

MEDAVIE

HealthEd

ÉduSanté



MASS CASUALTY INCIDENT AND CISD

Advanced Care Paramedicine

Module: 08

Section: 10

- Incident that generates large number of patients
- Traditional EMS response tends to be ineffective because of the nature of the incident
- Definitions vary but the numbers generally exceed traditional resources
- A disaster may involve hundreds of patients

- Origins in response to confusion surrounding several large scale fires in the 1970s
- Incident Management System (IMS) originally developed for use at major fires
- Now adopted by EMS, police, hospitals and industry

- Assumption of command
- Designation and coordination of:
 - Triage
 - Treatment
 - Transport
 - Staging

Command at Mass Casualty Incidents

- Coordinates all scene activities
- Also called Incident Manager (IM) or Officer in Charge (OIC)
- Has the ultimate authority for decision making at scene
 - May delegate certain functions to others

FIGURE 3-4 At a multiple-casualty incident, the first on-scene unit must assume command.



- Singular command
 - One person coordinates the incident.
 - Most useful in smaller, single-jurisdictional incidents.
- Unified command
 - Managers from different jurisdictions share command.
 - Fire, EMS, law enforcement

Successful handling of any MCI involves coordination of key personnel—whether it be two or twenty people.

- First arriving unit establishes command.
- Assign command early in an incident.
- Establish a command post.

It is better to call too many
resources than too few.

- Primary Staging
 - As close to the scene as possible
 - Quick, easy access to the scene
 - Good access and exit areas
- Secondary
 - Different direction than primary staging
 - Provides a contingency plan if conditions change

- All personnel must be recognizable at a scene
 - Reflective vests
- Use a worksheet or clipboard
- Command is only transferred with a short but complete briefing of the incident

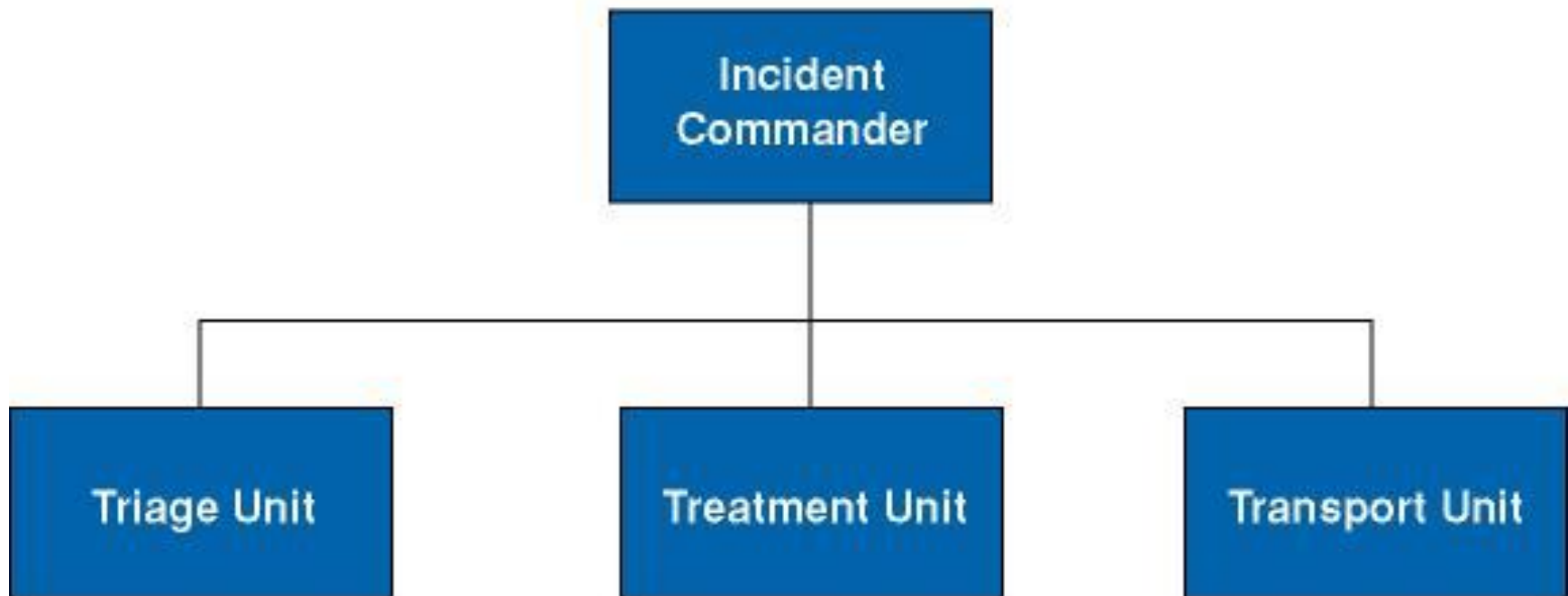
- Use of command vests makes all personnel recognizable at the scene



- As the incident progresses, resources will be reassigned or released
- Roles may be redefined
- Demobilized resources
 - Personnel, vehicles and equipment released for use out side of the incident

- Triage
- Treatment
- Transport
- Staging

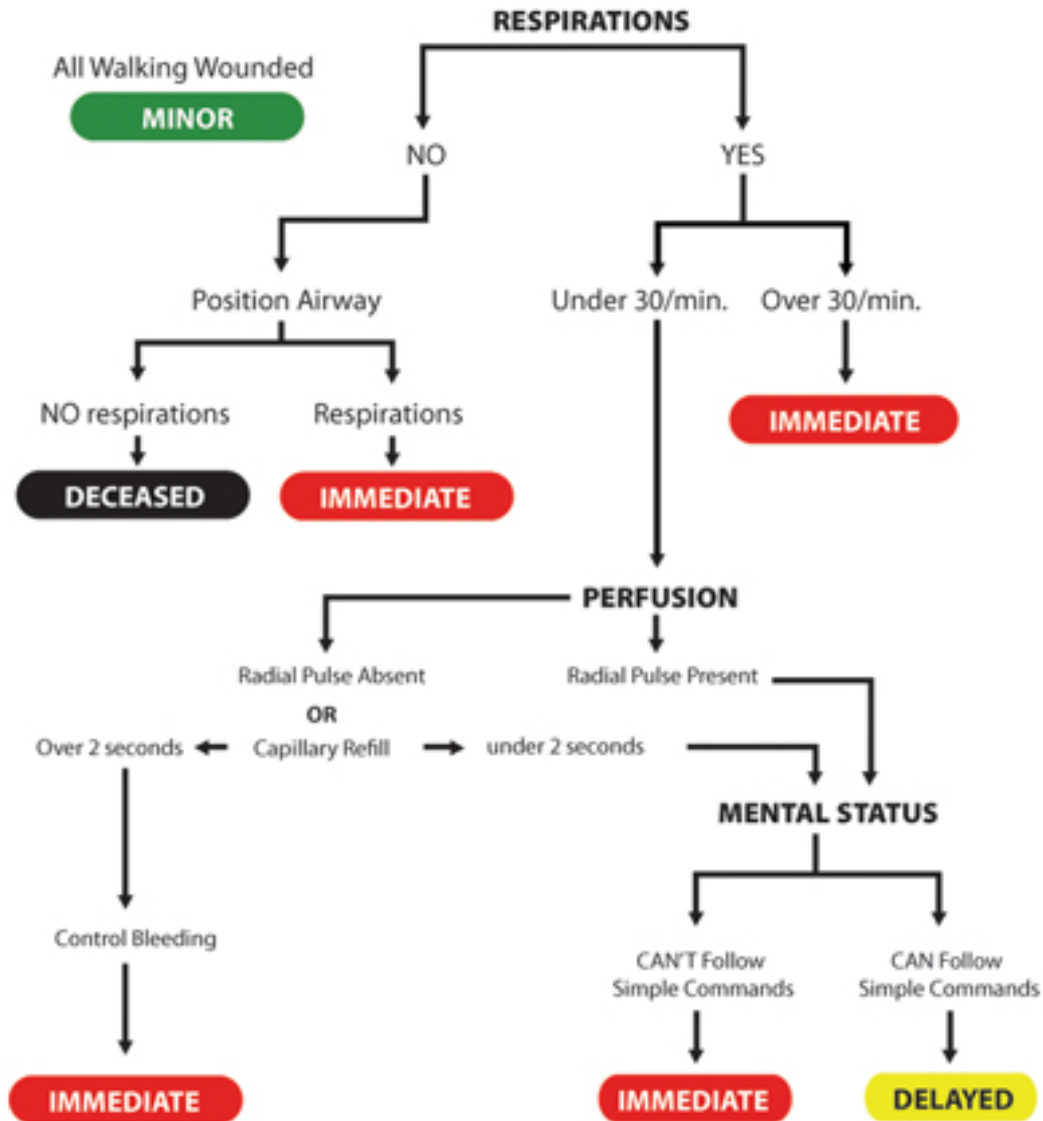
BASIC IMS ORGANIZATION EMS OPERATIONS



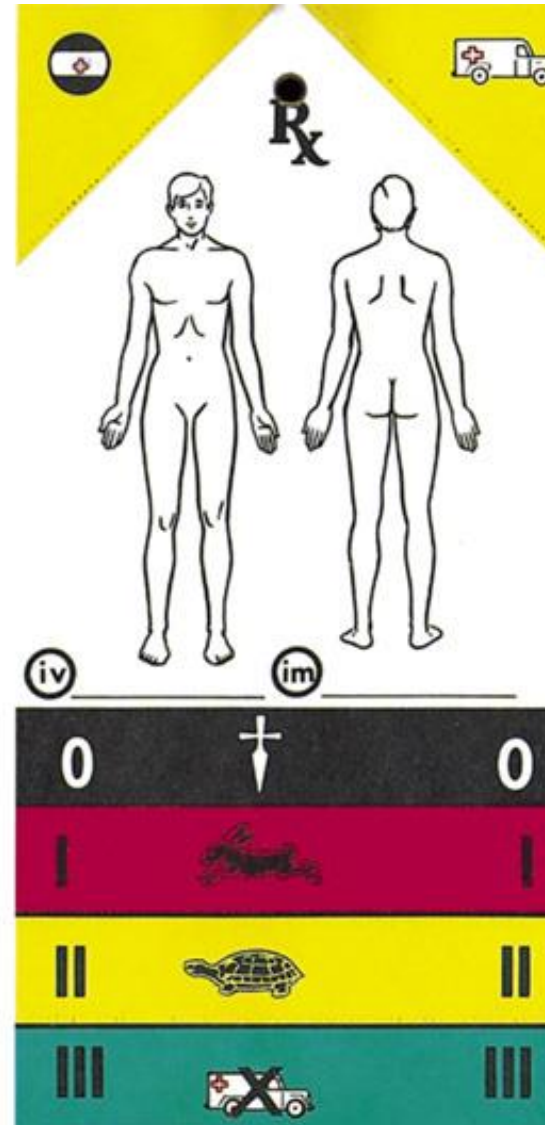
- Sorting of patients based upon the severity of their injuries
- Primary triage
 - Takes place early in the incident, usually on first arrival
- Secondary triage
 - Takes place after patients are moved to a treatment area

- Simple Triage and Rapid Transport
- Based on
 - Ability to walk
 - Respiratory effort
 - Pulses/ perfusions
 - Neurological status

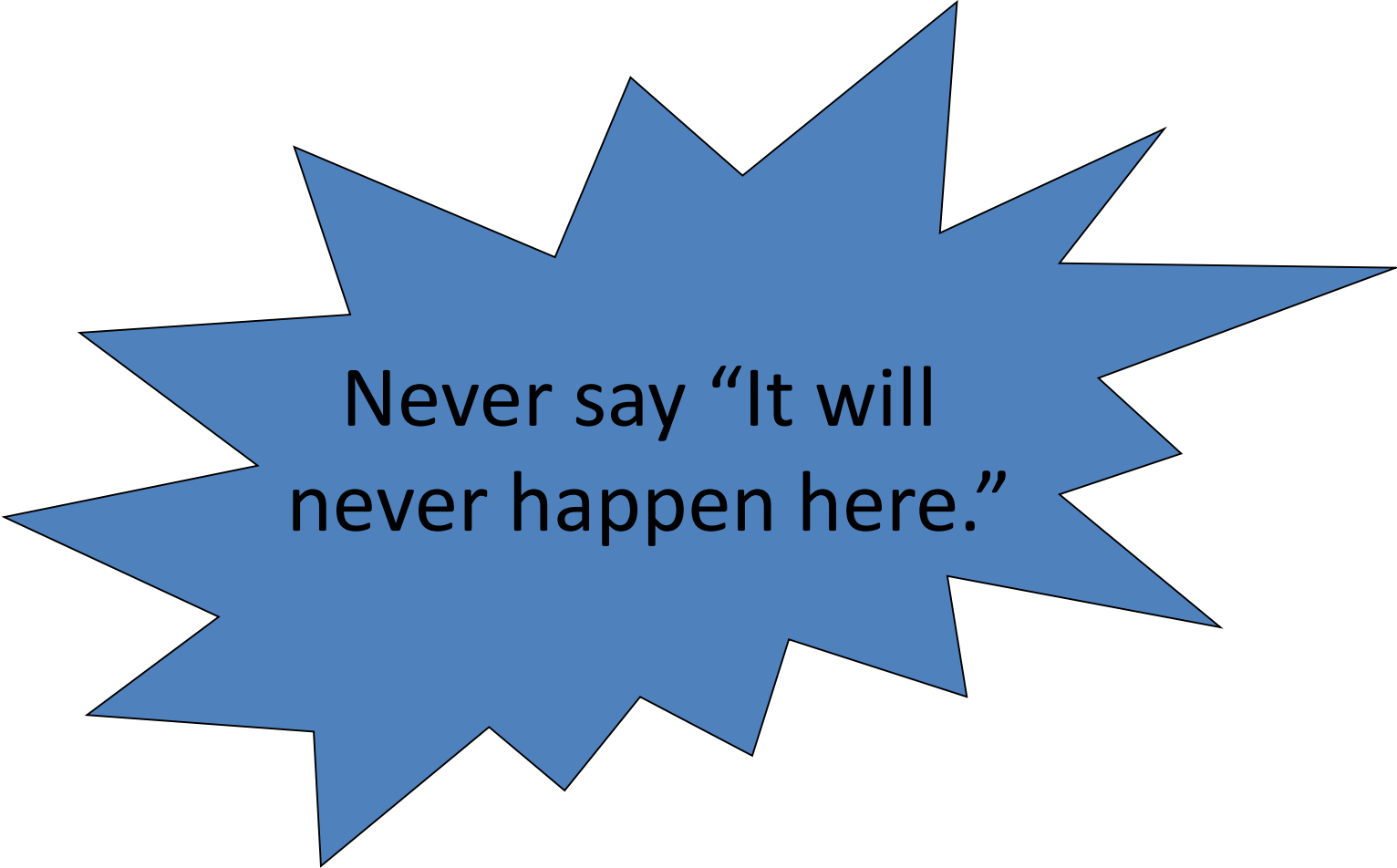
- Can get up and walk
- Has an open airway
- Has respirations of less than 30/min
- Follows commands



- Alerts care providers to patient priority
- Prevents re-triage of the same patient
- Serves as a tracking system



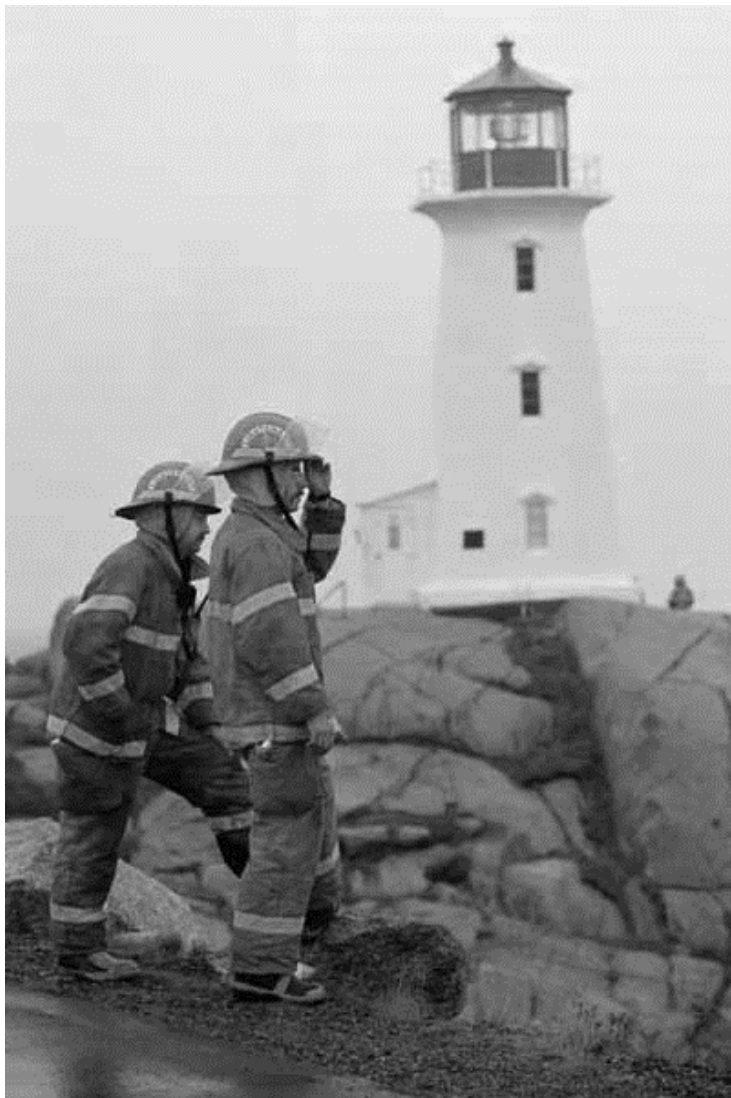
- Treatment groups supervisor controls treatment units
- Red treatment unit
 - Provides care for all critical patients
- Yellow treatment unit
 - Noncritical patients that still require stabilization
- Green treatment unit
 - Ambulatory patients



Never say “It will
never happen here.”

MCI, Triage, and CISD

STRESS AND CISM



- Complete Handout found in your notes
- In the last 18 months, which of these have occurred in your life?
 - For every item that is relevant to you, add the point value to your score and total them all together at the end...

- Total Score?
 - 150-199 Mild Life Stress
 - 200-299 Moderate Life Stress
 - 300+ Major life stress w/ a good chance of somatic complaint

- People who feel stress are nervous to start with.
- You always when you are under stress.
- Prolonged physical exercise will weaken your resistance to stress.
- Stress is always bad.
- Stress can cause unpleasant problems, but at least it cannot kill you.
- Stress can be controlled with medication.

- Work related stress can be left at the office and not brought home.
- Personal stress issues can be left at home and not brought to work.
- Stress is only in the mind, it is not physical.
- Stress can be eliminated.
- There is nothing you can do about stress without making drastic changes in your life-style.

- “A nonspecific response of the body to any demand made upon it”
 - This stressor can be different for every individual
- What is a demand?
 - Any threat (real or perceived), demand or challenge that requires the body to adapt

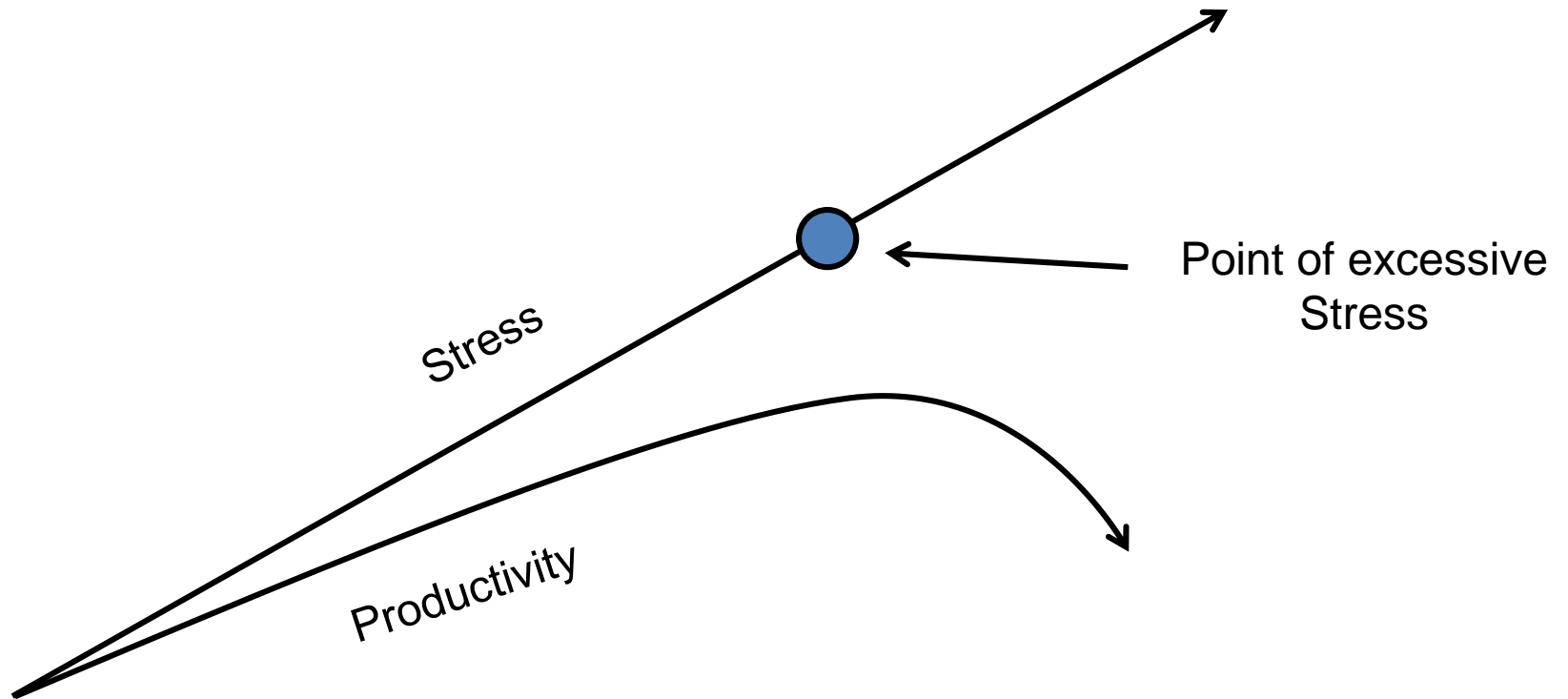
- Stress results from the interaction of events (environmental stimuli) and the adjustive capabilities of the individual
 - Usually seen as generating negative affect (fear, depression, guilt, etc.)
 - Also experienced with positive events
 - Can produce physiological involvement of the body
 - Can be addictive...

- Stress is classified as:
 - Acute or chronic
 - Eustress or distress

- Eustress or distress
 - Eustress
 - Good Stress
 - response to positive stimuli
 - i.e. Working Out, jogging
 - Distress
 - Bad Stress is harmful
 - a negative response to an environmental stimulus

- Acute (short-term) stress is the body's instant response to any situation that seems demanding or dangerous
 - Body usually recovers quickly from acute stress but can cause problems if it happens too often or if your body doesn't have a chance to recover.
- Prolonged activation may increase the risk disease.
- Respond with a fight or flight response involving the sympathetic nervous system and release of stress hormones such as cortisol.
- A severe acute stressor may result in a stress-response syndrome such as an acute stress disorder (ASD) or a post-traumatic stress disorder (PTSD).

- Chronic (long-term) stress is caused by stressful situations or events that last over a long period of time. (Work, chronic disease, etc)
- Physical and mental resources are depleted through long-term attrition.
- Involves the endocrine system response in which occurs a release of corticosteroids.
- Can bias decision-making strategies, as affected individuals shift from flexible behavior to one dominated by habit.



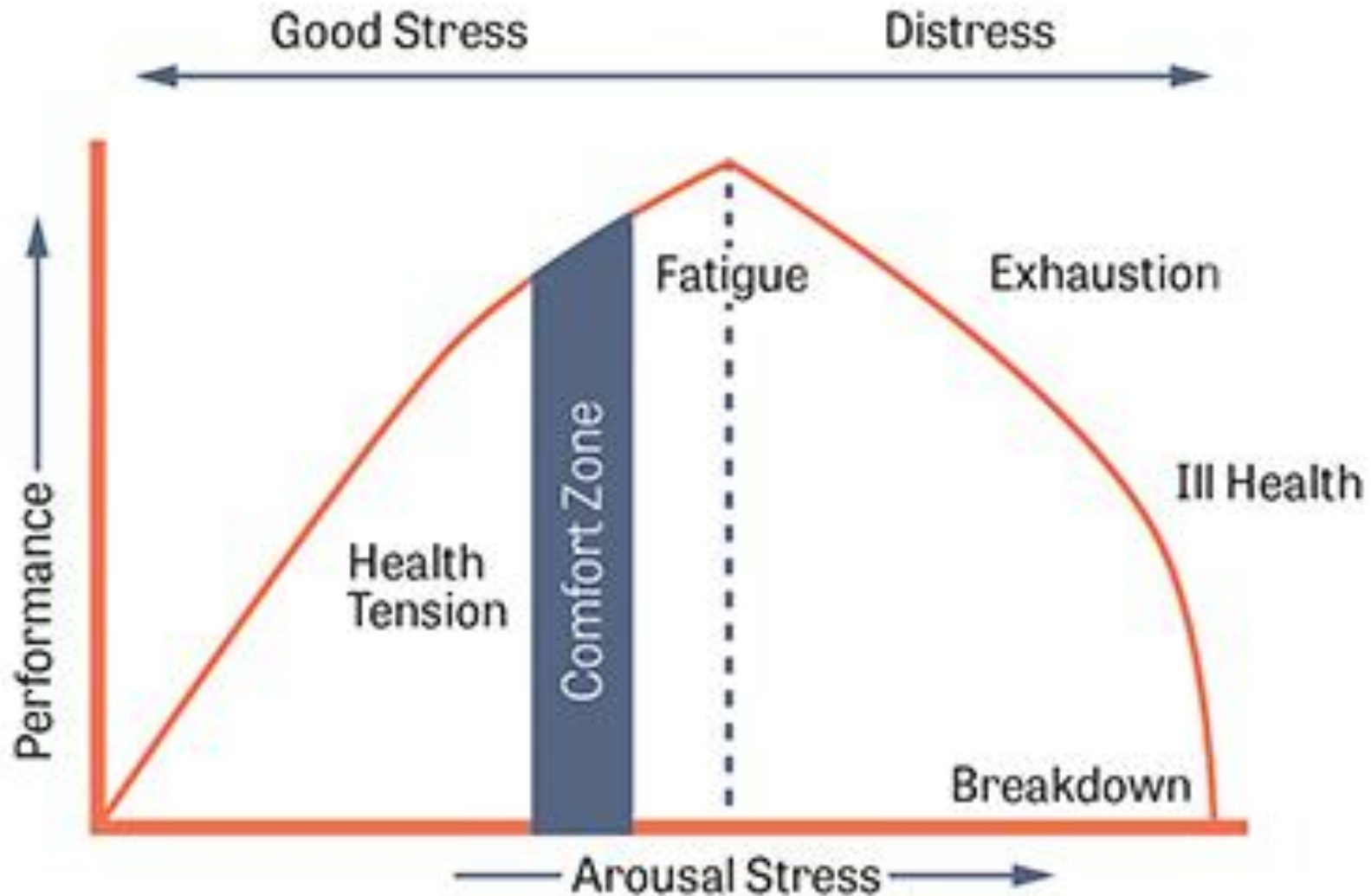
- Environmental
 - Weather
 - Confined space
 - Lighting
- Psychological
 - Family relationships
 - Relationships with other personnel
 - Intoxicated patients
- Personality
 - Guilt
 - The need to be liked

The “Pile up Effect”

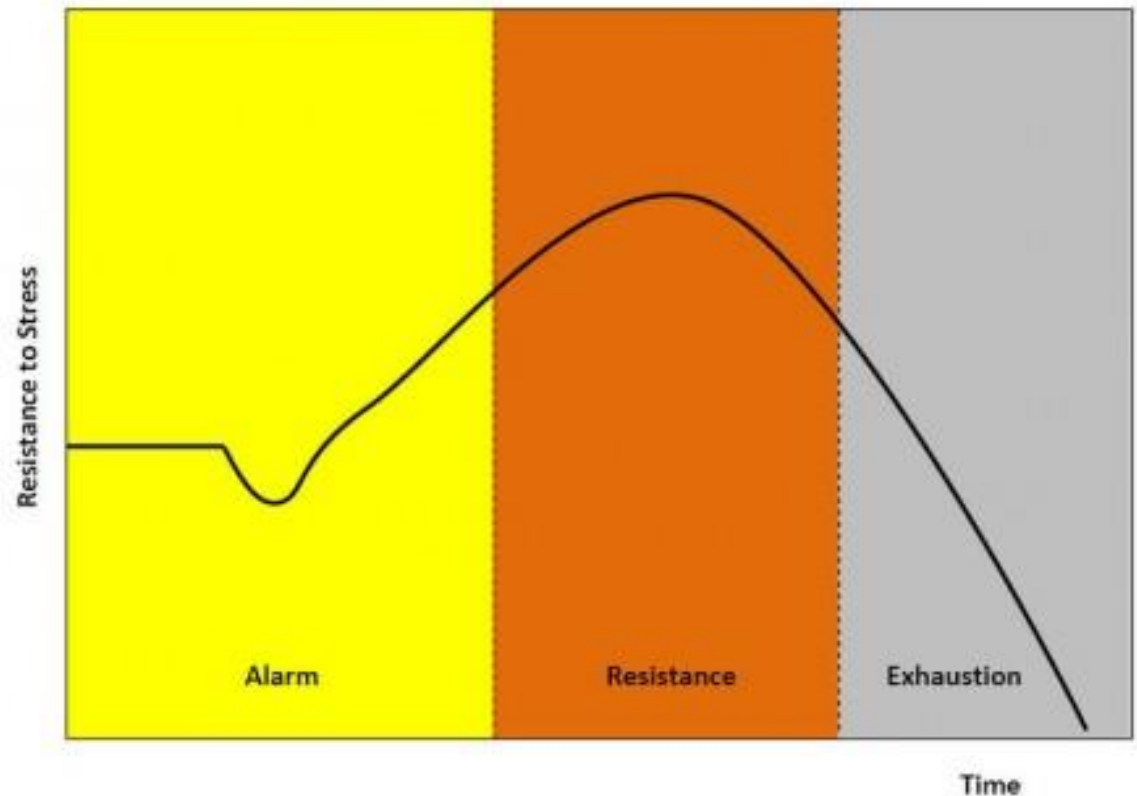
- Usually one stressor alone is not sufficient to create a major stress response
- Cumulative effect of many small stressors



The Human Function Curve



- Phases of the stress response
 - Alarm reaction
 - Resistance
 - Exhaustion



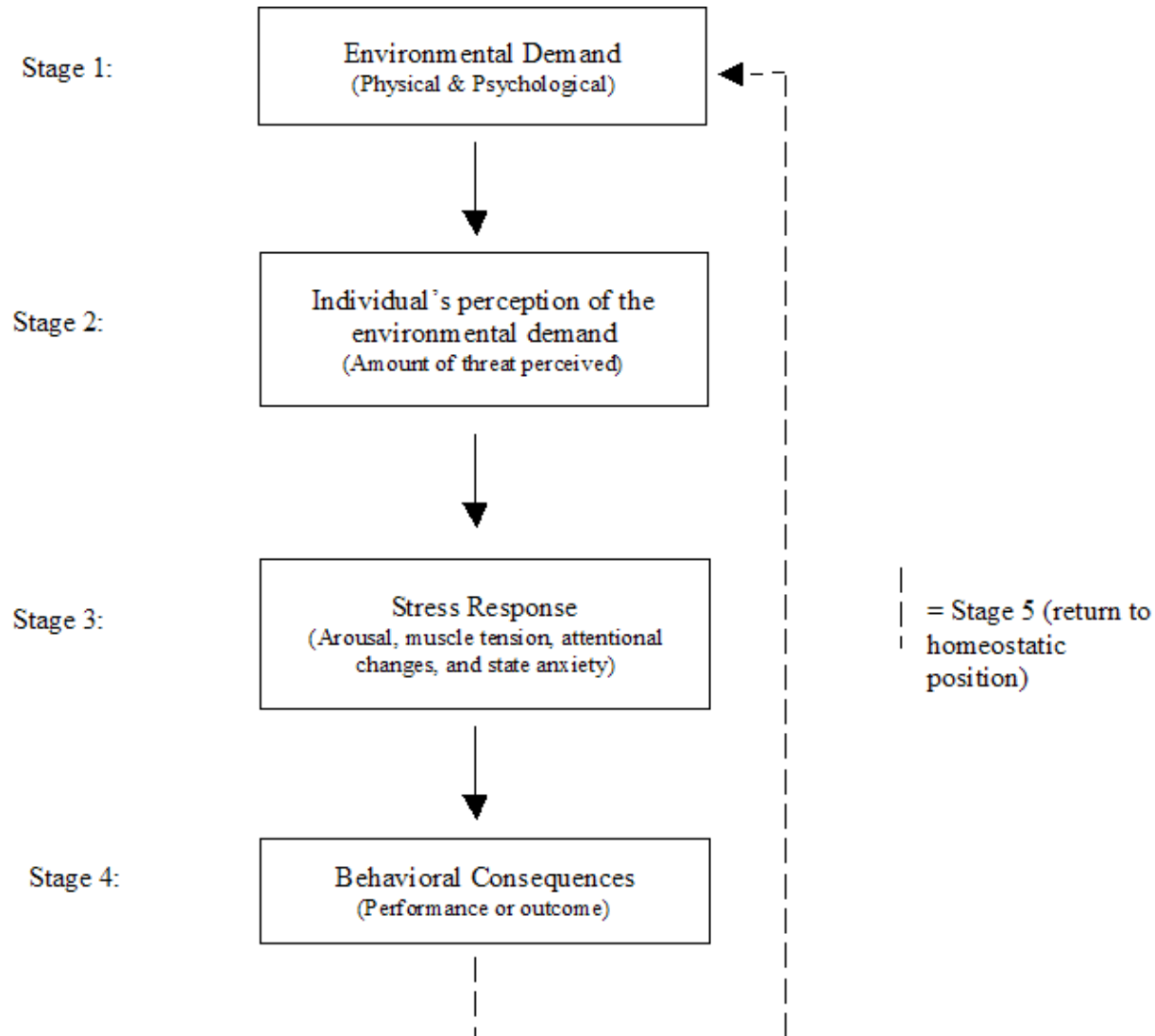
- First stage
- “Fight or flight” phenomenon
 - Causes epinephrine and cortisol “dumps”
 - Occurs when any emergency situation threatens one’s safety or comfort
 - Is considered positive (eustress)
 - Prepares the individual to be alert and to defend himself or herself

- Second stage
- Stress response raises the level of resistance to the agent that provokes it and others like it
- If the stress persists, a person's reactions to the stress may change
 - Example: As you become accustomed to emergency response with lights and sirens, the alarm reaction is no longer elicited to the same degree
- Body cannot keep up with the adaption indefinitely

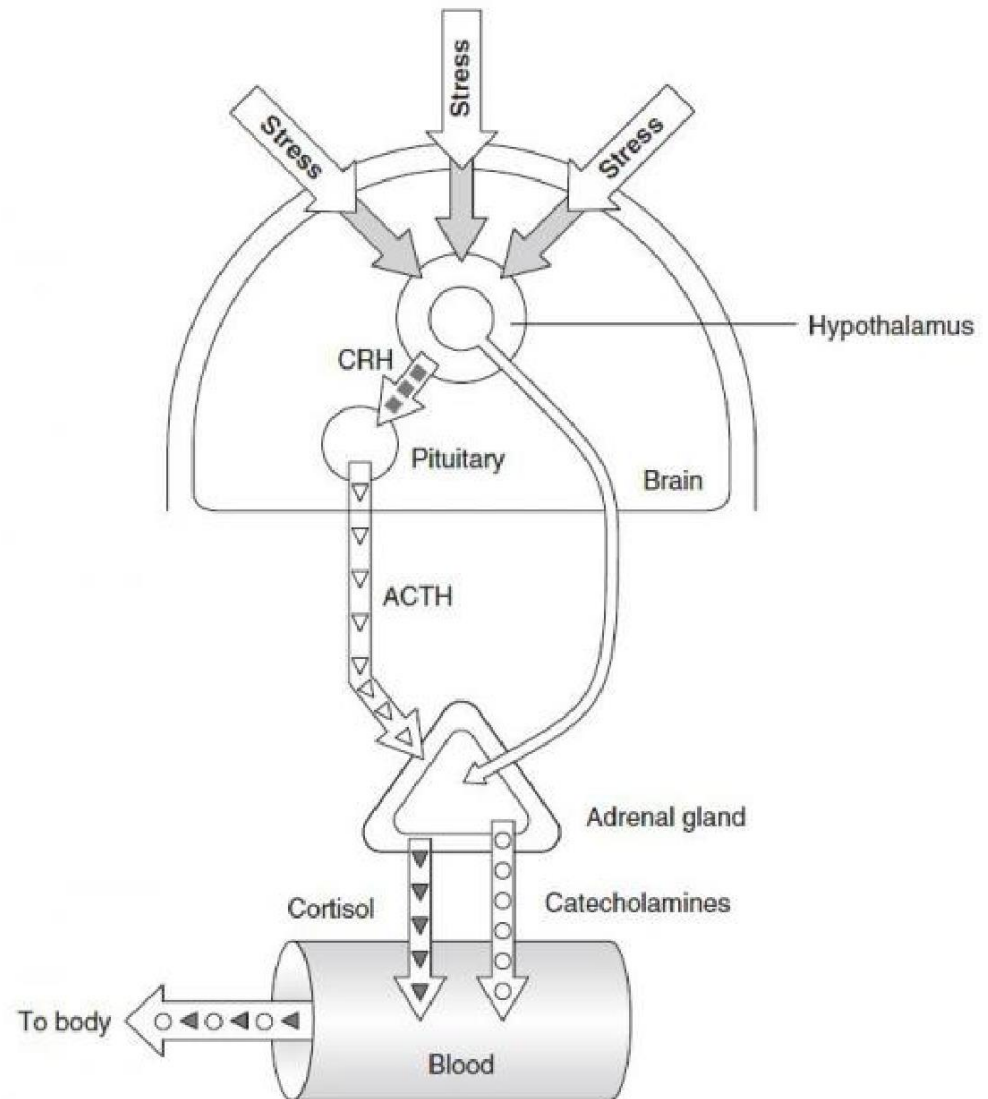
- Third and final stage
- As stress continues, coping mechanisms are exhausted
- Adaptive resources used up
- Resistance to all stressors declines
- Return of nervous system symptoms may reappear
- If stage three is extended, long-term damage may result, as the body's immune system becomes exhausted, and bodily functions become impaired, resulting in decompensation.
- Increased susceptibility to physical and psychological ailments
- Rest and recovery are needed

- Many factors can trigger the stress response. Examples include:
 - Loss of something that is of value
 - Injury or threat of injury
 - Poor health or nutrition
 - Frustration
 - Ineffective coping skills

Stress Response Process



- Normal anxiety
- Detrimental reactions to anxiety/stress



- The stress hormone
- Main function is to restore homeostasis following exposure to stress.
- Effects are felt over the entire body and impact several homeostatic mechanisms.
- Primary targets are metabolic, but it also affects ion transport, the immune response, and memory.

- Catecholamine release...
 - Heart rate, respiratory rate and BP increase
 - Perfusion to Skin, GI, and Renal decrease
 - Level of Awareness improves...
 - Increase in sugar, fats, cholesterol (energy)

- Person may be aware of:
 - Heart palpitations
 - Difficult /rapid breathing
 - Dry mouth
 - Chest tightness or pain
 - Anorexia
 - Flushing, diaphoresis
 - Frequent urination
 - Dysmenorrhea
 - Aching muscles and joints
 - Backache, headache
- Person may be unaware of:
 - Increased blood pressure and heart rate
 - Blood shunting to muscles
 - Increased blood glucose
 - Increased adrenalin
 - Reduced gastrointestinal peristalsis
 - Pupillary dilation

- External:
 - Physical environment, Social, Organizational, Major life events, Daily hassles
- Internal:
 - Lifestyle, Negative self-talk, Mind traps, Type A personality
 - *Most stress is actually self-generated.*

“Conceit is a local anesthetic that deadens the pain of stupidity.”

-Sir William Osler

- Physical
- Emotional
- Cognitive
- Behavioral

Table 1-4 WARNING SIGNS OF EXCESSIVE STRESS

Physical	Cognitive
Nausea/vomiting	Confusion
Upset stomach	Lowered attention span
Tremors (lips, hands)	Calculation difficulties
Feeling uncoordinated	Memory problems
Diaphoresis (profuse sweating), flushed skin	Poor concentration
Chills	Difficulty making decisions
Diarrhea	Disruption in logical thinking
Aching muscles and joints	Disorientation, decreased level of awareness
Sleep disturbances	Seeing an event over and over
Fatigue	Distressing dreams
Dry mouth	Blaming someone
Shakes	
Headache	
Vision problems	
Difficult, rapid breathing	
Chest tightness or pain, heart palpitations, cardiac rhythm disturbances	

Emotional

Anticipatory anxiety
Denial
Fearfulness
Panic
Survivor guilt
Uncertainty of feelings
Depression
Grief
Hopelessness
Feeling overwhelmed
Feeling lost
Feeling abandoned
Feeling worried
Wishing to hide
Wishing to die
Anger
Feeling numb
Identifying with victim

Behavioral

Change in activity
Hyperactivity, hypoactivity
Withdrawal
Suspiciousness
Change in communications
Change in interactions with others
Change in eating habits
Increased or decreased food intake
Increased smoking
Increased alcohol intake
Increased intake of other drugs
Being overly vigilant to environment
Excessive humor
Excessive silence
Unusual behavior
Crying spells

- Individual reactions to stress are “customized” based on:
 - Previous exposure to a specific type of stress
 - Perception of the stressful event
 - Personal coping skills

- Dynamic, evolving process whereby one “learns” successful ways to deal with stressful situations
- This process:
 - Usually begins with using defense mechanisms
 - Then develops coping skills
 - Continues with problem solving
 - Culminating in mastery

- We have been pegged as having a Action (Type A) Personality...
 - need to be in control
 - obsessive
 - compulsive
 - strong need to be needed
 - action oriented
 - high need for stimulation
 - need for immediate gratification
 - highly dedicated and motivated
 - risk takers
 - easily bored

Shift Work Is Inherently Stressful Due to
the Disruption of Circadian Rhythms
and Sleep Deprivation.

- The natural sleep cycle (typically 24hrs) based on the ebb and flow of the body based on the earth's rotation
- Hormones melatonin and cortisol are released by the body's sensation of darkness, this causes sleepiness
- This can be affected by working nights and trying to sleep during the day
- Travel through different time zones may also affect this rhythm ie: jet lag

- Shift work may require sleep in the daytime
- Tips:
 - Sleep in a cool, dark place.
 - Stick to a common sleeping time and pattern.
 - Unwind appropriately after a shift in order to rest.
 - Post a “day sleeper” sign on your front door, turn off the phone’s ringer and lower the volume of the answering machine.

- Individual coping strategies require that you know:
 - Your personal stressors.
 - Amount of stress you can take before it becomes a problem.
 - Stress management strategies that work for you.

- Methods used to initially manage stress include:
 - Reframing
 - mentally reframe interfering thoughts
 - Controlled breathing
 - focus attention on your breathing
 - Progressive relaxation
 - relaxing your muscles through a two- step process (first - systematically tense particular muscle groups in your body; second - release the tension)
 - Guided imagery
 - the use of words and music to evoke positive imaginary scenarios in a subject with a view to bringing about some beneficial effect

- Being aware of personal limitations
- Peer counseling and group discussions
- Proper diet, sleep, and rest
- Pursuit of positive activities outside of EMS to balance work and recreation
- Intervention programs that may be available through EMS agencies, hospitals, and other groups

- Meditation and Contemplation
 - Setting aside some “personal time” for meditation and contemplation can greatly enhance mental and perhaps even physical health



- Spirituality
 - A unique characteristic of human existence
 - Should not be overlooked as an effective means for some to achieve mental and physical well-being



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

- Belonging to groups can affect a person's motivation and performance in very positive ways
- People tend to associate with others most like themselves (e.g., family members, coworkers, members of community and religious organizations)
- These groups provide a “connection” with people who share similar values and interests

- PEER Support/CISD Teams
- Employee Assistance Programs
- Tema Conter Memorial Trust (www.tema.ca)

Mental Health

CRITICAL INCIDENT STRESS MANAGEMENT (CISM)

- An event that has a powerful emotional impact on a rescuer that can cause an acute stress reaction.
- Like stress, they are individual incidents to each paramedic

- Critical incidents are uncommon. They include:
 - Injury or death of an infant or child
 - Injury or death of someone known to EMS personnel
 - Injury, death, or suicide of an EMS worker
 - Extreme threat to an EMS worker
 - Disasters, or multiple-casualty incidents
 - Injury or death of a civilian caused by EMS operations
 - Incidents that draw unusual media attention
 - Prolonged incidents

- A system of interventions usually performed by regional, non-partisan, multi-disciplinary teams and trained mental health workers.
- A critical incident can impact a single crew or an entire agency.

- CISM is designed to help emergency personnel understand their reactions and reassures them that what they are experiencing is normal and may be common to others involved in the incident
 - Enables emergency personnel to vent feelings
 - Facilitates understanding of stressful situations

- Pre-incident stress training
- On-scene support to distressed personnel
 - Individual consultations
 - Defusing services immediately after a large-scale incident
- Mobilization services after large-scale incident
 - Critical incident stress debriefing 24 to 72 hours after an event
- Follow-up services
- Specialty debriefings to non-emergency groups in the community
- Support during routine discussions of an incident
- Advice to command staff during large scale incident

- Usually takes place within 8 hours after an event
 - Allows initial release of feelings
 - Allows opportunity for people to share their experiences
- Occurs in an informal gathering of the people involved in the event and two-person CISM-trained teams who are also peers
- Usually lasts less than 1 hour

- More formal than a defusing
- Conducted in a confidential setting
- Usually takes place 24 to 72 hours after the event
- Conducted by a specially trained CISM team of other emergency services personnel and mental health workers
- Only those present at the incident are allowed to attend a debriefing

- Situations in which CISM should be considered:
 - Line of duty injury or death
 - Disaster
 - Emergency worker suicide
 - Infant/ child death
 - Extreme threat to emergency worker
 - Prolonged incident that ends in loss or success
 - Victims known to operations personnel
 - Death/ injury of civilian caused by operations
 - Other significant event

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

- You will run into many types of behaviours in the field and will have to deal with them
- Always try to get the facts instead of responding to the behaviour
- Types
 - Assertive
 - Aggressive
 - Passive Behaviour

- Assertive
 - Being assertive allows a person to express his/her feelings, preferences, needs or opinions while respecting others.
- Aggressive
 - Aggressive behaviour allows you to get what you want or force your opinion on others, but usually without respect for others.
- Passive
 - When you do not express yourself (behave passively) you open yourself up to being victimized and allow others to make decisions and choices for you

Mental Health

ANXIETY DISORDERS

- Anxiety is a normal reaction that many people experience.
- An anxiety disorder is diagnosed when various symptoms of anxiety create significant distress and some degree of functional impairment in their daily living.
- Often occur with other conditions.

- Anxiety Disorders:
 - Generalized Anxiety Disorder
 - Social Anxiety Disorder
 - Panic Disorder with or without Agoraphobia
 - Situational disturbances
 - Post-Traumatic Stress Disorder
 - Acute Stress Disorder

- A psychological disorder characterized by excessive or disproportionate anxiety about several aspects of life, such as work, social relationships, or financial matters.
- Physical symptoms:
 - Feeling restless or keyed up
 - Difficulty concentrating
 - Being easily fatigued
 - Feeling irritable
 - Experiencing muscle tension
 - Having sleep difficulties
 - Gastrointestinal discomfort including nausea and diarrhea
 - Sweating

- Most common anxiety disorder
- Involves being afraid of becoming appraised or judged negatively by others and as a result, feeling embarrassed or humiliated.
- These fears are out of proportion to the actual situation.
- May be afraid of only certain situations while another person may feel afraid in many social situations.
- Symptoms include:
 - Blushing
 - Sweating
 - Rapid heart rate
 - Shaking
 - Dry Mouth
 - Excessive perspiring
 - Feeling very hot
 - Being afraid of losing track of a conversation
- Often experience a lot of anticipatory anxiety about upcoming events or over time may begin to avoid social situations altogether and may experience panic attacks that are specifically related to the social situations.

- A disorder that people experience when, after their first 'out of the blue' panic attack, they begin to have periods of worrying about having other and/or repeated attacks.
- Some people have panic attacks but never develop Panic Disorder.

- A Panic Attack is diagnosed when four or more of the following symptoms appear together. These symptoms include:
 - Shortness of breath or smothering sensations
 - Dizziness, unsteady feelings, or faintness
 - Palpitations or accelerated heart rate
 - Trembling or shaking
 - Sweating
 - Choking
 - Nausea or abdominal distress
 - Depersonalization
 - Derealization
 - Numbness or tingling sensations in one or more areas
 - Hot flashes or chills
 - Chest pain or discomfort
 - Fear of dying
 - Fear of “going crazy” or losing self- control
 - Feeling a need to escape
 - Having a feeling of imminent doom or danger

- Fear of having a panic attack in a situation where you feel you won't be able to escape. (Not a fear of crowds, etc)
- This fear is so overwhelming that people will do anything they can to avoid having the experience again.
- This avoidance behaviour is called Agoraphobia.

- “Adjustment Disorders”
- Maladaptive reaction to identifiable psychosocial stressors occurring within a short time after the onset of the stressor.
- Manifested by either social or occupational functioning or by symptoms (depression, anxiety, etc) that are in excess of a normal reaction to the stressor.

- A psychiatric disorder
- Can occur following the experience or witnessing of life-threatening events such as military combat, natural disasters, terrorist incidents, serious accidents, or violent personal assaults like rape.
- People who suffer from PTSD often relive the experience through nightmares and flashbacks, have difficulty sleeping, and feel detached or estranged, and these symptoms can be severe enough and last long enough to significantly impair the person's daily life.
- PTSD is marked by clear biological changes as well as psychological symptoms.

- PTSD is complicated by the fact that it frequently occurs in conjunction with related disorders such as:
 - depression, substance abuse, problems of memory and cognition, and other problems of physical and mental health.
 - also associated with impairment of the person's ability to function in social or family life, including occupational instability, marital problems and divorces, family discord, and difficulties in parenting.
- PTSD is not a new disorder.
- Research and documentation of PTSD began in earnest after the Vietnam War.

- How does PTSD develop?
 - Most people who are exposed to a traumatic, stressful event experience some of the symptoms of PTSD in the days and weeks following exposure.
- The course of chronic PTSD usually involves periods of symptom increase followed by remission or decrease

- Who is most likely to develop PTSD?
 - Those who experience greater stressor magnitude and intensity, unpredictability, uncontrollability, sexual (as opposed to nonsexual) victimization, real or perceived responsibility, and betrayal
 - Those with prior vulnerability factors such as genetics, early age of onset and longer-lasting childhood trauma, lack of functional social support, and concurrent stressful life events
 - Those who report greater perceived threat or danger, suffering, upset, terror, and horror or fear
 - Those with a social environment that produces shame, guilt, stigmatization, or self-hatred

- ASD, is a psychiatric diagnosis
 - criteria for ASD are similar to the criteria for PTSD, although the criteria for ASD contain a greater emphasis on dissociative symptoms and the diagnosis can only be given within the first month after a traumatic event.
- How is ASD diagnosed?
 - Because ASD is a relatively new diagnosis, there are few well-established and empirically validated measures to assess it.