

THE COMPONENTS OF WELLNESS

MAIB1030

Marine Corps Martial Arts Program

OVERVIEW

- Proper Nutrition
- Healthy Weight Management
- Nutrition for Performance
- Musculoskeletal Injuries
- Injury Prevention
- Injury Care



PROPER NUTRITION

Basic Foods and Functions

PROPER NUTRITION

Basic Foods and Functions

- Carbohydrates
 - Proteins
 - Fats
 - Vitamins
 - Minerals
 - Fluids
- energy essential
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PROPER NUTRITION

Carbohydrates

- Primary energy source
- Up to 50% of caloric intake
- Glucose: stored as glycogen or fat
- Simple: candy, soda, honey, jelly, fruits
- Complex: pasta, bread, rice, vegetables
- 1 gram = 4 Cal

PROPER NUTRITION

Proteins

- Builds and repairs muscles
- Plant and animal sources
- Beef, fish, chicken, vegetables, nuts
- 1 gram = 4 Cal

PROPER NUTRITION

Fats

- Stored energy
- Dietary fats
 - Saturated: animal products, solid
 - Unsaturated: vegetable products, liquid
- Essential fatty acids
- 1 gram = 9 Cal

PROPER NUTRITION

Vitamins

- Body cannot produce vitamins
- Fat-soluble
 - A, D, E, K
- Water-soluble
 - B, C
- Daily multi-vitamin
- Over doses damage liver & kidneys

PROPER NUTRITION

Minerals

- Essential functions of the body
- Major (>5g)
 - Phosphorous, calcium, potassium, magnesium, sulfur, sodium and chloride
- Trace (<5g)
 - Iron, iodine, copper, zinc, fluorine, selenium, manganese, molybdenum and chromium

PROPER NUTRITION

Fluids

- Vital nutrient
- Lubricate cells
- Transport nutrients
- Regulate body temperature
- Urine color indicator

PROPER NUTRITION

Nutrition Labels

- Serving size
 - Can be misleading
- Daily value
 - 2000 calorie diet
- Fat percentages
 - $\text{Fat calories} / \text{total calories} (x100)$
- Ingredients
 - Ordered by weight

PROPER NUTRITION

Nutrition Facts

Serving Size 1 cup (228g)

Servings per Container 2

Amount Per Serving

Calories 280

Calories from Fat 120

% Daily Value*

Total Fat 13g 20%

Saturated Fat 5g 25%

Trans Fat 2g

Cholesterol 2mg 10%

Sodium 660mg 28%

Total Carbohydrate 31g 10%

Dietary Fiber 3g 0%

Sugars 5g

Protein 5g

Vitamin A 4%

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Vitamin C 2%

Calcium 15%

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Iron 4%

*Percent Daily Values are based on a 2,000-calorie diet. Your daily values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Fiber		25g	30g

Calories per gram:

Fat 9

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Carbohydrate 4

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Protein 4





HEALTHY WEIGHT MANAGEMENT

Body Weight

HEALTHY WEIGHT MANAGEMENT

Body Weight

- Can be misleading
- Total weight = lean body mass + fat mass

Percentage Body Fat

- Many measuring methods
- Marine Corps Body Composition Program

HEALTHY WEIGHT MANAGEMENT

Low Calorie Diet

- Common mistake
- Future weight gain
- Lose more LBM than fat
- Slows the metabolism
- Cycle on / off weight control

HEALTHY WEIGHT MANAGEMENT

Weight Management Program

- Proper nutrition
 - Energy balance: $\text{energy in} = \text{energy out}$
- Physical training
 - Personalized goals
- Behavioral changes
 - Identify problems
 - Modify over time

HEALTHY WEIGHT MANAGEMENT

Gaining Lean Body Mass

- Nutritional guidance
 - Increased calories
 - Adequate protein
- Physical training guidance
 - Resistance training
 - Overload
 - FITT factors

HEALTHY WEIGHT MANAGEMENT

Losing Body Fat

- Nutritional guidance
 - Nutrition education
 - Proper nutrition vs. empty calories
- Physical training guidance
 - Aerobic exercise
 - Large muscle groups
 - Resistance training





NUTRITION FOR PERFORMANCE

NUTRITION FOR PERFORMANCE

Carbohydrate Loading

- “Eat pasta the night before” (wrong)
- At least 2-3 days prior
- Sustained carbs
- Decreased activity
- Problems for Marines
 - Marines do not control the training schedule
 - Always eat sufficient carbs instead

NUTRITION FOR PERFORMANCE

Pre-Activity

- Provide energy
- Minimize gastrointestinal distress
- Avoid hunger & fatigue
- Sufficient carbohydrates
 - 1 hour prior
- Sufficient fluids
 - 15 minute prior

During Activity

NUTRITION FOR PERFORMANCE

During Activity

- Only water if <60 minutes
- Sports drinks if >60 minutes
- 3-4 oz. every 10-15 minutes

After Activity

- Carbohydrates to refuel
- Protein to rebuild
- 16 oz. water / lb. lost





MUSCULOSKELETAL INJURIES

MUSCULOSKELTAL INJURIES

Injury Classifications

- Acute injuries
 - Sprains (ligaments)
 - Strains (muscles & tendons)
 - Fractures (bones)
 - Dislocations (joints)
 - Blisters
- Class 1, 2, 3

MUSCULOSKELTAL INJURIES

Injury Classifications

- Chronic injuries
 - Tendonitis
 - Sprains & strains
 - Stress fractures
 - Shin splints
 - Lower back injuries

MUSCULOSKELTAL INJURIES

Injury Risk Factors

- Extrinsic factors
 - Training errors & types
 - Environmental conditions
 - Equipment & technique
- Intrinsic factors
 - Flexibility
 - Physical fitness
 - Inadequate rehabilitation



QUESTIONS?



INJURY PREVENTION

INJURY PREVENTION

- Progression of training
- Individualization of training
- Warm-up
- Cool-down
- Stretching

Continued

INJURY PREVENTION

- Protective equipment
- Proper lifting techniques
- Proper exercise biomechanics
- Monitoring warning signs of injury
- Proactive injury prevention strategy





INJURY CARE

Acute Injury Care (initial care)

- Decrease pain
- Limit swelling
- Prevent further injury
- R.I.C.E.
 - Rest
 - Ice
 - Compression
 - Elevation

INJURY CARE

Chronic Injury Care

- Overuse injury
 - Soft tissue vs. skeletal (R.I.C.E.)
- Muscle strain
 - 3 weeks to 3 months
 - Flexibility & strength
- Back injury
 - Sprains & strains
 - Rest, ice, medication

INJURY CARE

Rehabilitation

- Continual care
 - Heat (2-3 days later)
 - Anti-inflammatory medication
- Restore range of motion
 - Begin ASAP
 - Passive & active stretching
- Restore strength
 - Injury specific isometric exercises
- Return to physical training



REVIEW

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