



MAX MUSCLE

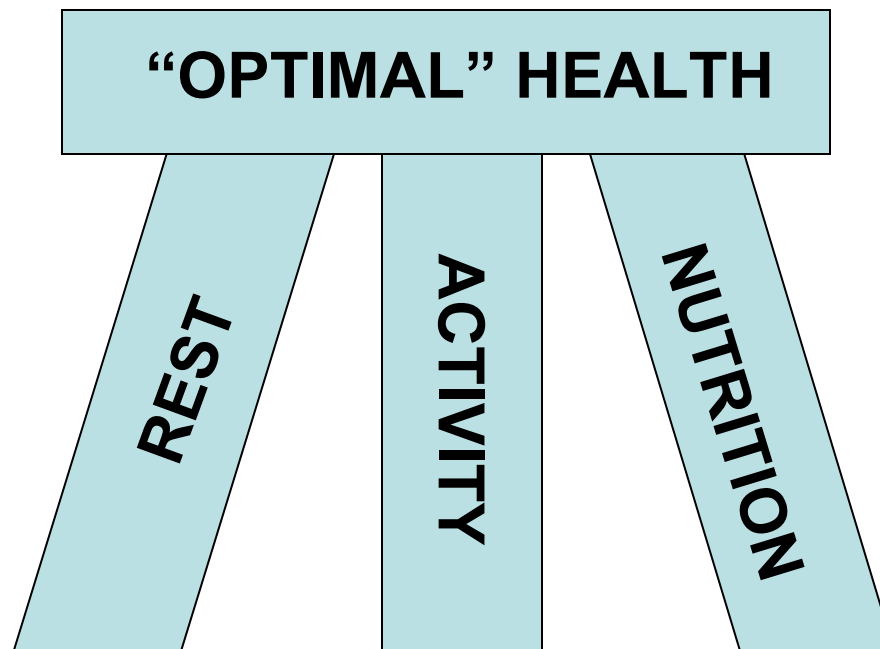
SPORTS NUTRITION





Objective:

- 1) Show you a healthy eating style that you can adopt for the rest of your life...
- 2) Explain why body composition is key for weight loss and for athletes



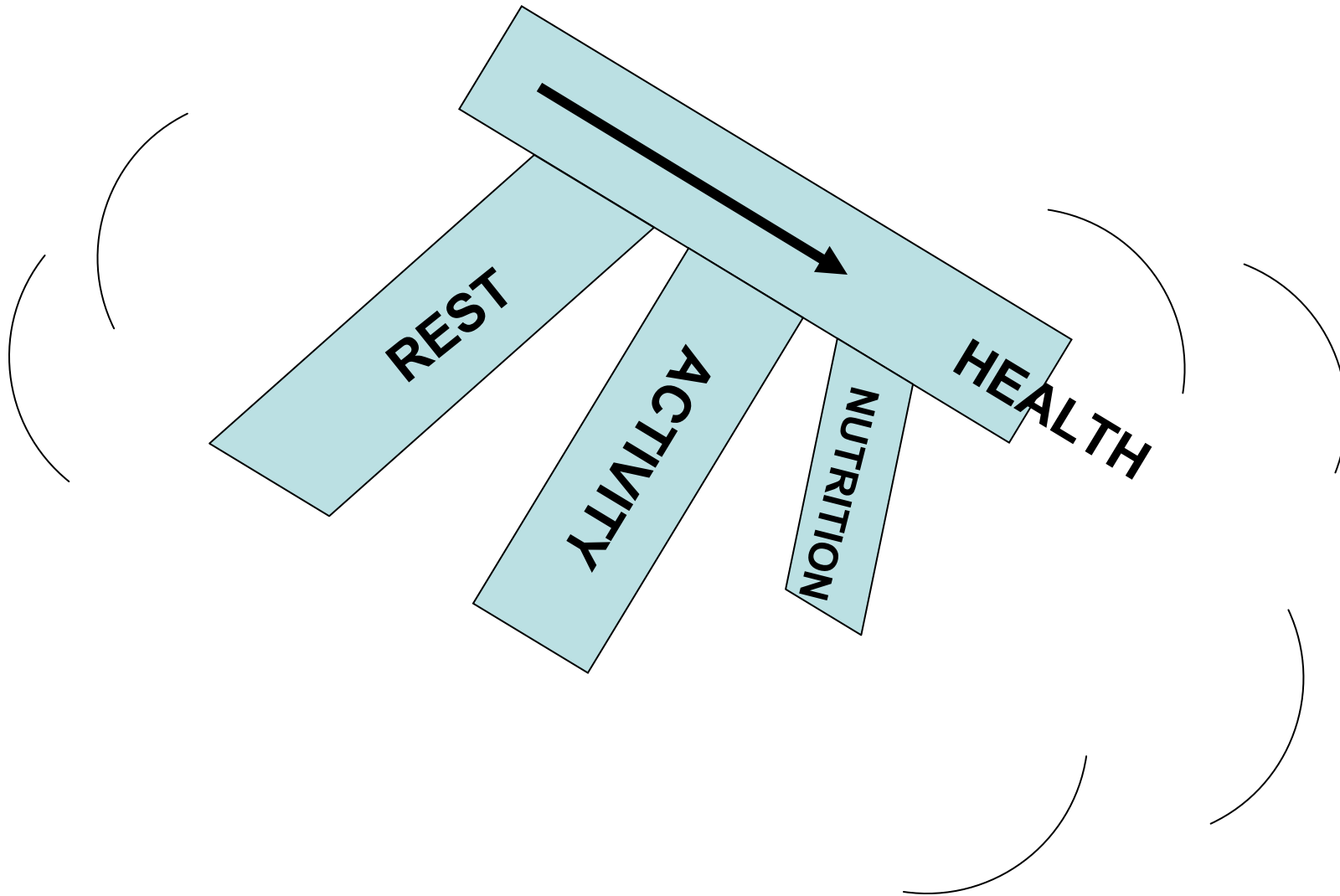
THE "secret" TO OPTIMAL HEALTH

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We are here to focus on
Nutrition

What should I eat ?

How much ?

When should I eat ?

Why?

Achieving your goal

6

It takes 30 days to develop a habit...

Most Important

- Write it down
- Track it
- Set Milestones
- Tell your friends
- When will you achieve your first goal?
- Date?????
- Specifics
- Get Obsessed



RULES FOR SUCCESS

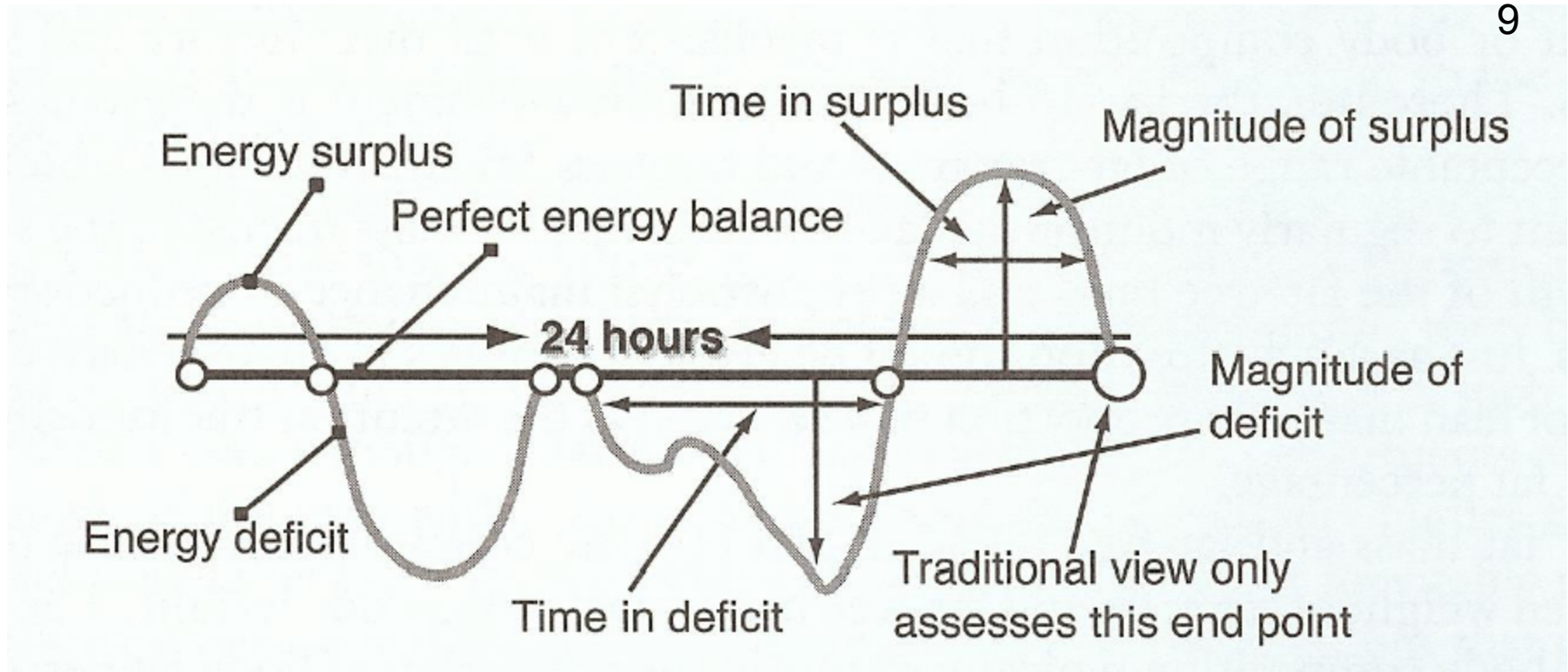
- 1) Eat smaller meals more frequently
- 2) Incorporate a weight training program
- 3) Eat a higher protein diet
- 4) Choose low glycemic carbs
- 5) (20% rule)
- 6) Always eat a fat or Protein with a carbohydrate
- 7) More tips and ideas to help you be successful
- 8) How much body fat is good?



Key point # 1

Eat smaller meals 5 or 6 times a day instead of typical 3 meals

This is HUGE !!!!!!!



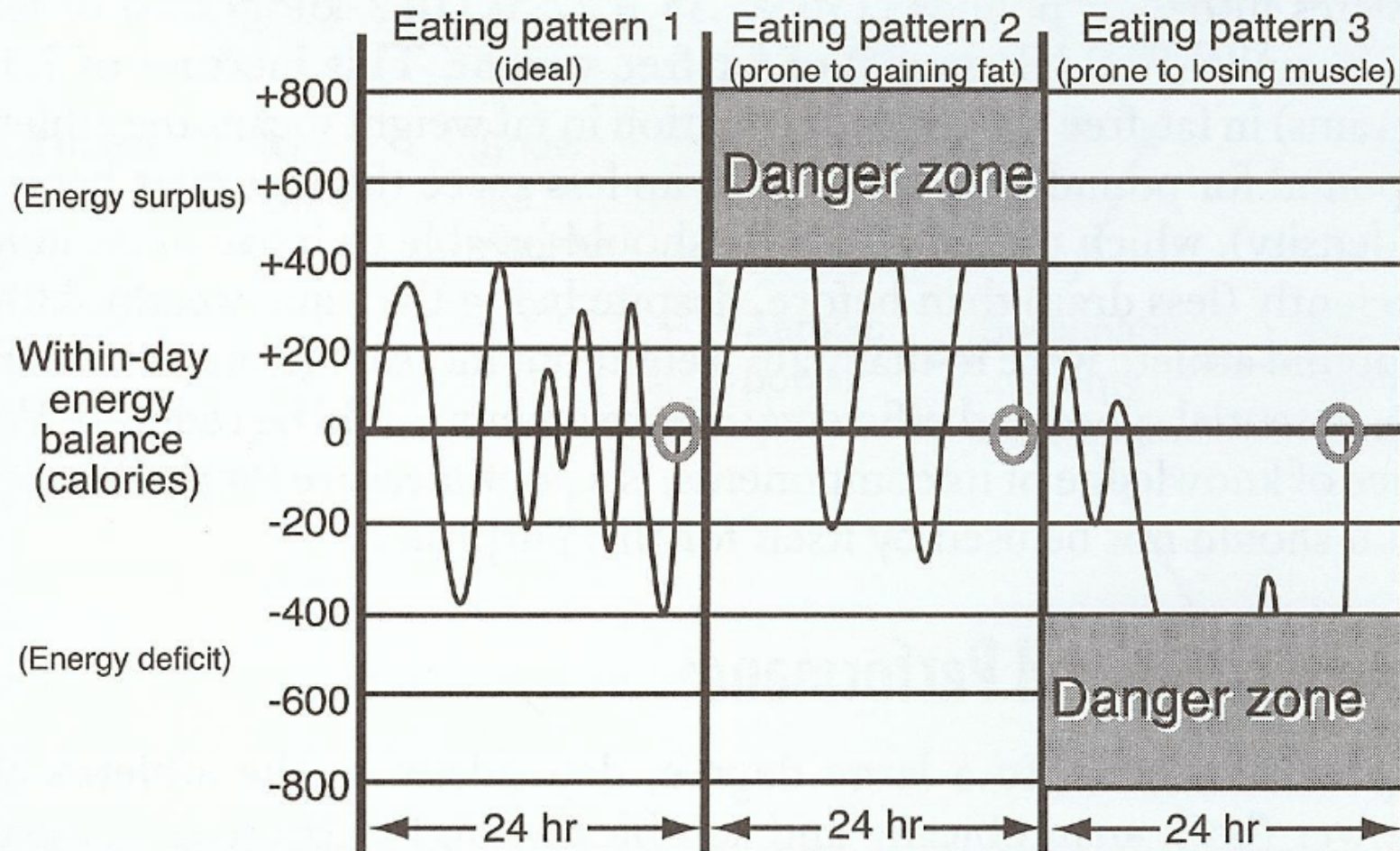
Dietary advice – eat 2000 calories a day. - traditional advice

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BODY COMPOSITION

*For maximum health you must
focus on maintaining or
increasing muscle and reducing
body fat!!*

The scale can be misleading...

ALL WEIGHT LOSS ISN'T GOOD

Important -- Assumption:

**It takes 50 calories / day to maintain
1 lb of muscle (ie: burn calories)**

**1 lb of fat
is 3500 “stored” calories**

Can you lose 10 lbs in 2 weeks as some ads say?

**If you must burn 3500 calories to lose
1 lb of fat, you would need to burn 35,000 total
calories to lose 10lbs**

**(If you could spend 500 calories/ hour jogging you
would burn those calories in.....)**

$35000/500 = 70$ hours of jogging

OR

5 hours per day jogging for 2 weeks – no eating....



What probably happens

**You lose 3 lbs of muscle 4 lbs of water
and 3 lbs of fat**



The “not” so good news...

If you lose 3 lbs of muscle

**You are NOT burning 3 X 50 calories =
150 less calories / day**

150 calories X 7 days = 1,050 calories per week

THAT IS EQUIVALENT TO 2 Big Mac's you “can't” eat

Why you shouldn't rely "only" on the scale to measure your progress...

Muscle weighs more than fat?

MORE ACCURATELY...

5lbs of Muscle takes up much less room than 5lbs of fat

Assessment

- 1. Gather data and do a body fat assessment to establish a Resting Metabolic rate**
- 2. Calculate your Sedentary activity index**
- 3. Calculate calories to support work out activity**
- 4. Calculate thermic effect of food based on body composition**
- 5. Discuss a starting goal or total calorie benchmark (based on 1-4 above) –**
 - 1. Body composition goal, not just weight**
- 6. Suggest a reasonable caloric level to achieve healthy weight loss or muscle gain**

THIS BRINGS US TO KEY POINT

#2

Incorporate a weight resistance program into your strategy

WHY ??????

Weight training will help you grow and maintain muscle mass



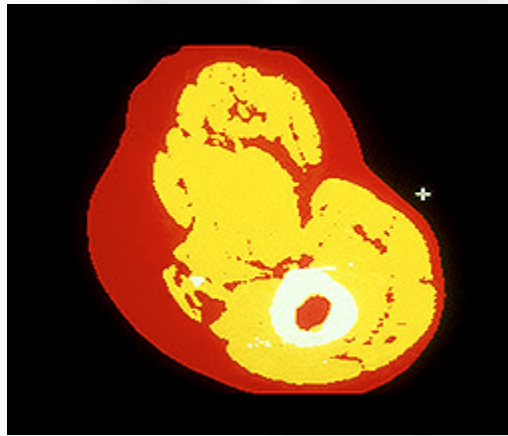
The effects of aging...

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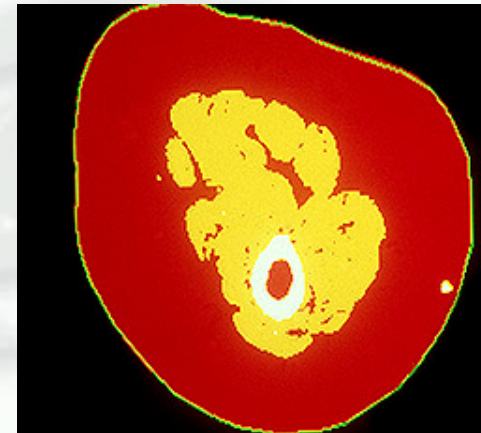
- The American Council on Exercise (2003) states that "muscle mass declines with age, resulting in decreased muscular strength and endurance".
- "For each decade after the age of 25, 3-5 % of muscle mass is lost".
- This is due to changes in lifestyle and decreased use of the neuromuscular system.



Sarcopenia



CT scan of a thigh muscle of a healthy young adult. The thigh bone is white. The muscle area (yellow) is not indicative of sarcopenia.



CT scan of a thigh muscle of a sedentary older adult. The thigh bone is white. The greatly reduced muscle area (yellow) indicates sarcopenia.



OTHER Benefits of Activity and Fitness

- An active life can slow, stop or reverse **Heart disease**.
- Active lifestyle is associated with lower risk of certain **Cancers**.
- Regularly active adults have a 42% lower risk of getting **type II diabetes** and **hypertension**.
- Regular activity has positive benefits relating to **Arthritis, Osteoporosis, and Back Problems**.
- Activity **increases longevity**.
- Activity **reduces stress, anxiety, and depression**.
- Benefits are found across all age groups !!!

KEY POINT

#3

To maintain muscle mass you must consume adequate protein at regular intervals to rebuild and repair muscle tissue

What is Protein????

Protein is made up of
amino acids

9 are considered essential
we must eat them

NITROGEN BALANCE

- A **positive nitrogen balance** suggests that more nitrogen is being retained than is being excreted, a state that suggests that **muscle** is being **gained**. (Anabolic)
- A **negative nitrogen balance** suggests that more nitrogen is being excreted than is being consumed, a state that will inevitably lead to **muscle loss**. (Catabolic)

Are you wasting time in the gym?

- If you are not eating enough protein you will be catabolizing muscle so the body can repair tissue that has been broken down due to exercise.
- From an athletic point of view, this can result in not achieving desired performance.
- Continually putting the body in this state may result in a performance plateau.
- From a weight loss point of view this will slow the metabolism and make it harder to achieve your goals.

How much????


Study – Chesley (et al, 1992)

- Study indicated that an intake of approximately 2 grams of protein per kg of bodyweight is required to maintain positive nitrogen balance in strength-training athletes.
- That's almost 1 gram per pound of body weight.

Proteins are not all the same?

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Protein Biological Value



• Hydrolyzed Whey	100
• Whey Concentrate	100
• Whole Egg	100
• Milk	91
• Egg White	88
• Cottage Cheese	84
• Tuna	83
• Fish	82
• Beef	80
• Chicken	79
• Soy	74
• Casein	71

Sports Supplement Encyclopedia
Jose Antonio, PhD, Jeff Stout, PhD
Edition 1, page 23



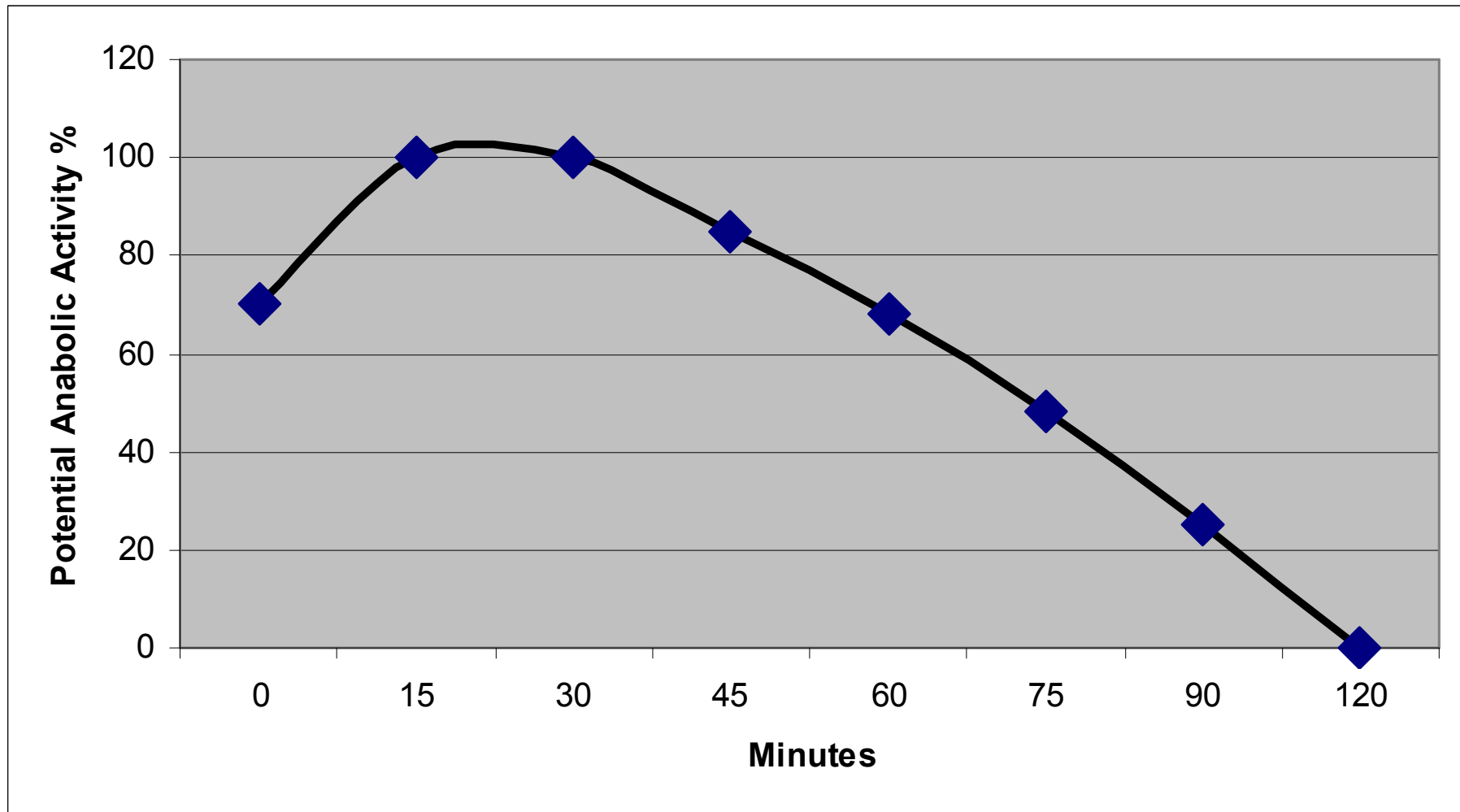
PROTEIN TIMING...

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For approximately one hour after a work-out our muscles are “more” insulin sensitive and ready to absorb nutrients for repair...

We should take advantage of this timing opportunity

Closing of the Metabolic Window

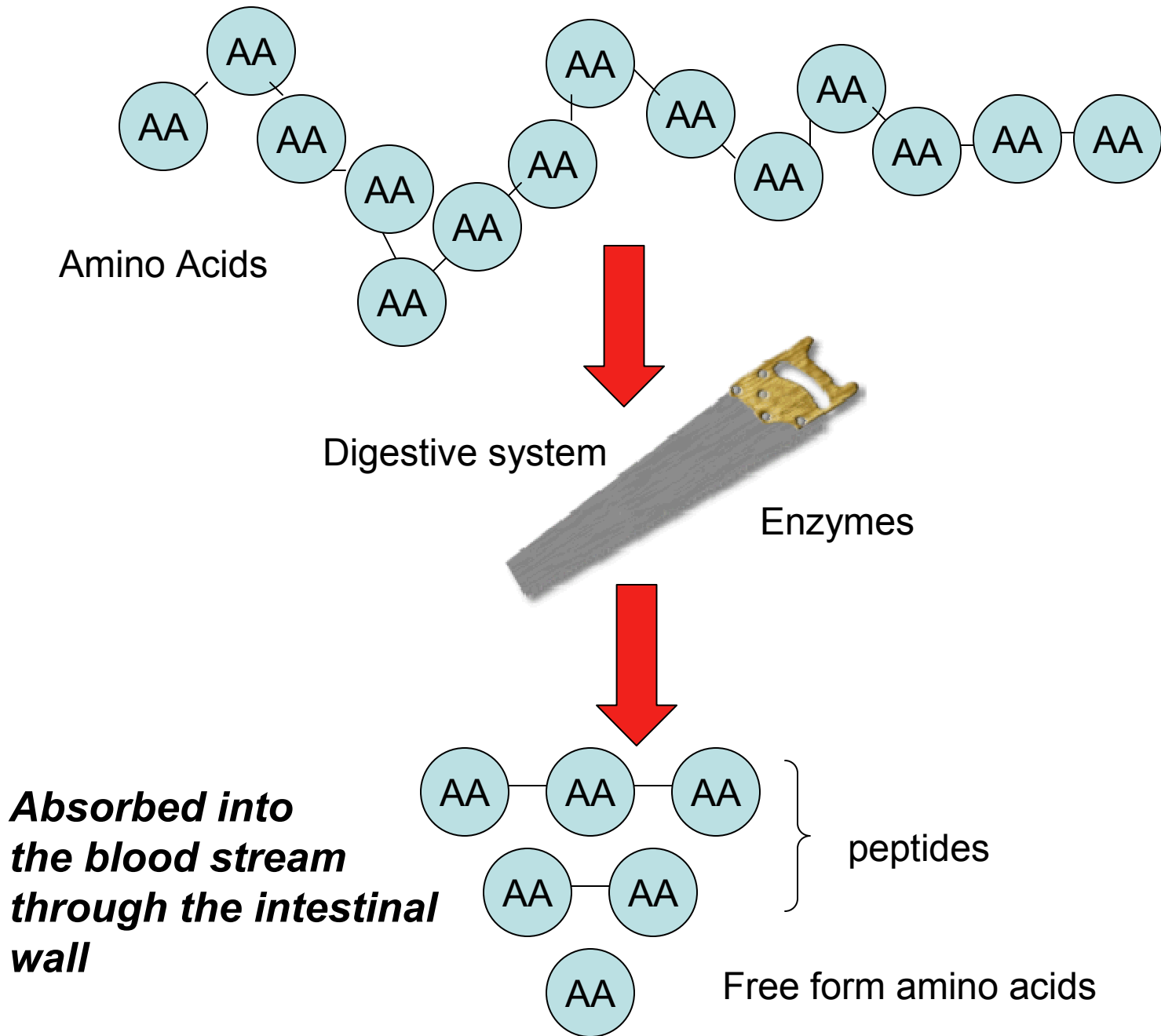


Without Nutrient intervention, the metabolic window begins to close
Within 45 minutes following exercise.

John Ivy, Ph.D., Robert Portman

Protein Absorption rates

- < 15 – 30 min Amino Acid peptides
- 30 – 60 min Whey Protein Isolate
- 1 hour Whey Protein Concentrate
- 2 – 3 hour Soy Protein isolate
- Up to 4 hour Egg white (egg albumin)
K Caseinate

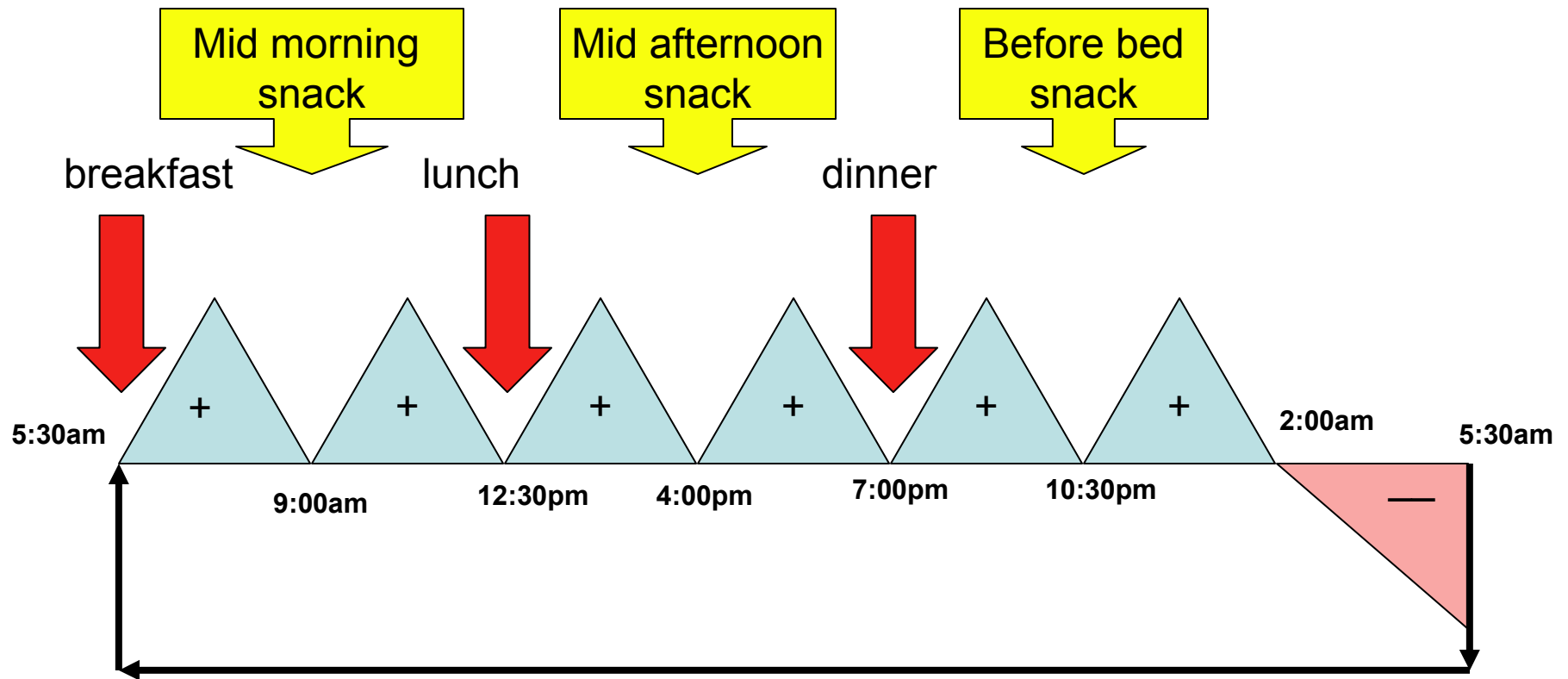


Other issues regarding protein
timing....

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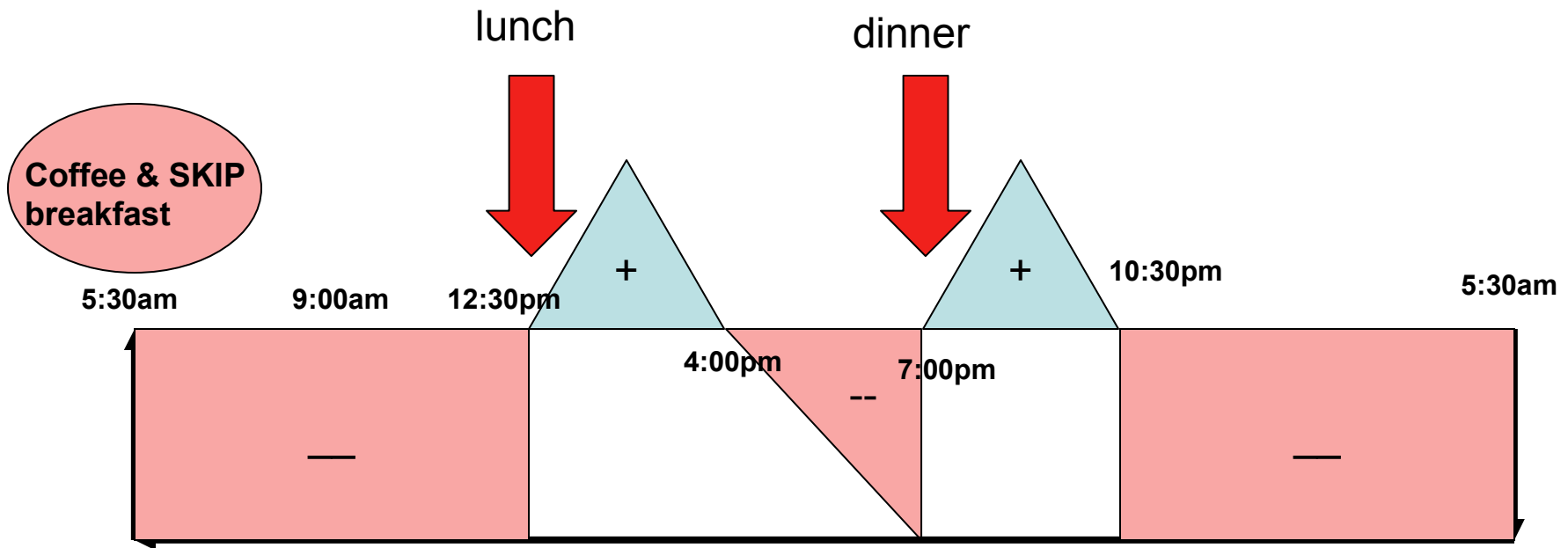
Maximizing positive nitrogen balance



3 1/2 hours catabolic

Dieting - worst case scenario?

I hope they didn't just eat a salad for lunch....

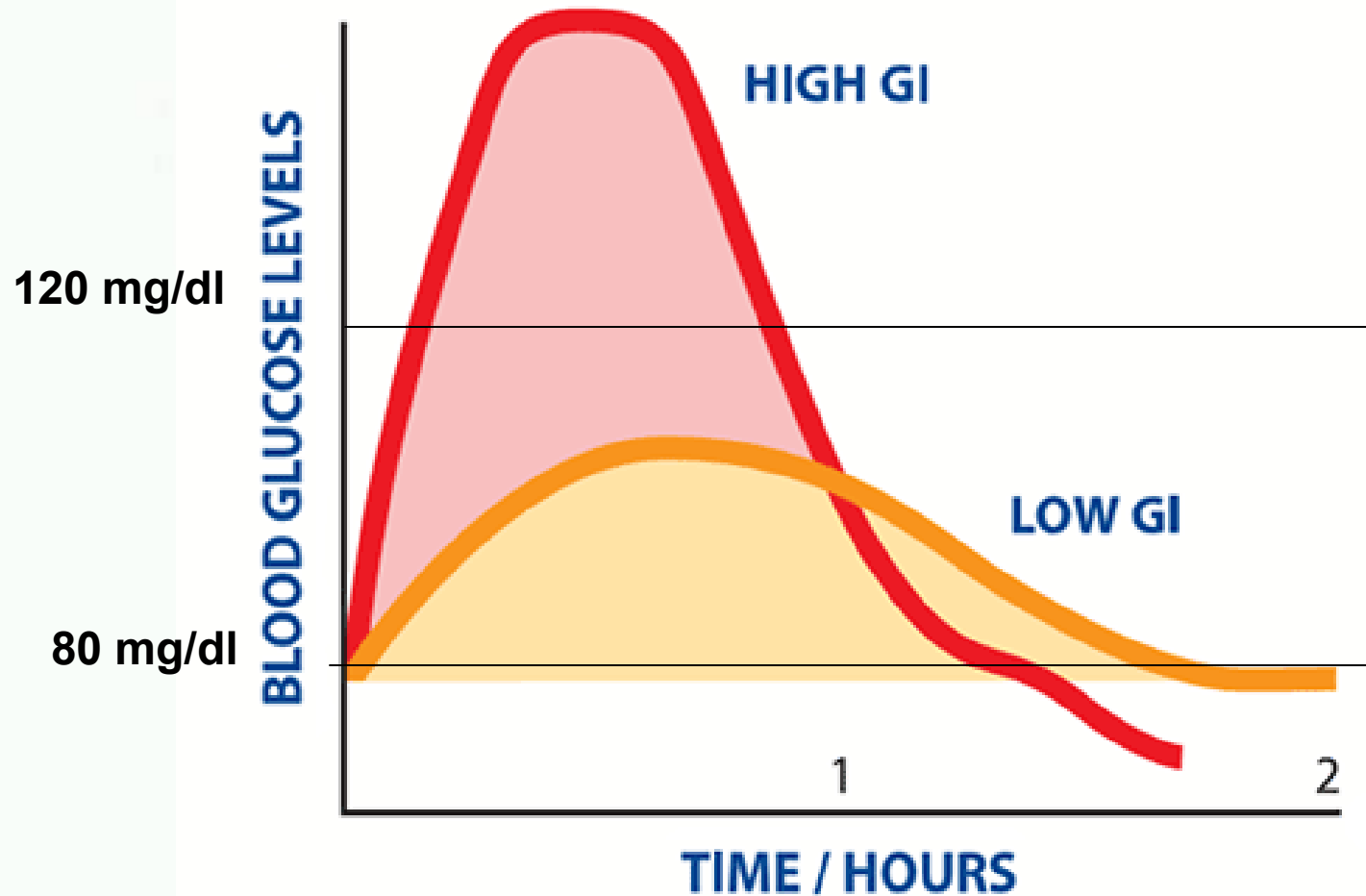


17 hours catabolic

Key point # 4

Focus on eating low glycemic carbohydrates

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The amount of carbohydrate in the reference and test food must be the same.

Glycemic Index on some common foods

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Complex carbohydrates

Complex carbohydrates provide vitamins, minerals, and fiber

Foods such as breads, legumes, rice, pasta, and starchy vegetables contain complex carbohydrates

ADAM.

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FRUITS & VEGETABLES

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ALL COLORS

GREEN

Asparagus
Celery
Peas
Spinach
Zucchini
Cucumber

YELLOW /ORANGE

Acorn squash
Apricots
Cantaloupe
Carrots
Orange
Peach
Corn

BLUE/PURPLE

Beets
Blackberry
Blueberry
Eggplant
Figs
Plums

Vitamins and minerals

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FRUITS & VEGETABLES

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ALL COLORS

WHITE

Banana
Cauliflower
Onion
Garlic
Turnips
Shallots

RED

Apple
Radish
Red Pepper
Tomatoes
Raspberry
Red Onion
Strawberry

Vitamins and minerals

Key Point #5

**A helpful rule when eating foods
that are processed**

20% RULE

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Nutrition Facts

Serving Size 1 Cup (53g/1.9 oz.)
 Servings Per Container About 14

Amount Per Serving	Cereal with 1/2 Cup Vitamins A&D Fat Free Milk	
	Cereal	Fat Free Milk
Calories	190	230
Calories from Fat	10	10
	% Daily Value**	
Total Fat 1g*	2%	2%
Saturated Fat 0g	0%	0%
Trans Fat 0g		
Cholesterol 0mg	0%	0%
Sodium 210mg	9%	11%
Potassium 210mg	6%	12%
Total Carbohydrate 45g	15%	17%
Dietary Fiber 4g	16%	16%
Sugars 20g		
Other Carbohydrate 21g		
Protein 3g		

Nutrition Facts

Serving Size 2.5 oz
 (70g / about 1/3 Box)
 (Makes about 1 cup)
 Servings Per Container about 3

Amount Per Serving	In Box	Prep
Calories	260	380
Calories from Fat	20	130
	% Daily Value**	
Total Fat 2.5g*	4%	23%
Saturated Fat 1g	5%	20%
Trans Fat 0g		
Cholesterol 5mg	2%	3%
Sodium 610mg	25%	32%
Total Carbohydrate 50g	17%	17%
Dietary Fiber 1g	4%	4%
Sugars 7g		
Protein 9g		

Nutrition Facts

Serving Size 1 cup (55g)
 Servings Per Container about 9

Amount Per Serving	Cereal with 1/2 cup Cereal Fat Free Milk	
Calories	200	240
Calories from Fat	15	15
	% Daily Value**	
Total Fat 1.5g*	2%	2%
Saturated Fat 0g	0%	0%
Trans Fat 0g		
Polyunsaturated Fat 0.5g		
Monounsaturated Fat 0.5g		
Cholesterol 0mg	0%	0%
Sodium 50mg	2%	5%
Potassium 190mg	5%	11%
Total Carbohydrate 46g	15%	17%
Dietary Fiber 6g	24%	24%
Sugars 12g		
Other Carbohydrate 28g		
Protein 4g		

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Fair amount of sugar

BEST

Close 44

Nutrition Facts		
Serving Size	1 Cup (53g/1.9 oz.)	
Servings Per Container	About 14	
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Protein 9g		

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Monounsaturated Fat 0.5g		
Cholesterol 0mg	0%	0%
Sodium 50mg	2%	5%
Potassium 90mg	5%	11%
Total Carbohydrate 46g	15%	17%
Dietary Fiber 6g	24%	24%
Sugars 12g		
Other Carbohydrate 28g		
Protein 4g		

Raisin Bran Crunch

KRAFT MACARONI & CHEESE

Cinnamon Shredded Wheat

Key point # 6

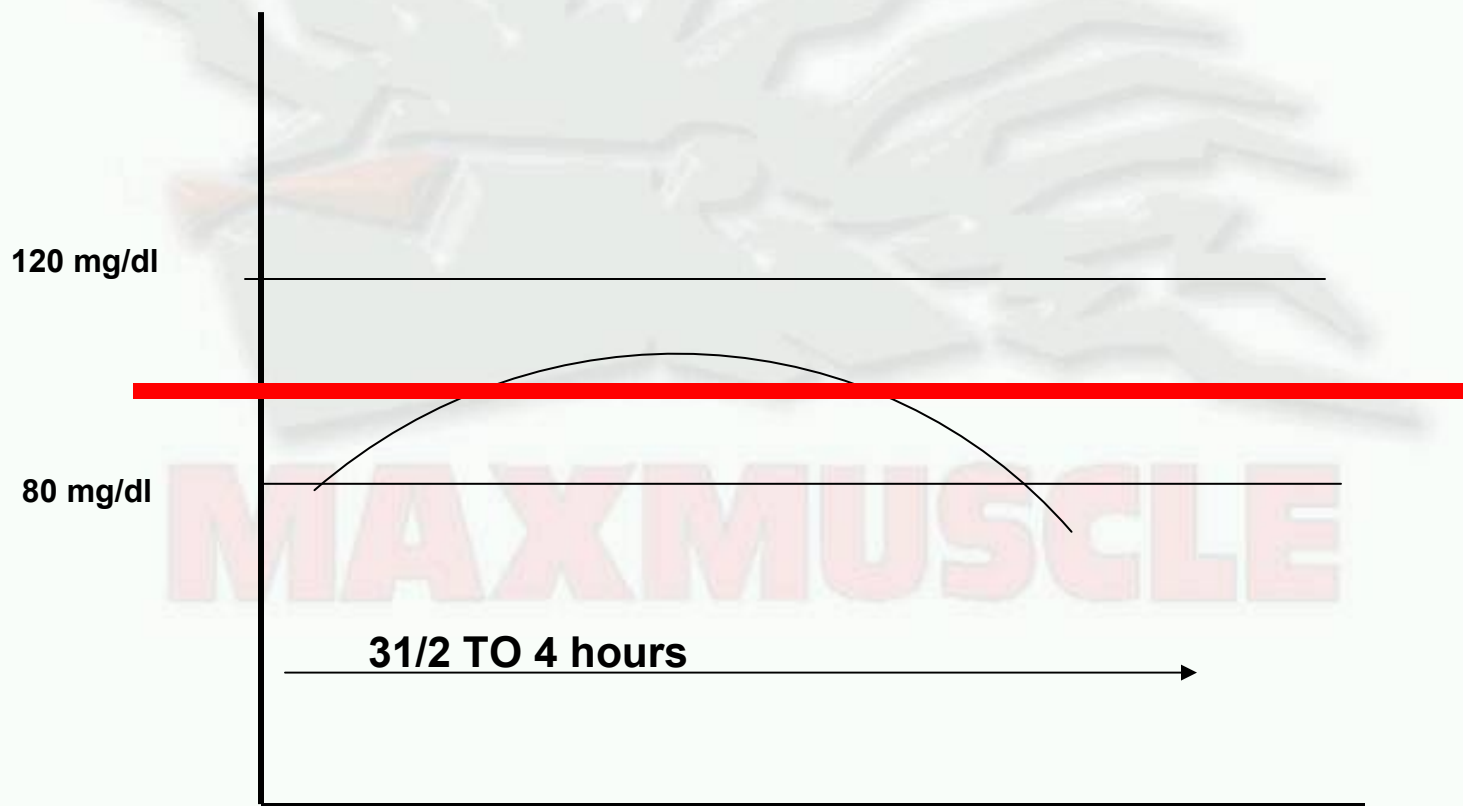
Don't eat carbs all by themselves

Always eat a protein with a
carbohydrate

Manipulate “your” system to your advantage ⁴⁶

- Cholecystokinin – (a gastrointestinal regulating hormone)
 - Stimulated by the presence of amino acids and fatty acids resulting from protein and fat.
- Functions of this hormone:
 - 1) Stimulation of pancreas
 - 2) Stimulation of gallbladder
 - 3) **Slows gastric emptying !!!!!!!!!!!!!!!**
 - 4) Possible role in appetite regulation

IDEAL BLOOD SUGAR LEVEL



Nutrients will stay in your blood stream for 1 to 4 hours depending on what you eat

Some other tips to help you...

- Pay close attention to everything for 2 weeks; after that you will understand portions and good choices— write it down
- Don't worry if you aren't perfect
- This is a marathon... Not a sprint.
- Don't worry about day to day fluctuations
- Slow Down...Eat slower so you have time to fill up
- Shop the perimeter of your grocery store
- Eat a splurge meal once a week – zig zag
- Negotiate with the waiter when eating out
- Use more spices to add variety
- Make sure you keep training times brief

Is all fat bad ???

<u>Description</u>	<u>Women</u>	<u>Men</u>
Essential fat	12–15%	2–5%
Athletes	16–20%	6–13%
Fitness	21–24%	14–17%
Acceptable	25–31%	18–25%
Obese	32%+	25%+

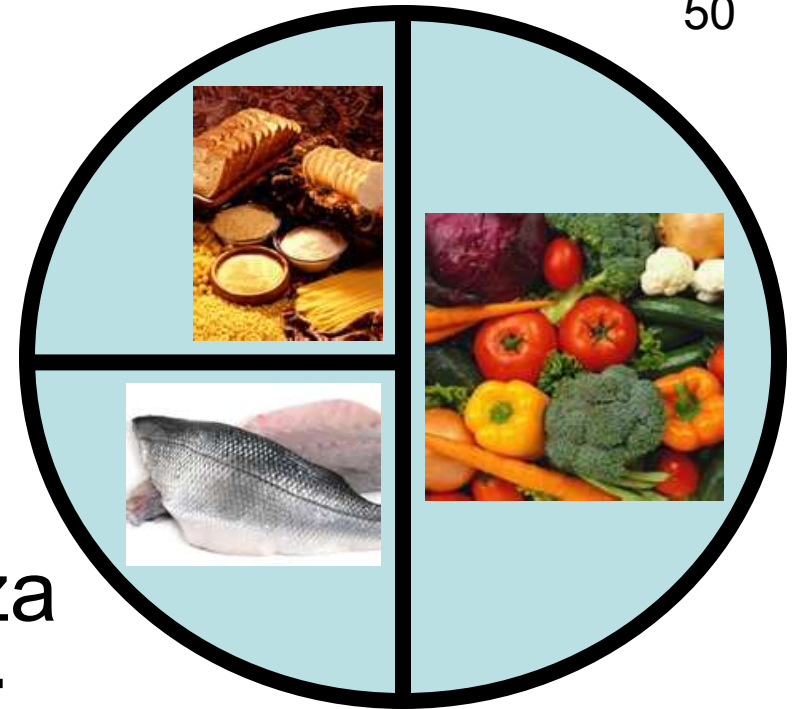
The American Council on Exercise has categorized ranges of body fat percentages



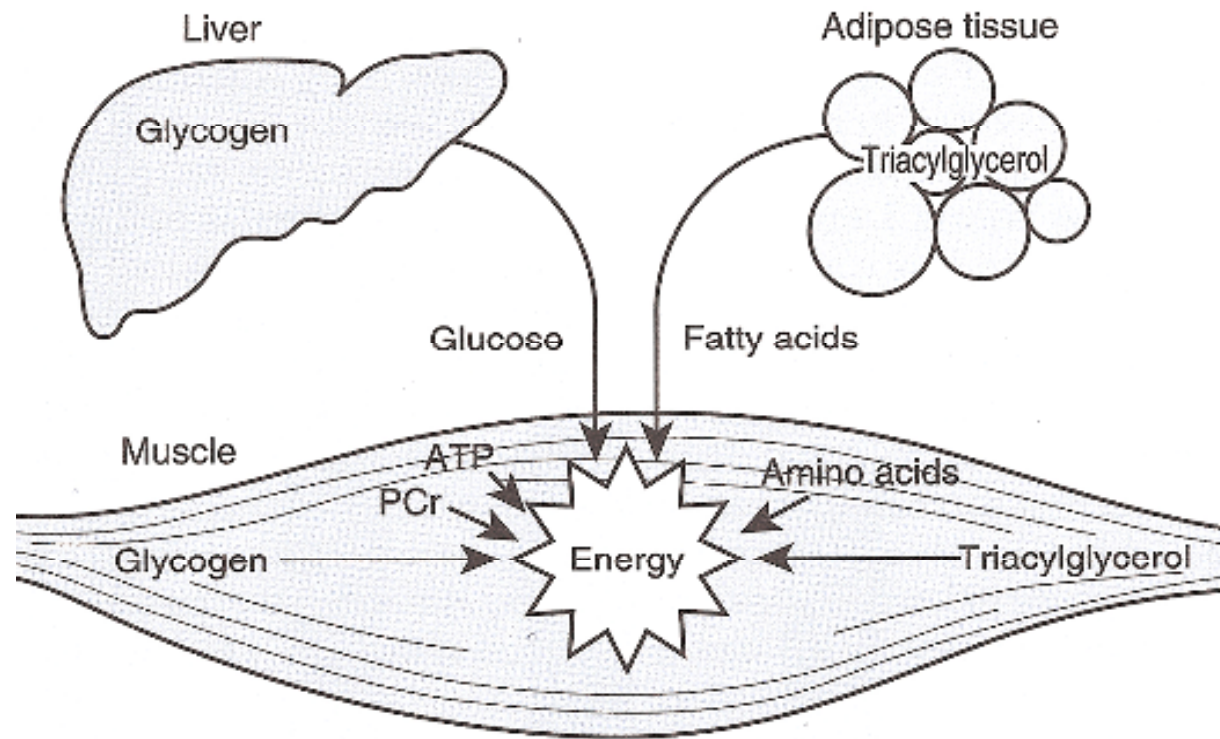
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