Objectives

- Describe components and benefits of wellness
- Discuss paramedic’s role in promoting wellness
- Outline benefits of healthy lifestyle choices
- Identify risk factors and signs of cancer and cardiovascular disease

Objectives

- Identify measures to reduce work-related injury/illness
- List signs and symptoms of addiction/addictive behavior
- Identify normal/abnormal anxiety and stress reactions
- Give examples of stress-reduction techniques
- Outline 10 components of CISM
Objectives

- Identify therapeutic actions to care for those affected by death or dying
- List measures to reduce infectious disease exposure
- Outline steps to take after significant exposure to blood or body fluids

Scenario

Your partner seems stressed out lately and has been smoking and drinking a lot. His uniform is pulled tight due to his increasing weight. As you carry a patient down from the second floor of a building, he struggles to catch his breath and breaks out in a sweat. Moments later, two ambulances are responding to your location—one to assume care of your patient, the other to help your now critically ill partner.

Discussion

- Might your partner’s lifestyle have contributed to his illness?
- Could his physical condition create a hazard for you or your patients?
- Does he exhibit some unhealthy responses to stress?
- What measures may have helped him before his acute illness?
Wellness Components

- Physical well-being
- Mental and emotional health

Physical Well-Being

- Several factors play a major role in maintaining physical health:
  - Good nutrition
  - Physical fitness
  - Adequate sleep
- Prevention of disease and injury

Nutrition

- Nutrients
  - Foods having elements needed for bodily function
- Six categories
  - Carbohydrates
  - Fats
  - Proteins
  - Vitamins
  - Minerals
  - Water
**Carbohydrates**
- Carbon, hydrogen, and oxygen
  - Obtained from plant foods
    - Plants store carbohydrates as starch
      - Easier to digest than raw, uncooked starches
  - Only important source of animal carbohydrate is lactose (milk sugar)

**Fats and Fatty Acids**
- Fats are present in food as three types of fatty acids:
  - Saturated
  - Polyunsaturated
  - Monounsaturated
- Fats differ in chemical makeup and in the types of foods in which they appear

**Fats and Fatty Acids**
- Saturated fats
- Polyunsaturated fats
- Monounsaturated fats
- Trans fats
Saturated Fats

- Found in
  - Meat
  - Dairy products
  - Some vegetable fats
- Raise cholesterol levels

Unsaturated Fats

- Divided into
  - Polyunsaturated fats
  - Monounsaturated fats

Polyunsaturated Fats

- Sources:
  - Safflower oil
  - Sunflower oil
  - Corn oil
  - Soybean oil
  - Cottonseed oil
  - Fish such as tuna, salmon, and mackerel
- Help rid body of newly formed cholesterol
Monounsaturated Fats

- May reduce cholesterol levels

- Examples
  - Vegetable oil
  - Canola oil
  - Olive oil

Trans Fats

- "Hidden fat"
  - Foods made with partially hydrogenated oils:
    - Baked goods
    - Fried foods
    - Some margarine products

Proteins

- Hydrogen, oxygen, carbon, and nitrogen
  - Most also contain sulfur and phosphorus

- Essential for growth, maintenance, repair of body tissue

- Digestion breaks protein down into amino acids
  - Essential or nonessential
Amino Acids

- Essential amino acids
  - Needed for body growth and cellular life
  - Obtained in food; are not produced in the body

- Nonessential amino acids
  - Not needed for body health and growth
  - Can be manufactured in the body

Proteins/Amino Acids

- Complete proteins contain all essential amino acids
  - Meats and dairy products

- Incomplete proteins are missing one or more essential amino acids
  - Grains and vegetables

- Proteins can be used as energy source

Vitamins

- Organic substances present in food in minute amounts

- Essential for metabolism
  - Body cannot produce in adequate amounts
    - Must obtain in food or supplements

- Classified as
  - Water soluble
  - Fat soluble
Water-Soluble Vitamins

- Vitamin C and B complexes contain eight
- Cannot be stored in the body
- Must be provided by daily diet

Fat-Soluble Vitamins

- Vitamins A, D, E, and K
- Can be stored in the body
  - Daily dietary intake not required

Minerals

- Inorganic elements
  - Include calcium, chromium, iron, magnesium, potassium, selenium, sodium, and zinc
- Essential role in biochemical reactions
- Obtained through diet
Water

• Most important nutrient
  - Accounts for 50% to 60% of total body weight
    - Infants have the highest percentage
    - Older adults have the lowest

• Produced by food oxidation during digestion

• Cellular function depends on fluid environment

• Obtained through consumption of liquids, fresh fruits, and vegetables

Dietary Guidelines

• Achieve a healthy body weight:
  - Engage in physical activity that balances caloric intake
  - Limit foods high in calories and/or low in nutritional quality

• Achieve a desirable cholesterol level:
  - Limit foods high in saturated fat and cholesterol
    - Substitute grains and unsaturated fat
  - Limit cholesterol to 300 mg/day for most; 200 mg/day for those with high-risk factors

• Choose a balanced diet:
  - Variety of fruits, vegetables, and grains
  - 5 daily servings of fruits and vegetables
  - 6 daily servings of grains, including whole grains
  - Fat-free and low-fat products
    - Fish
    - Legumes
    - Poultry
    - Lean meats
  - At least 2 servings of fish per week
Dietary Guidelines

• Achieve a healthy body weight
  ➢ Maintain a level of physical activity balanced with caloric intake
  ➢ Limit foods high in calories and/or low nutritional quality

• Achieve a desirable cholesterol level
  ➢ Limit foods with high saturated fat and cholesterol
    - <300 mg/day – general population; 200 mg/day – risk factors
    - Substitute with grains and unsaturated fat

Principles of Weight Control

• Overweight at greater risk for
  ➢ High blood pressure
  ➢ Diabetes mellitus
  ➢ Heart disease
  ➢ Some cancers
  ➢ Other illnesses

• Follow current guidelines for nutritional health

Principles of Weight Control

• Balance of foods in moderation

• No more than 65 grams of fat per day in a 2000-calorie diet

• Weight loss goal ½-1 pound per week

• Avoid/limit alcoholic beverage intake

• Exercise regularly
Physical Fitness

• Helps people look, feel, and do their best
• Varies from person to person
• Influenced by
  - Age
  - Gender
  - Heredity
  - Personal habits
  - Exercise
  - Eating habits

Benefits of Physical Fitness

• Decreased resting heart rate
• Decreased blood pressure
• Increased oxygen-carrying capacity
• Enhanced quality of life
• Increased muscle mass and metabolism
• Increase resistance to injury
• Improved self-image
• Maintenance of motor skills

Complete Physical Exam

• Should include
  - Cardiovascular endurance
  - Muscle strength
  - Muscular flexibility
Importance of Sleep

- Normal 7-8 hours/day
- Sleep deprivation
- Disruption of circadian timing system
  - Body’s physiological ebb and flow
  - Based roughly on the solar day
  - Shift work disruptions of biorhythms

Sleep Strategies

- Allow time to unwind
- Exercise
- Avoid stimulants
- Eat simple carbohydrates
- Cool dark sleep area
- Avoid interruptions
- Dedicated sleep time
- See doctor, if needed

Cardiovascular Disease Risk Reduction

- Stop smoking
- Control BP
- Normal body fat
- Cholesterol control
- Reduce stress
- Eat healthy foods
- Monitor triglycerides
- Control diabetes
- Avoid excess alcohol
- Periodic risk assessment

Cancer

- More than 100 diseases
- Affects nearly every part of the body
  - All are potentially life threatening
- Change, or mutation, in cellular nucleus
- Often linked to one of three risk factors:
  - Smoking
  - Sunlight
  - Diet

Steps in Cancer Prevention

- Eliminate smoking
- Make dietary changes
- Minimize sun exposure; use sunscreen
- Regular physical examinations
- Watch for warning signs
- Periodic risk assessment

Cancer Warning Signs

- Change in bowel or bladder habits
- A sore throat that does not heal
- Unusual bleeding or discharge
- Thickening or lump in breast or elsewhere
- Indigestion or difficulty swallowing
- Obvious change in wart or mole
- Nagging cough or hoarseness

Source: The American Cancer Society
Infectious Disease

- Good hygiene
- Engineering and work practices
- Report exposure promptly
- Periodic risk assessment

Personal Protective Equipment

- Gloves for blood/body fluid contact
- Masks/protective eyewear for splash risk
- Gowns to protect from spurring blood
- HEPA N-95 respirators for risk of TB

Injury Prevention

- Job-related injuries can be reduced by
  - Use of good body mechanics
  - Being alert for hostile environments
  - Prioritizing personal safety during rescues
  - Practicing safe vehicle operation
  - Using safety equipment and supplies
Body Mechanics During Lifting and Moving

- Only move a victim you can safely handle
- Get additional help if needed
- Look where you’re walking or crawling
- Move forward if possible
- Take short steps
- Bend at hips and knees
- Lift with legs, not back
- Keep load close to the body
- Keep patient’s body in line when moving

Hostile Environments

- Evaluate scene for safety concerns
  - Do not enter until it is safe
- Coordinate activities with law enforcement personnel
- Follow protocols for establishing Medical Incident Command
- Plan entrance and escape route(s)
- Be prepared for the unexpected

Rescue Situations

- Examples
- Essential actions
- Initial scene assessment
- Safety principles
  - Appropriate use of protective gear
  - Specialized training
  - Safe rescue practices
Safe Vehicle Operation

- Safe vehicle driving
- Safe use of escorts to and from scenes
- Adverse environmental conditions
- Appropriate use of warning devices
- Proceeding through intersections safely
- Parking at emergency scene
- "Due regard" for safety of others

Safety Equipment and Supplies

- Appropriate use of safety equipment and supplies
- OSHA, NFPA protective clothing and equipment standards
  - Used to ensure employee safety

Safety Equipment and Supplies

- Body substance isolation equipment
- Head protection
- Eye protection
- Hearing protection
- Respiratory protection
- Gloves
- Boots
- Coveralls
- Turnout coat/pants
- Specialty equipment
Mental and Emotional Health

- Value of personal time
- Connection with family, peers, and community
- Accepting unique personal differences
- Watch for warning signs

Substance Misuse/Abuse Control

- Misuse/abuse of drugs and other substances may lead to chemical dependency (addiction) with a wide range of effects on physical and mental health

Warning Signs of Addiction and Addictive Behavior

- Using a substance to relieve tension
- Using an increasing amount of the substance
- Lying about using the substance
- Experiencing guilt about substance use
- Avoiding discussion about substance use
- Substance use affects daily activities
Substance Abuse Management

- Depends on type of substance misused
- May include a combination of
  - Professional counseling
  - Physician-controlled medication therapy
  - Support programs

Cigarette Smoking

- Health implications
  - CHD
  - MI
  - Sudden death
  - Pulmonary disease deaths
  - Pregnancy complications
- Reasons people smoke
- Smoking cessation resources

Anxiety and Stress

- Anxiety
  - Uneasiness or dread of future events
- Stress
  - Interaction of anxiety-producing events and coping abilities of individual
  - May generate negative effects
  - Also experienced with positive events
Meditation and Contemplation

- Personal time for meditation and contemplation can greatly enhance health
- In meditation, focus is limited to constant focus
- Uninterrupted time for thought

Spirituality

- A unique characteristic of human existence
- May be an effective means for some to achieve mental and physical well-being

Family, Peer, and Community Connections

- Belonging to groups can have positive effect on person’s motivation and performance
- People tend to associate with others most like themselves
- Groups provide a "connection" with people who share values and interests
Freedom from Prejudice

- Accepting cultural differences allows individuals to
  - Learn about other cultures
  - See cultural variations in a positive light
  - Affirm the values of these differences

Stress

- Eustress
  - “Good stress”
  - Response to positive stimuli
  - Protective

- Distress
  - “Bad stress”
  - A negative response to stimulus
  - Source of anxiety/stress disorders
**Alarm Reaction**

- "Fight or flight" phenomenon
  - Occurs when any emergency situation threatens one’s safety or comfort
  - Is considered positive (eustress)
  - Prepared to be alert and to defend self

- Mediated by autonomic nervous system
- Coordinated by hypothalamus
- Pituitary gland releases ACTH
  - Adrenalin, noradrenaline released
- Physiologic responses
  - Reaction takes seconds
  - Stops if body senses event is not dangerous
- Individual adapts to situation

**Resistance**

- Level of resistance to the stressful agent increased
- If stress persists, reactions to stress may change
- Example
  - Reaction to emergency response with lights and sirens

Exhaustion

• Coping mechanisms are exhausted
• Adaptive resources used
• Resistance to all stressors declines
• Susceptible to physical and psychological illness
• Rest and recovery are needed

Factors that Trigger the Stress Response

• Loss of something of value
• Injury or threat of injury
• Poor health or nutrition
• Frustration
• Ineffective coping skills
• Others

Physiological and Psychological Effects of Stress

• Some anxiety normal
• Prepares us for action
• Chronic anxiety can
  ▸ Interfere with thought process, personal relationships, work
  ▸ Cause person to lose ability to trust others, become isolated, withdrawn
**Physical Effects of Anxiety/Stress**

- Heart palpitations
- Rapid breathing
- Dry mouth
- Chest tightness/pain
- Anorexia
- Headache
- Flushing, diaphoresis
- Frequent urination
- Dysmenorrhea
- Aching muscles
- Backache

**Physical Effects of Anxiety/Stress**

- Increased BP and heart rate
- Blood shunting to muscles
- Increased blood glucose
- Increased adrenalin
- Reduced GI peristalsis
- Pupillary dilation

**Warning Signs and Symptoms of Stress**

- Physical
- Emotional
- Cognitive
- Behavioral
Causes of Stress in EMS

- Environmental stress
  - Noise
  - Inclement weather conditions
  - Confined work spaces
  - Poor scene lighting
  - Spectators
  - Rapid scene response
  - Life-and-death decision making

- Psychosocial stress
  - Family relationships
  - Conflicts with coworkers
  - Abusive patients

- Personality stress
  - Need to be liked
  - Personal expectations
  - Feelings of guilt and anxiety

Reactions to Stress

- Reactions to stress based on
  - Previous exposure to a specific type of stress
  - Perception of the stressful event
  - Personal coping skills
Adaptation
- Process of learning successful ways to deal with stressful situations
- Often begins with defense mechanisms
- Coping skills then developed
- Followed by problem solving
- Culminating in mastery

Defense Mechanisms
- Repression
- Regression
- Projection
- Rationalization
- Compensation
- Reaction formation
- Sublimation
- Denial
- Substitution
- Isolation

Stress Management Techniques
- Methods used to initially manage stress include
  - Reframing
  - Controlled breathing
  - Progressive relaxation
  - Guided imagery
Other Stress Interventions
- Awareness of personal limitations
- Peer counseling and group discussions
- Proper diet, sleep, and rest
- Pursuit of positive non-EMS activities
- Other intervention programs

Critical Incident Stress Management
- “Critical incidents” include tragedies, deaths, serious injuries, hostage situations, or threatening situations
- CISM is an organized, formal, peer and mental health support network and process:
  - Enables emergency personnel to vent feelings
  - Facilitates understanding of stressful situations
- Designed to help emergency personnel understand their reactions to stressful incidents
- Reassurance that feelings experienced are normal and may be common to others
Components of CISM

- Preincident stress training
- On-scene support
- Individual consults
- Defusing services after large incident
- Mobilization services after large incident
- CISD 24-72 hours after event
- Follow-up services
- Specialty debriefings
- Support during routine discussions of an incident
- Command staff advice during large incident

Defusing

- Usually within 8 hours after an event
  - Allows initial release of feelings
  - Allows opportunity to share experiences
- Gathering of people involved in event and two-person CISM-trained team
- Usually lasts <1 hour

Debriefing

- More formal than defusing
- Confidential setting
- 24 to 72 hours after the event
- Specially trained CISM team
  - Emergency services personnel
  - Mental health workers
- Only those at the incident may attend
CISM

- Consider when
  - Line of duty injury or death
  - Disaster
  - Emergency worker suicide
  - Infant/child death
  - Extreme threat to emergency worker
  - Prolonged emotional incident
  - Victims known to operations personnel
  - Death/injury caused by operations
  - Other significant event

Reducing Crisis-Induced Stress

- Rest
- Replace food and fluids
- Limit exposure to incident
- Change assignments
- Provide postevent defusing/debriefing
- Other approaches to help manage stress

Kubler-Ross Stages of Dying

- Denial
- Anger
- Bargaining
- Depression
- Acceptance
Conveying News of a Sudden Death

- Gather family in a private area
- Advise them of patient's death
- Briefly describe circumstances causing the death
- Use words “death” or “dead”
- Be compassionate
- Allow family to see their relative

Communication Strategies

- Answer questions honestly
- Let family initiate subject of dying
- Do not give false hope
- Use compassionate communication
- Offer to contact family/friend/clergy
- Allow family to stay with dying patient if possible

Needs of the Paramedic Dealing with Death and Dying

- May experience some stages of grief
- Needs support from friends, coworkers, family following incident
- Opportunity to process specific incident and obtain closure important
- Use available resources to avoid effects of cumulative stress
Developmental Considerations

• Newborn to age 3
  • Watch for changes in
    ▪ Eating or sleeping patterns
    ▪ Irritability
  • Suggestions
    ▪ Maintain consistency in routine

Developmental Considerations

• 3 to 6 years of age
  • Watch for changes in
    ▪ Behavior patterns
    ▪ Sleeping
    ▪ Eating habits
  • Suggestions
    ▪ Emphasize child is not responsible for death
    ▪ Reinforce that crying is normal
    ▪ Encourage talk

Developmental Considerations

• 6 to 9 years of age
  • Begins to understand death
  • Afraid others may die
  • Uncomfortable talking about feelings
  • Suggestions
    ▪ Encourage talks about and expression of emotion
    ▪ Family should share feelings with child
Developmental Considerations

- 9 to 12 years of age
  - Is aware of death’s finality
  - Tries to act like adult
  - May regress
  - Suggestions
    - Set aside time to talk about feelings
    - Share memories

Developmental Considerations

- Elderly concerned about
  - Family members
  - Further loss of independence
  - Financial matters

Preventing Disease Transmission

- Airborne/bloodborne pathogens
- Exposure
- Cleaning, disinfection, sterilization
- Body substance isolation (universal precautions)
Common Sources of Exposure

- Needle stick
- Broken or scraped skin
- Mucous membranes of eyes, nose, or mouth

Protection from Airborne/Bloodborne Pathogens

- Follow engineering and work practices
- Maintain good personal health and hygiene
- Maintain immunizations
- TB screening
- Body substance isolation (universal precautions) in all patient encounters

Protection from Airborne/Bloodborne Pathogens

- Clean, disinfect, and/or dispose of used materials and equipment immediately
- Use puncture-resistant containers for sharps
- Clean/disinfect soiled laundry
- Conduct periodic health risk assessment
Documenting and Managing an Exposure

- Wash the area of contact thoroughly
- Immediately document the situation
- Describe PPE used
- Comply with reporting responsibilities and time frames

Documenting and Managing an Exposure

- Cooperate with incident investigation
- Get screened for potential diseases
- Get proper immunization boosters
- Obtain a complete medical follow-up

Conclusion

By adopting a lifestyle that enhances personal wellness, paramedics can improve their health and serve as role models and coaches for others.
Questions?