Eilat Fire and Rescue

Dangers in Disaster areas and how to handle an incident

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Overarching Goal

- The student will anticipate the dangers in the disaster area and will act to save lives while safeguarding his own safety and the safety of those around him.

Intermediate Goals

- The student will list the main factors in accidents and injuries.
- The student will specify the dangers at the site of an incident.
- The student will explain what the number one enemy is at a fire.
- The student will specify and explain how he should act during a fire.

Factors That Cause Accidents and Injuries

There are several factors that can be the main causes of injuries to fire fighters. These can be divided into four groups:

- The human factor
- Equipment and methods
- Conditions on the ground
- Weather and climatic conditions

The Human Factor

Emotional state:

- Not being alert
- Loss of control
- Emotional stress
- Recklessness
- Impulsiveness
- Carelessness
- Fear

Physical state:

- Illness
- Atrophy
- Hearing impairment
- Visual impairment
- Lack of physical fitness
- Dehydration
- Exhaustion

Equipment and Methods

- Constantly check to see that equipment functions properly during routine circumstances.
- Operate equipment according to specific safety rules.
- Operate equipment only in accordance with the manufacturer's instructions.
- Operate equipment only for its designated purpose.
- Maintain the equipment's integrity and functionality.
- Report immediately regarding any malfunction found in the equipment.
- Remove any damaged or non-functioning equipment.

Conditions on the Ground

- An unfamiliar area can have numerous potential risks.
- During a disaster even a familiar area may become somewhat unfamiliar with new dangers.
- Every person must exercise extreme caution when entering or working in an unfamiliar area.

Climatic Conditions

- Extreme climatic conditions, such as heat, cold, wind and dryness, can have an effect on:
  - ✓The human factor (physical state)
  - ✓Creating dangerous situations
  - ✓High probability of disasters and risks

Dangers at an Incident Site

- Stumbling and falling – fractured limbs, crushed organs, death.
- Electrocution – burns, death.
- Heat radiation – internal and external burns.
- Toxins – poisoning, death.
- Hazardous materials – poisoning, choking, serious illness, death.
- Steam vapors – internal respiratory burns, death.
- Explosions – internal injuries, shrapnel, collapse, death.
- Lack of oxygen – choking, death.

Dangers at an Incident Site - continued

- Flashover – severe burns, bone injuries, blast injuries.
- Collapse – being trapped under the building ruins, injury from heavy objects.
- Sharp objects – injuries, cuts.
- Heated objects – severe burns.
- Firetrap – being trapped, burns, death.
- Glass shards – cuts, injuries, infections.
- Hostile terrorist activity – serious injury, death.

Smoke

Smoke is a visible cloud of various hot gases and small particles resulting from the incomplete combustion of a substance.

•Smoke is considered the #1 enemy of civilians and fire fighters.

•More than 80% of those injured in fires suffered from smoke inhalation.

•Ability to spread and penetrate – vertical and horizontal.

•Can block off rescue and escape paths.

•“Run and hide” – most people will want to be near ventilation openings or will hide underneath beds, in closets or bathrooms, etc.

•Above a temperature of 602 degrees carbon dioxide gas will burn and cause a flashover.

Smoke – Health Effects

- Different types of gases in smoke vary according to the material burning.

- Breathing in smoke can disrupt and even paralyze the ability to function: Limited visibility, headache, nausea, vomiting, poisoning, difficulty breathing, choking, panic, burning to the eyes and respiratory system.

- One component of smoke is carbon monoxide (CO). This is considered dangerous, and because it binds to the hemoglobin in the blood it causes a lack of oxygen to vital organs.

Smoke inhalation -> respiratory damage -> death!

Order of Actions During a Fire

- Evacuate people from the site of the fire.
- If possible disconnect the main electrical source.
- Call “102” for fire fighters and give them **ALL** details about the location and type of business.
- If you can extinguish the fire using the means available to you then do so, but not at the cost of your health!

Order of Actions - continued

- The moment that fire fighters arrive meet them at the entrance, open the gates and direct them to the site of the fire.

- Report to the fire fighters regarding any special risks: Hazardous materials, gas canisters, ammunition, drugs, unstable building sections, etc.

Evacuating the Building

- Ensure that all building occupants are aware that a fire has broken out.
- Report on anyone trapped in the building.
- Do not use the elevators to evacuate the building.
- The last person to leave a room should not lock the door but merely close it – locking the doors will interfere with the fire fighters' ability to survey the area and find injured persons.

Evacuating the Building - continued

- Proceed to the exit as marked on the escape plan and directional signs.
- Keep as low as possible to avoid inhaling toxic gases and smoke.
- When leaving the building report to an assembly area in order to be counted and undergo a medical examination.

If you are trapped

- Remember – smoke rises so the lower you are the better your visibility and the cleaner the air.
- Walk along the wall and look for the nearest exit.
- Cover your mouth with a wet cloth to help you breathe.
- If you cannot leave the room seal yourself in – close the door and seal the bottom with a cloth, open the window and stick out your head to get fresh air.
- Indicate to fire fighters that you are in the building – <u>we will come to you</u>!

Be Prepared

- Do not leave a fire unsupervised.
- Keep your work area clear of risk factors.
- When your work has been finished disconnect equipment and machinery from the electricity source.
- When leaving the room make sure to turn off the lights, air conditioning, television sets, heaters, etc.
- Do not throw cigarette butts and matches into the waste basket.
- Do not use damaged electrical equipment.
- Hot air heaters – create a sterile area around them.

Be Prepared - continued

- Store flammable and dangerous materials in suitable canisters and in ventilated areas.
- Welding and cutting works are a fire hazard – ensure that there is fire extinguishing equipment nearby.
- Keep matches and lighters away from children.
- When leaving the house for several days – disconnect electrical splitters and shut off the gas.
- Make sure the surrounding area is neat, clean and organized and ensure that there is easy access to fire fighting equipment and escape routes.

The End