆ Just ate
 - ◆ Haven't eaten yet
 - ◆ Don't have a specific goal
 - ◆ Don't know what I'll do when I get to the gym
- ◆ Don't be paralyzed by trying to make it the perfect time or routine



Arranging a work-out routine

✦ 1st ... eat something!

– A snack that contains both carbohydrates and protein in the hour before you exercise will allow maximum intensity

✦ Without gasoline a car doesn't move very far

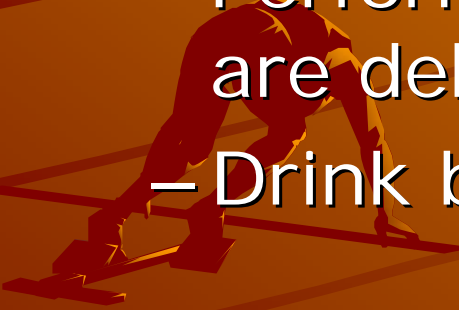
✦ Should take in calories if you are going to exercise for more than an hour



Arranging a workout routine

◆ Stay hydrated

- Performance is compromised when you are dehydrated
- Drink before and during your work-out



Arranging a workout routine

✦ Warm up

– The “warm up” is important to optimizing performance

✦ Mental warm-up

✦ General warm-up

– 5-10 min to elevate your core body temperature

✦ Specific warm-up

– Perform a low intensity set before hitting your stride



Arranging a work-out routine

- ◆ Multiple-joint exercises should take priority. (i.e. target large muscles before small ones)
 - More joints = more muscles used and will include the largest muscle groups
 - Ex: Biceps make up approx 3% of your muscle mass
 - Isolation is out (or at least second)
 - Bodybuilders use isolation exercises for cosmetics not for overall strength performance



Arranging a work-out routine

- ◆ Prefer free weights over machines

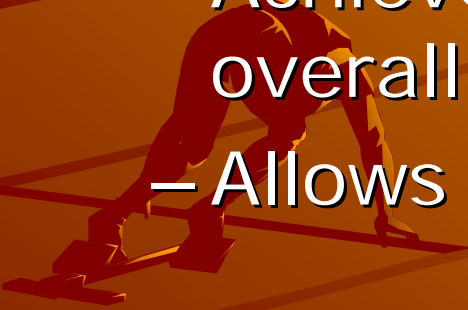
- Free weights force you to control the weights which leads to greater muscle growth

- Machines offer a safe option if you would otherwise need a spotter



Arranging a work-out routine

- ◆ Try to pull as much as you push
 - Achieves better muscle balance and overall strength
 - Allows one way to organize a work-out



Arranging a work-out routine

- ✦ Make your weakest point your priority

- Your intensity will be highest at the beginning of your work-out.

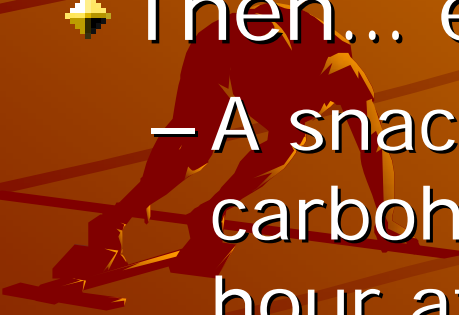


Arranging a work-out routine

- ◆ Cool down and stretch

- ◆ Then... eat again

- A snack that contains both carbohydrates and protein within the hour after your exercise will promote growth and recovery.



Thank you

