



# Psychological and Training Aspects

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**Mine Escape Planning and  
Emergency Sheltering Workshop  
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- The findings and conclusions in this presentation have not been formally disseminated by the National Institute for Occupational Safety and Health and should not be constituted to represent any agency determination or policy

# History of Disaster Psychology



- Impact of human behavior in disasters has been referenced throughout history.
- Studies of military experiences, police, emergency medical services, and general human response in disasters have contributed to knowledge in this area.
- The Vietnam War brought attention to the psychological issues with the medical diagnosis of PTSD.



# History of Disaster Psychology

- Since 9/11 research on the psychological aspects of traumatic incidents has increased exponentially.



FDNY fire fighters at the World Trade Center

# Psychological Aspects

- What do we mean when we discuss psychological aspects of escape and sheltering?
- What we DO NOT mean is counseling, psychotherapy, or pathology. Escapees and responders are normal people responding to an abnormal situation.
- Understanding the natural, normal, human response to danger provides the escapees, the command center leadership, and the mine rescue team responders with an ability to be more resilient in an emergency situation.

# Psychological Aspects

- An individual during escape is likely experiencing the normal symptoms associated with the fight or flight response. This is an innate response that prepares an individual to fight or run from danger.
- There are psychological, physical, behavioral, and cognitive components to the response:
  - Increase in heart rate, muscle tension, perspiration
  - Hyperventilation – rapid heart beat, shortness of breath, nausea
  - Dilation of the pupils; dry mouth; numbness of hands or feet
  - Fatigue
  - Confusion; fear

# Psychological Phases of Disaster

- 1. Initial impact phase
- 2. Heroic phase
- 3. Honeymoon phase
- 4. Disillusionment phase
- 5. Reconstruction phase

It has been suggested that the most emotionally vulnerable time is from 6 months to one year after the event. There is increased fear of rages, self-destructive behavior, and even suicide.

# Psychological Response Stages

- 1. Shock and disbelief
- 2. Strong emotional response
- 3. Acceptance
- 4. Recovery



# Short term Psychological Symptoms

Numbness

Denial

Avoidance

Difficulty concentrating

Withdrawal

Relationship problems

Depression

Feeling overwhelmed

Anger

Increased alcohol consumption

Change in sexual functioning

Change in eating habits

# Long Term Psychological Symptoms

Fearfulness

Sleep disturbance

Flashbacks

Feelings of guilt

High anxiety

Irritability

Exaggerated startle responses

May lead to a diagnosis of Post Traumatic Stress Disorder