ALIVE & WELL: NUTRITION FOR THE MILLENNIUM

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PURPOSE/GAMEPLAN:

1. NUMBERS FIRST
2. QUICK REVIEW W/FACTS
3. HOT TOPICS

ALIVE & WELL: NUTRITION FOR THE MILLENNIUM

FACTS AND FADS

- "meal-plan" vs. "diet"
- "If your lifestyle doesn't control your meal plan, your meal plan will control your lifestyle."

Our fitness population: No special dietary needs

BELIEFS:

- "I am not my weight."
- "Feelings are more important than numbers."
- "There are no _____."

FACTS AND FADS

- The truth is that...
- "There is no such thing as junk food."
- "Ethics and food aren't related."
- "A nutrient is a nutrient is a nutrient."

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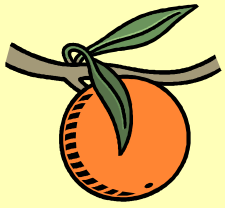

40 calories

40 calories

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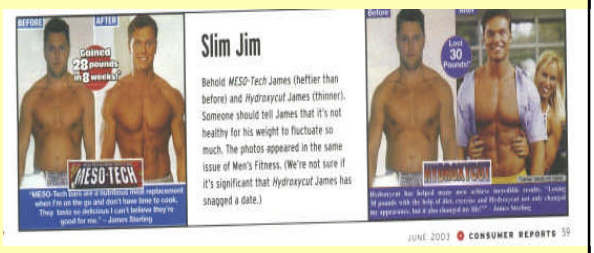

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ADA

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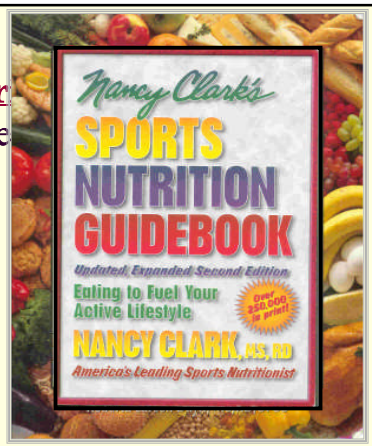

FACT

- "It's harder to modify food behavior than to stop smoking."
- Harvard University

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NUTRITIONAL ANALYSIS SHEET

Let's Get Specific...

NUTRITIONAL ANALYSIS SHEET

Body Mass Index = weight (lbs.) ( ) x 705 = **BMI**
height inches x height inches ( )^2=

BMI	
20- 25	very low risk
26- 30	low risk
31-35	moderate risk
36-40	high risk
40 +	very high risk

NUTRITIONAL ANALYSIS SHEET

Activity Range
.30-.40- sedentary
.50-.60-moderately active
.70-.80-vigorously active
.90-athlete/instructor
1-EXCEPTIONALLY ACTIVE

Base Metabolic Rate = _____ x _____ = _____calories /day
(10 women, 11 men) (body weight) (maintenance basal metabolic rate/ **MBMR**)

Activity Calories = [.30-1.0]____ x _____ = _____calories
range of activity] (**MBMR**) (Activity Calories/**AC**)

Daily Energy Expenditure = _____ + _____ = _____calories
(**DEE**) (**MBMR**) (**AC**) (**DEE**)

NUTRITIONAL ANALYSIS SHEET

Macronutrients

Body weight = _____ **DEE** =_____

Activity Level = **1**=Low-Moderate **2**= Active/Athlete **Specifics….**

CHO (carbohydrates)	55-60% (__-__)g CHO 3g/lb __x___lbs = _____	60-75% (__-__)g CHO 3-4.5 g/lb __x___lbs =	___ x .___-.___ = ___/___ cals ÷ 4cals/g = _____-- _____ g CHO
PRO(teins)	10-15% (__-__)g PRO .4g/lb ( )g PRO	10-20% (__-__)g PRO .5-.8g/lb ( )g PRO	_____ x .10-.___ = ___/___cals ÷ 4 cals/g = __-___ g PRO
FAT [_____ = *my fat goal*]	25-30% <10% saturated fat ( )g FAT	25% ( )gFAT	____ x ___ =_____ cals ÷ 9cals/g = _____ g FAT *or less* --- (_____ g x .10 = _____ g of *saturated fats or less)*

NUTRITIONAL ANALYSIS SHEET

Macronutrients:

Body weight = _ 120___ **DEE** =_2500____

Activity Level = **1**=Low-Moderate **2**=Active/Athlete **Specifics….**

CHO (carbohydrates)	55-60% (__-__)g CHO 3g/lb __x___lbs = _____ 120 x 3 = 360	60-75% (__-__)g CHO 3-4.5 g/lb __x___lbs =	2500 x .55 -.60 = 1375 / 1500 cals ÷ 1375 / 1500 4cals/g = 344 – 375 g CHO
PRO(teins)	10-15% (__-__)g PRO .4g/lb ( )g PRO 120 x .4 = 48	10-20% (__-__)g PRO .5-.8g/lb ( )g PRO	2500 x .10-.15 = 250 / 375cals ÷ 4 cals/g = 63 / 94 g PRO
FAT [_____ = *my fat goal*]	25-30% <10% saturated fat ( )g FAT	25% ( )gFAT	2500 x.25 = 625 cals ÷ 9cals/g = 70 g FAT *or less* --- (_____ g x .10 = _____ g of *saturated fats or less)*

NUTRITIONAL ANALYSIS SHEET

Sample Page:

CHO example: Boiled Spaghetti, cooked (840)	8 oz = 2 c.	168g CHO 14g PRO	4 Serv Bread
Parmesan (105)	1 oz	10g PRO	1 Serv Milk
Cranberry Juice (100)	68 oz	26g CHO	1 Serv Fruit
2 slices wheat bread (140)		26g CHO	2 Serv Bread
orange (62)	1 medium	15 g CHO	1 Serv Fruit
Nonfat Yogurt (110)	Dannon 8oz	16g CHO	1 Serv Milk
Peanut Bulter (200)	2 tbsp	6g CHO 9g PRO 16g FAT	1 Fat occurrence 1/3 Serv Meat
Banana (120)	1	28g CHO	1 Serv Fruit
Brown Rice (204)	4 oz = 1 c.	88g CHO	1 Serv Bread
Steamed Broccoli (22)	½ c = 2 oz	2.3g CHO 1.3g PRO	1 Serv Veggies
PRO example: Chicken Breast (93)	3 oz	19.5g PRO	1 Serv Meat
Tuna (150)	2 oz in water	15g PRO	1 Serv Meat
Lentils (230)	½ c.	10g PRO	1/3 Serv M eat
Oatmeal-Oat Bran (184)	2 oz = ½ c	17g CHO 6g PRO	1 Serv Bread
FAT example: Olive Oil (120)	1 tbsp	14g FAT	2 Fat occurrences

TOTALS: Calories: 2700		392g CHO 84g PRO 36g FAT 58% CHO 12% PRO 10% FAT	_3_FAT occurences __2__Milk__3__Meat __2__Vegt. __3_Fruit __8__Bread

HOT TOPICS

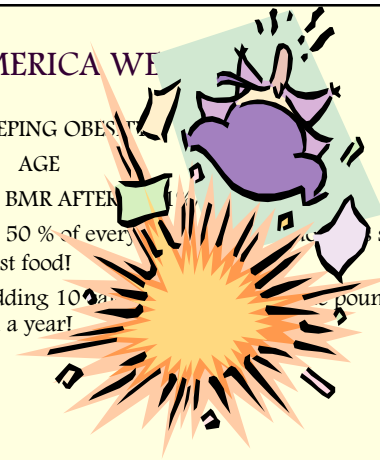
CHOCOLATE: "stearic acid"
Cocoavia

TEA: egcg antioxidant
(teastea.com, lipton.com)

GRAPE JUICE:

ORGANIC

AMERICA WE



CREEPING OBES[illegible]

- AGE
- BMR AFTER[illegible]
- 50 % of every[illegible] spent on fast food!
- adding 10[illegible] pound gain in a year!

FACT

- 3 out of 4 adults consume a 'junk food' at least every day (*Consumer Reports on Health* from November, 2001).

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6 NUTRIENTS OF FOOD:

MACRONUTRIENTS:

- WATER
- CARBOHYDRATES
- FATS
- PROTEINS

MICRONUTRIENTS:

- VITAMINS
- MINERALS

2001

CARBOHYDRATES

- SIMPLE CARBOHYDRATES
  - MONOSACCHRIDES (GLUCOSE, FRUCTOSE, GALACTOSE)
  - DISACCHRIDES (SUCROSE, LACTOSE, MALTOSE)
- COMPLEX CARBOHYDRATES
  - POLYSACCRIDES: STARCHES, FIBERS (SOLUBLE/INSOLUBLE)
- 4 CALORIES PER GRAM
- NEED: 55-60 % CALORIES PER DAY

Eg: 2000 calorie meal plan x .55-.60 = 1100-1200cals ÷ 4 = 275-300g CHO

ANTIOXIDANTS & PHYTOCHEMICALS: HAPPY FOODS

- Vitamins A, C, E
- T...
- ...rotenoids
- Flavonoids

Avocado, Dates, Bananas, Eggplant, Passion Fruit, Pineapple, and Tomato

...otonin)

CARBOHYDRATES

POST WORKOUT REFUELING:
.7G/LB IMMEDIATELY AFTER EXERCISE
EXAMPLE: 112G FOR 160 POUND PERSON
112 G IN ONE CUP RAISINS

Research: ONLY MACRONUTRIENT THAT FUELS THE BRAIN!

FACT

- "sweet" and/or "salty" snacks are a $30 billion yearly industry in the US (IRI US Food of Dec 2002)
- eatright.org: 90% of snacks are unplanned
- behavior (CRUNCH)

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PROTEINS

- ESSENTIAL AMINO ACIDS
- NON-ESSENTIAL AMINO ACIDS
- 4 CALORIES PER GRAM
- NEED: 10-15% CALORIES PER DAY
  - Eg 2000 calorie meal plan x ..10-.15 = 200-300cals ÷ 4 = 50-75g PRO

PROTEINS

- MUSCLES ARE 75% WATER
- PROTEINS ARE THE LEAST USEABLE MN.
- RESEARCH: EXCESS LEADS TO BURDENED KIDNEYS, CARDIAC RISK FACTORS, ET. AL.
- <10% PRO IN BODY USED FOR FUEL (K.)
- HELPS OPTIMIZE GLYCOGEN RECOVERY

PROTEINS

- DO WEIGHT LIFTERS NEED MORE PROTEIN THAN ENDURANCE/AEROBIC-ORIENTED ATHLETES?

FACT

- FAST FOOD NATION reports that 50% of every US food dollar is spent on junk food.

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FATS

- MONO-UNSATURATED
- POLY-UNSATURATED
- SATURATED

} HYDROGENATED "TRANS," "FRACTIONATED"

- 9 CALORIES PER GRAM
- NEED: <30% CALORIES PER DAY
  - Eg 2000 calorie meal plan x .30 = 600cals ÷ 9 = 54g FAT *(or less)*

[CHOLESTEROL: <200, HDL> 35, LDL < 130, TRIGLYCERIDES <200]

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FATS

- NECESSARY FOR CELL MEMBRANES, ENERGY PRODUCTION, LIPOPROTEINS, PROTECT ORGANS, THERMO REGULATION (SUBCUTANEOUS), CARRIER A/D/E VITAMINS, TRANSMIT MESSAGES ALONG NERVES
- STRESS PLAYS A ROLE IN FAT STORAGE
- HORMONE SENSITIVE LIPASE
- CORTISOL AND STRESS
- GALLBLADDER NEEDS 10G/MEAL

FACT

- 73% of Americans choose what they call a 'junk food' once a day, 39% do it twice a day, and more than 10% of it takes place while driving. (Information Resources Inc, *Snackworld* July 2002)

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ALCOHOL

- HIGH ALCOHOL INTAKE PROMOTES HEAD AND NECK CANCERS; MODERATE ALCOHOL INTAKE PROMOTES BREAST CANCER; LIGHT INTAKE MAY DECREASE RISK OF CARDIOVASCULAR DISEASE
- 7 CALORIES PER GRAM

COMBINING

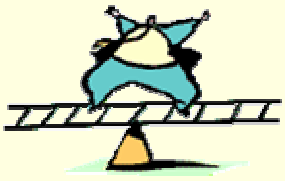
- GLYCEMIC INDEX
- LEVEL OF COMBINATION
- LEVEL OF FITNESS
- LEVEL OF HEALTH
- LEVEL OF ENERGY BALANCE
- METABOLIC STATE

Eg.: OATMEAL VS. PASTA

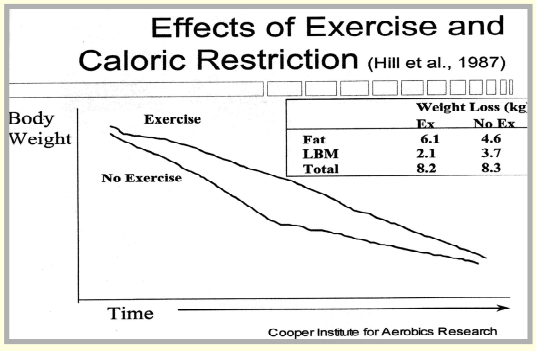
Carbohydrates are the best sources of glycogen.

LOSING "WEIGHT" VS. LOSING FAT

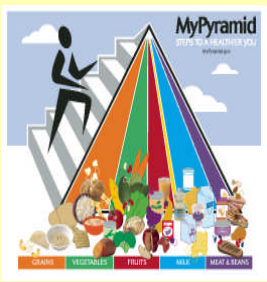
- Any meal plan falling below 1,500 calories per day can be *unsafe!*
- 1 POUND OF FAT SUPPLIES 3,500 CALORIES
- 3,500 ÷ 7 days = 500 calories / day reduction
- Creatively manipulate the 500 calorie reduction!



LOSING "WEIGHT" VS. LOSING FAT

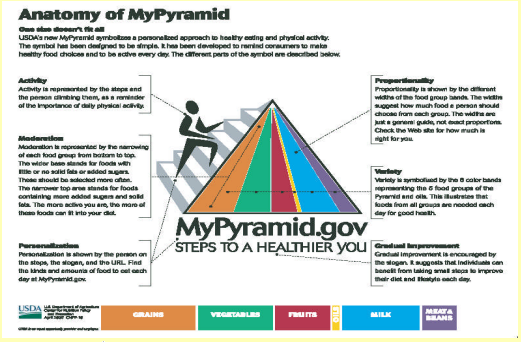


USDA Food Guide Graphic



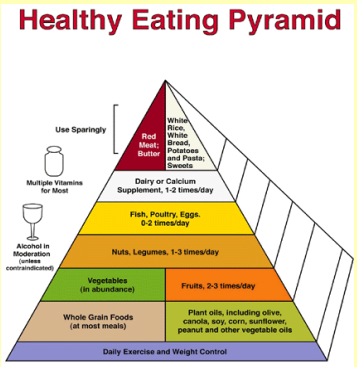
MyPyramid Food Guidance System (2005)

Learning how to use MyPyramid



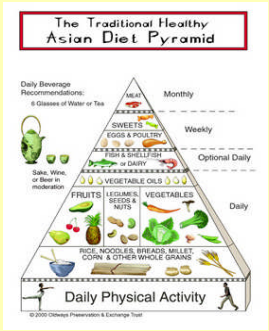
Other Pyramids

Harvard's

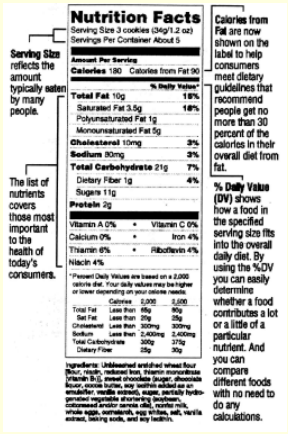


Vegetarian & Asian

(Oldways at www.oldwayspt.org/)



Portion Awareness



FOOD LABELS

- Calculating % of calories from fat:
- 1. Take grams of FAT x 9 cal/g.
- 2. Divide this number by Total Calories
- For example @ left:
  - 10 x 9 = 90
  - 90 ÷ 180= 50%

ERGOGENIC AIDS

- SUPPLEMENT ACT OF 1994: MANUFACTURERS CAN MAKE ANY CLAIM THEY WISH AS LONG AS IT DOES NOT CURE DISEASE!

ERGOGENIC AIDS

- 1. Are there documented benefits?
- 2. Do these benefits outweigh all risks involved?

FACT

- Half of Americans agree that CONVENIENCE is the key to the choices they make when grabbing a quick snack. (NPD Group)

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HOT TOPICS

- Omega 3: marine, flaxseed, fish, olive oil (2003 vs. 2004)
- Reduce high bp, anti-inflammatory, decrease triglyceride, reduce atherosclerosis
- whiter fish excepting tuna (haddock, cod, bream, trout, farmed sea bass)

HOT TOPICS

- Stanol/Sterol Esters
- Plant sterols from pine trees and stanols
- Sept 2000: FDA permission plant sterol/ stanol esters reduce CHD
- Stanols: ***Benecol (McNeil) Stanol, Stanol + Sterol
- Sterols: Take Control (Lipton)
- FDA: sterols .65 g per serving and 1.7 g of stanol esters

HOT TOPICS

- SOY
  - Can lower high blood chl by 10-15%
  - 25g soy protein per day may lower cholesterol
  - Approx: 1 c cooked soybeans
  - ½ c roasted soy nuts
  - 3 c soymilk

HOT TOPICS

- CAFFEINE
  - Can help release fat from adipose cells in small amounts

HOT TOPICS

LABELS:

- FREE: *"trivial, small"*
- LOW: *" low _____, specifically defined"*
- REDUCED: *at least 25% less fat, sfat, chol, or NA that comparable food*
- HIGH: *20% or greater than Daily Value*
- GOOD SOURCE: *10 to 19% of Daily Value*
- LIGHT: *1/3 fewer calories or 50% less fat*
- HEALTHY: *low in fat and sfat, 480 mg or less*
- LEAN: *less than 10g total fat, 4.5 g or less sfat*

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FACT

- Half of Americans agree that CONVENIENCE is the key to the choices they make when grabbing a quick snack. (NPD Group)

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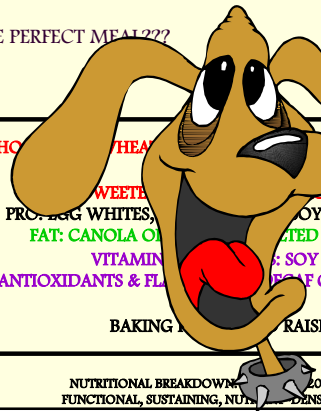
NUTRITIONAL ANALYSIS SHEET

THE PERFECT MEAL???

CHO: WHOLE WHEAT FLOUR, AMARANTH, QUINOA, SOY, 100% BRAN FLAKES
CHO AS SWEETENER: MANGOS, OJ FROM CONCENTRATE
PRO: EGG WHITES, SPIRULINA, LITE SOY MILK (EMULSIFIER)
FAT: CANOLA OIL, GROUND SALTED PEANUT BUTTER
VITAMINS & MINERALS: SOY YOGURT
ANTIOXIDANTS & FLAVONOIDS: DECAF GREEN TEA EXTRACT, (MANGO/OJ)
BAKING POWDER TO RAISE IT UP

NUTRITIONAL ANALYSIS SHEET

THE PERFECT MEAL???



NUTRITIONAL BREAKDOWN: 60% CHO, 20% FAT, 20% PRO
FUNCTIONAL, SUSTAINING, NUTRIENT DENSE SNACK SOURCE

FURTHER INFORMATION:

- www.findlawrence.com
- www.fda.gov *The Food and Drug Adm*
- vm.cfsan.fda.gov/~dms *ering System*
- www.eatright.org *ation*
- www.ameri *merican Heart Association*
- www. *merican Cancer Society*
- .org *Non-profit Food Allergy Network*
- ator.tufts.edu *University Nutrition Navigator*
- w nal.usda.gov/fnic *Food Pyramid Information*

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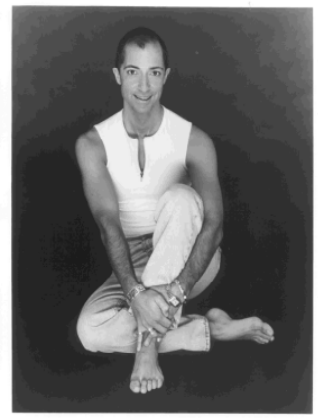
- Lawrence's "Alive & Well" MILLENNIUM MUFFINS
- 2.5 CUPS: WHOLE WHEAT FLOUR, 3 TBSPS AMARANTH, 3 TBSPS QUINOA, ½ CUP 100% BRAN FLAKES CEREAL
- ½ CUP CHOPPED MANGOS
- 1-1 ½ C OJ FROM CONCENTRATE AS NEEDED (DEPENDS ON HUMIDITY OF DRY INGREDIENTS: TRY 1 CUP OJ TO START)
- ¼ C LITE SOY MILK
- 6 -10 EGG WHITES, slightly beaten first
- 5 TBSPS SPIRULINA POWDER,
- 3 TBSPS CANOLA OIL,
- ¼-1/2 CUP GROUND SALTED PEANUT BUTTER
- VITAMINS & MINERALS: SOY YOGURT
- 5 TSPS DECAF GREEN TEA EXTRACT, (MANGO/OJ)
- 3 TBSPS BAKING POWDER
- TOP W/ SHREDDED MANGO OR CHOPPED NUTS OR BOTH. MIXTURE SHOULD BE LUMPY AND MOIST; ADD WATER OR SOYMILK AS NEEDED. BAKE 20-40 MINUTES (OR UNTIL TOOTHPICK INSERTED IN CENTER PULLS OUT CLEAN AND DRY) UNITL GOLDEN BROWN AT 350 DEGREES
- NOTE: Mix shouldn't be too moist or dry; avoid overmixing ingredients. Add more or less flour depending on consistency and quality of your ingredients.
- COOL ON WIRE RACK



"Namaste"

Take-home message

Homework

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