

# Well Being of the Paramedic

2006 Edition

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## Wellness

- Two main components
  - Physical well being
  - Mental and emotional well being
- Lifestyle changes can enhance personal wellness

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## Physical Well Being

- Good nutrition
- Physical fitness
- Adequate sleep
- Prevention of disease and injury

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## Nutrition

- Six categories of nutrients
  - Carbohydrates
  - Fats
  - Proteins
  - Vitamins
  - Minerals
  - Water

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## Carbohydrates

- Primarily obtained from plant foods
- Plants store carbohydrates as starch
- Composed of Hydrogen, Oxygen and Carbon

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## Fats

- Are mixtures of three different types of fatty acids:
  - Saturated
  - Polyunsaturated
  - Monounsaturated
- Saturated raise the blood cholesterol levels
- Polyunsaturated helps rid newly formed cholesterol
- Monounsaturated may decrease blood cholesterol levels
- Can be used as an alternative energy source

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## Cholesterol

- Odorless soft waxy substance heavily concentrated in fat and poultry skin
- Manufactured in the liver and carried where needed
- Travels in different sized fat carrying packages called lipoproteins

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## Lipoproteins

- Low-density lipoproteins LDL's
  - "Bad Cholesterol"
  - Transports cholesterol from liver to where it is needed
  - Carries most of the cholesterol in blood
- High-density lipoproteins HDL's
  - "Good Cholesterol"
  - Carry cholesterol back to the liver for reprocessing or removal
  - Often called good cholesterol
  - Can be cardio protective at higher levels

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## Lipoproteins

- Very low-density lipoproteins VLDL's
  - Consist mostly of triglycerides (the main fatty substance in the fluid portion of the blood) that are absorbed by the intestines
  - Affected by fasting

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## Proteins

- Composed of :
  - Hydrogen
  - Oxygen
  - Carbon
  - Nitrogen
- Essential to building body tissue during growth, maintenance and repair
- Broken down into amino acids during digestion
- Can be used as an alternate source of energy if needed

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## Vitamins

- Organic substance that is present in small amounts
- Need to be obtained from outside source (food or supplements)
- *Body does not create them*
- Classified as water or fat soluble
  - Water soluble
    - Cannot be stored in the body and must be provided in daily diet

*Vitamin C and B complex*

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## Vitamins

- Fat soluble
  - Vitamins A, D, E, and K
  - Can be stored in the body

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## Minerals

- Inorganic elements that play an essential role in biochemical reactions in the body
- Include calcium, chromium, iron, magnesium, potassium, sodium, zinc
- Obtained through diet

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## Water

- Most important nutrient as cellular function depends on fluid environment
- Important body “chemicals” are dissolved in water...
- **Composes 50% to 60% of total body weight**
- Obtained through consumption of liquids and fruits and vegetables

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## Major Food Groups

- Meat, fish, poultry
- Grains
- Dairy products
- Fruits
- vegetables

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## Principles of Weight Control

- Ideal weight controversial
- Should be used as a guide
- Principles include
  - Right balance of foods in moderation
  - Limit fat consumption to 65 grams or less
  - Regular exercise

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## Principles of Weight Control

- Behavior modification
  - **Realistic goals**
  - Commit to change
  - Exercise
  - Healthy eating
  - Analyzing progress
  - **Extreme measures don't work!**

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## Principles of Weight Control

- Physical fitness
  - Condition that helps one to look, feel, and do their best
  - Individual and varies from person to person
  - Influenced by age, gender, heredity, personal habits, exercise, and eating habits

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## Principles of Weight Control

- Benefits
  - **Decrease in resting heart rate and blood pressure**
  - **Increase in oxygen carrying capacity**
  - **Enhanced quality of life**
  - Increase in muscle mass and metabolism
  - Increased resistance to injury
  - Improved appearance and self-image
  - **Maintenance of motor skills throughout life**

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## Endurance

- Cardiovascular
  - Heart rate target zone
- Muscular strength and endurance
  - Ability of a muscle to exert force for a brief period of time
  - Ability of muscle to sustain repeated contractions or to continue applying force against a fixed object

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## Endurance

- Training for strength and endurance should include;
  - Isometric and isotonic exercise
  - Resistance
  - Repetitions
  - Frequency

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## Flexibility

- Flexibility refers to the ability to move joints and use muscles through their full range of motion
- Principles of muscular flexibility;
  - Intensity of exercise
  - Repetitions
  - Frequency
- Prevention and rehabilitation of back pain

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## Sleep

- Sleep deprivation
- Disruption of “circadian timing system”
- Leads to;
  - Irritability
  - Depression
  - Physical illness

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## Disease Prevention

- Serve as role models in disease prevention
  - Eliminate smoking
  - Controlling hypertension
  - Regular exercise
  - Monitor cholesterol
  - Reducing stress
  - Periodic health assessment

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## Injury Prevention

- Minimize job-related injuries by knowing about;
  - Body mechanics during lifting
    - How to lift and how not to lift
  - Alert to hostile settings
  - Personal safety during rescue situations
  - Safe vehicle operations
  - Safety equipment and supplies

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## Mental and Emotional Health

- Substance abuse/misuse control
  - Addiction
    - Misuse/abuse can lead to chemical dependency
  - Warning signs include;
    - Using a substance to relieve tension
    - Using an increased amount of substance
    - Lying about using
    - Guilt about using
    - Interference with daily activities

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## Mental and Emotional Health

- Smoking
  - Health ramifications
    - Risk of heart disease
    - Risk of MI
    - Risk of sudden death
    - Risk of pulmonary diseases
    - Risk of miscarriage, premature birth, birth defects

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## Mental and Emotional Health

- Why people smoke
  - Peer pressure
  - Stress relief
  - Weight control
  - Addiction to nicotine
- Cessation of smoking
  - Support groups
  - Use of prescription drugs
  - Use of non-prescription drugs
- **SELF CONTROL IS THE KEY!**

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## Anxiety and Stress

- Stress results from the interaction of events (environmental stimuli) and the adjustive capabilities of the individual
  - Usually seen as generating a negative effect (fear, depression, guilt etc.)
  - Can be experienced with positive effects
- *Anxiety* is uneasiness or dread about future uncertainties
- *Eustress* is good stress – response to a positive stimuli and is considered protective

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## Anxiety and Stress

- Distress is bad stress – a negative response to environmental stimuli and is the source of anxiety and stress related disorders
- Recognizing and effective coping is important for career longevity
- Personal time for meditation can enhance mental and or physical health

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## Phases of Stress

- Three stages of stress response
  - Alarm reaction
  - Resistance
  - Exhaustion
- Alarm reaction
  - Fight or flight phenomenon
  - Is considered positive
  - Prepares the individual to be alert and defend self

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## Phases of Stress

- **Resistance**
  - Stress response raises the level of resistance to what provokes it
  - If the stress persists, reactions to stress may change
- **Exhaustion**
  - As stress continues, coping mechanisms are exhausted
  - Adaptive resources are used
  - Resistance to all stressors decline
  - Leads to susceptibility to physical and psychological ailments

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## Phases of Stress

- Factors that trigger stress response;
  - Loss of something of value
  - Injury or threat of injury
  - Poor health or nutrition
  - Frustration
  - Ineffective coping skills

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## Effects of Stress

- Normal anxiety
  - Feeling anxious in some situations is a normal reaction
  - Protects a person from being overwhelmed and helpless
  - This adaptive response allows paramedics to;
    - Make quick, appropriate decisions
    - Perform at maximum efficiency
  - Detrimental reactions to anxiety/stress
    - Anxiety that is not reduced effectively may lead to a decreased mental efficiency
    - Chronic anxiety fails to stimulate effective coping behavior

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## Effects of Stress

- May interfere with thought process, personal relationships, and work performance
  - Problem concentrating
  - Lost ability to trust others
  - Isolated or withdrawn behaviors
- Physical effects;
  - Heart palpitations
  - Difficulty breathing
  - Chest tightness/pain
  - Flushing/diaphoresis
  - Frequent urination
  - Aching muscles and joints

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## Effects of Stress

- Person may be unaware of;
  - Increased B/P and heart rate
  - Increased blood glucose
  - Increased adrenalin
  - Pupillary dilation
- Warning signs and symptoms;
  - Physical
  - C/P
  - SOB
  - N/V
  - Sleep disturbances
  - headache

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## Effects of Stress

- Emotional
  - Panic reactions
  - Fear
  - Anger
  - Denial
  - Feeling overwhelmed
- Cognitive
  - Difficulty making decisions
  - Disorientation, decreased level of awareness
  - Memory problems, poor concentration
  - Distressing dreams

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## Effects of Stress

- Behavioral
  - Crying spells
  - Hyperactivity
  - Withdrawal
  - Changes in eating habits
  - Increased smoking
  - Increased alcohol consumption
- Causes of stress in EMS
  - Environmental
    - Noise
    - inclement weather
    - **Life and death decision making**

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## Reaction to Stress

- Beneficial coping mechanisms
  - Regular exercise
  - Ability to find humorous aspects in personal crisis
  - "talking through" stressful situations
- Negative coping mechanisms
  - Becoming withdrawn or using alcohol or drugs
  - Angry outbursts
  - Silence
- Problem solving – viewed as a healthy approach to everyday concerns. Involves problem analysis, options for action, course of action.

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## Reaction to Stress

- **Mastery** – the ability to see multiple options and potential solutions for challenging situations. Results from extensive experience and the use of effective coping mechanisms. May be difficult to achieve

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## Death, Dying, and Grief

- Patient and family needs are to be considered
- Stages of the grieving process
  - Denial
  - Anger
  - Bargaining
  - Depression
  - Acceptance

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## Death, Dying, and Grief

- Conveying news to family members
  - Gather family in private area and advise them of the patients death providing a brief description of the circumstances causing the death
  - Convey your feelings with a phrase like “you have our sincere sympathy”
  - Be compassionate, and allow time for news to be absorbed and for questions to be asked
- **Help them with whatever you can!**

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## Injury Prevention

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## Epidemiology

- Unintentional injuries are the leading cause of death among all persons age 1-33
- Injury-related deaths are the fifth leading cause of death overall
- In 1988, there were more than 92,000 injury-related deaths

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## Morbidity and Mortality

- Unintentional injuries result in more years of potential life lost before the age of 65 than any other cause of death
- Economic impact was \$480.5 billion in 98
- Loss of quality of life was valued at an additional \$1,087.2 billion
- About 42% of ER visits are injury related
- There are about 19 hospitalizations and 254 ED visits per each injury related death

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## General Terms and Definitions

- **Injury** – intentional or unintentional damage resulting from acute exposure to thermal, mechanical, electrical or chemical energy or from the absence of heat or oxygen
- **Injury risk** – real or potentially hazardous situations that put individuals at risk for sustaining injury
- **Injury surveillance** – ongoing assessment, collection, analysis and interpretation of data essential to the planning, implementation, and evaluation of public health practice. Prevention and control is the final link in the surveillance chain

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## General Terms and Definitions

- **Primary injury prevention** – keeping an injury from ever occurring
- **Secondary and tertiary prevention** – care and rehabilitation activities that prevent further problems from an event that has already occurred
- **Teachable moment** – time after an injury has occurred when the patient and observers are acutely aware of what has happened and may be more receptive to teaching about prevention of such injury

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## EMS Provider Characteristics

- Often reflect the composition of the community
- May be most highly trained medical person in a rural setting
- High profile role models
- Welcome in home, schools, and other environments
- Often considered authority
- Often first to identify situations that pose risk

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## Essential Provider Activities

- Education
- Implement primary personal injury prevention strategies
  - Wellness – exercise and conditioning. Management of stress
  - Safe driving – driving techniques. Restraints, PPE, approach to scene, driving without drinking
  - Scene safety precautions – availability and use of police. Traffic control
  - Lifting and moving techniques
  - Recognize hazards

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## Prevention Strategies

- Patient care consideration
  - Recognize S/S of abuse and abuse situations with goal to resolve conflict
  - Recognize S/S of exposure to danger
  - Recognize need for outside resources
  - Documentation
  - On-scene education

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## Participation in Prevention Programs

- Community health intervention
  - Primary – prevent problems before they occur
  - Secondary – find problems and intervene early (B/P screening)
  - Tertiary – correct and prevent further deterioration

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## Participation in Prevention Programs

- Community health education
- Need to be able to communicate with various ethnicities, cultures, religions, the learning disabled, and the physically challenged.
- Methods of providing education programs;
  - Verbal
  - Lectures
  - Informational discussions
  - Informal teaching
  - Audio/video tapes
  - Radio programs

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## Today's scenario

**You are called to the home of a 33 YO male lying in bed c/o abdominal pain for 2 days.**

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