



# UNIVERSITY OF EMBU



**By:**  
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**OF ICT FIRE & RESCUE**



## Introduction

ICT Fire & Rescue Services Ltd (EMS) is dedicated to offering quality Pre-hospital Emergency Care at an affordable cost, in line with the Kenyan constitution (2010).

ICT Fire & Rescue Services was established in the year 2007; we are duly registered by the Government of Kenya, Institute of Fire Engineers, DOHSS/NITA & NFPA as well as work in conjunction with the Kenya Council of Emergency Medical Technicians (KCEMT) to ensure standard & quality trainings.



## Introduction

ICT Fire & Rescue Services aims to meet the needs of Emergency Rescue (ER) & Emergency Medical Services (EMS) education, hence offer quality Services relevant in meeting the public's needs.

We strive to make a difference in the lives of patients and pride ourselves for our role in Emergency mitigation.

ICT Fire & Rescue Services has a perspective that appreciates the role of technology necessary in today's global world. We are living in what has been called the "global village".

## Vision

To be the leading provider in Emergency & Rescue Services in the region

### **Our mission:**

Is to provide quality emergency care to our client & to protect the public from Emergencies and disaster.

### **Objectives**

- To highlight the dangers of fire and disaster & strive to reduce the effects
- To provide a reliable and high quality 24hrs Ambulance Rescue & Fire Services to the public
- To establish a regional high quality Emergency Medical Services (EMS) training School



## Core values:

- **Accountability**

- **Efficiency**

- **Professionalism**

- **Dedication**



# ICT FIRE & RESCUE

## Fire engines and Ambulances







# ICT Fire and Rescue crew Responding to a fire drill







# roduction and Expectations

- Name ,Profession and Organization.
- Overall experience with emergency incidences.
- What do you expect to achieve in this course?



# Instructor expectations

- Cooperate with the group.
- Be open minded to new ideas.
- Participate actively in all activities.
- Return to class at stated time.
- Use what you learn in this course perform effectively.

# Course Logistics



- Course agenda
- Sign-in sheet
- Housekeeping:
- Breaks
- Cell phone policy
- Facilities
- Other concerns

# Welcome to Fire Marshals Training

- By the end of this training program you should have the confidence to deal with a real life fire situation in a calm and controlled manner.





# Lesson Objectives

By the end of the lesson student should be able to:

- Understand fire safety Legislations
- Define fire
- State the elements of fire
- State the causes and classes of fire
- Recognize the extinguisher colour coding scheme
- Operate fire fighting equipments

# Cont.....

- Recognize extinguisher suitability for individual risks
- Recognize the hazards associated with each extinguisher
- Ensure proper evacuation, fire safety in the event of an emergency until back up arrives.
- Understand the dangers of smoke and how maneuver in a smoke filled room.
- Understand what you should do after a fire has been extinguished



# LEGISLATION.



## A) Legal notice No 59.

The Ministry for Labor and Human Resources Development on 4th May 2007 gazetted the Fire Risk Reduction Rules 2007, Legal Notice No.59 which among other things require that every owner or occupier of a work place shall:



- **Cause a fire Safety Audit at the workplace to be carried out at least once in every period of 12 months by an approved fire safety auditor.**
- **Establish a fire fighting team at the workplace.**
- **Ensure that every member of the fire fighting team undertakes a basic fire safety training course within three months from the date of appointment into the fire fighting team.**
- **Ensure that a fire drill is conducted at least once in every period of 12 months and a record of such a drill kept available for inspection.**

- ▶ **Establish and implement a written fire safety policy outlining the organization and arrangements for carrying out the policy.**
- ▶ **Ensure that any door of any store where flammable substances are stored is constructed in a manner that the door shall be self closing, opening outwards or sliding and capable of containing smoke from within the work room, in event of a fire.**
- ▶ **Identify a location in the work place where every worker shall assemble in the event of a fire.**
- ▶ **Providing suitable means of alerting persons in the work place in the event of a fire, and such means shall be made known to all workers**



# The Occupational Health and Safety Act 2007

**Section 81 (1)** In every work place or workroom there shall be:

- (a)** Provided and maintained and conspicuously displayed and free from any obstruction so as to be readily accessible, means for extinguishing fire, which shall be adequate and suitable having regard to the circumstances of each case : and
- (b)** Present, persons trained in the correct use of such means of extinguishing fire during all working hours.

# CONT'

(2) Every work place shall be provided with adequate means of escape, in case of fire, for the persons employed therein, having regards to the circumstances of each case.

(3) All the means of escape referred to in subsection (2) shall be properly maintained and kept free from obstruction.

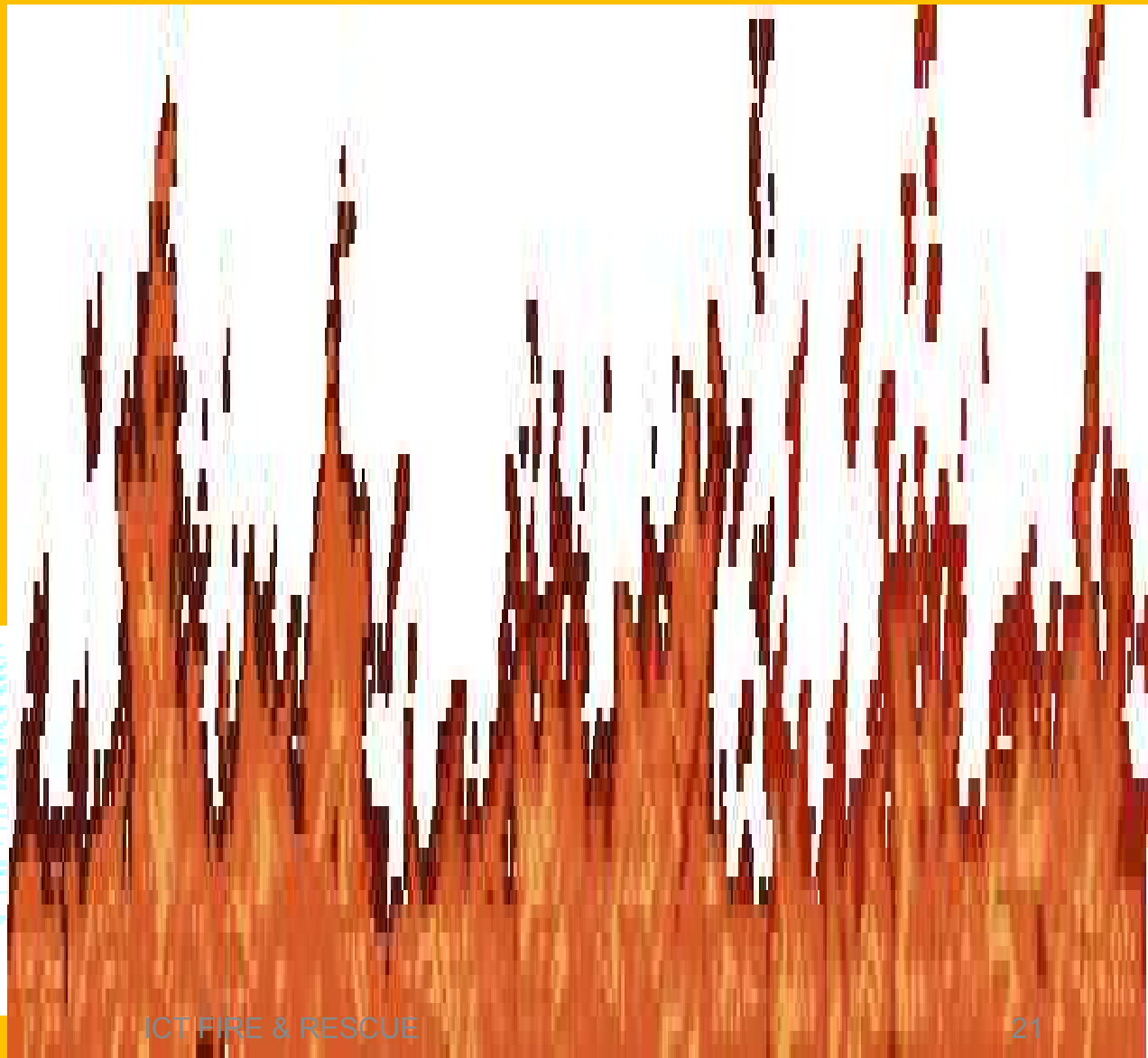


# Definition of Fire

- What is Fire?



26/06/2019



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21

Fire is a complex chemical reaction where heat and light are released accompanied by flames.



# FIRE CHEMISTRY

## How Does Fire Start?

### HEAT

Is required to elevate the temperature of a material to its ignition point

### FUEL

It refers to anything that can burn be it solid, liquid or gas. The type and quantity of the fuel will determine which method should be used to extinguish the fire

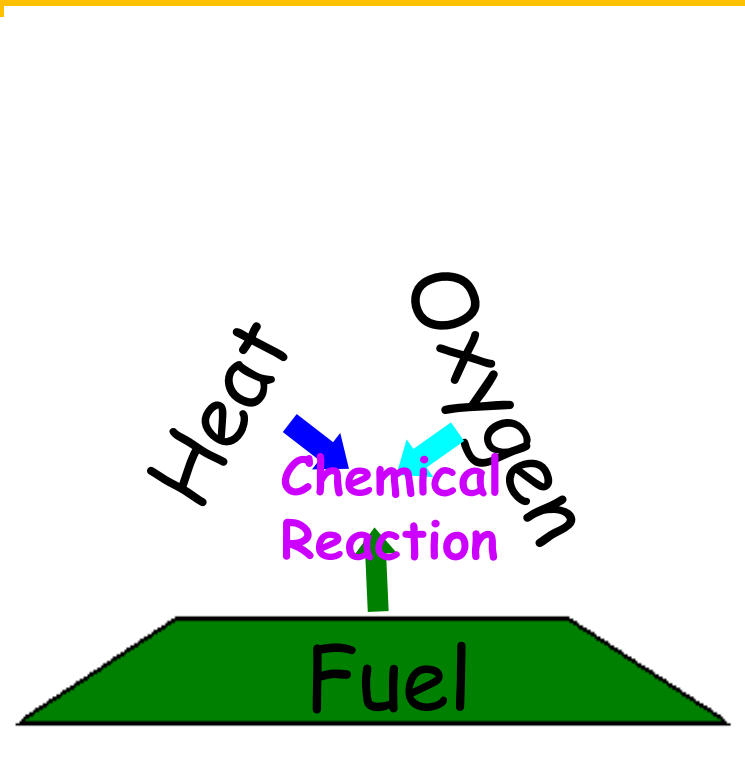
### OXYGEN

Oxygen supports combustion, most fires will burn vigorously in any atmosphere of at least 16% oxygen.

# *THE FIRE TRIANGLE*

**The fire triangle remains a useful means of describing a fire situation.**

# Triangle of Fire



## The Basic Strategy of Fire Prevention:

- ▶ If any one of these is missing, a fire cannot start.
- ▶ It is important that steps are taken to avoid the three coming together and thereby reduce the chances of a fire occurring.

# Methods of Extinguishing Fire

**STARVATION** : Removing un burnt material from fire, the fire is denied fuel.

**SMOTHERING**: Blanketing the burning material to cut off oxygen supply.

**COOLING** : Spraying water into the burning material to drastically reduce the heat.



# CLASSES OF FIRE

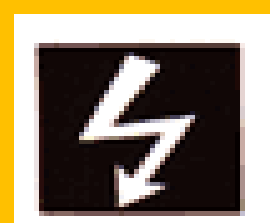
- If you want to be successful in fighting the fire you need to know what type of fire you are fighting. In this respect you will select the right extinguishing media.





# Classes of Fires

- **Class A** : Ordinary combustible materials such as papers, wood, plastics e.t.c.
- **Class B**: Flammable liquids such as petrol, diesel, kerosene, e.t.c.
- **Class C**: Flammable gasses such as methane, butane, propane, oxy-acetylene, e.t.c.
- **Class D**: Flammable metals such as magnesium , potassium, sodium e.t.c.
- **Class F**: Fires involving cooking fats and oils such as chip pan.



# Electrical Fires

- ❖ Electrical Fires do not constitute a class of fire. Any fire involving or started by electrical equipment when isolated becomes either Class A, B, C, D or F depending on the material surrounding the area.
- ❖ The recommended media is Carbon Dioxide or Dry Powder



# Causes of fire

Most accidents do not just happen, but they are caused by **acts** or **conditions**.

## Hazardous Acts are:-

1. Carelessness
2. Ignorance
3. Negligence
4. Indiscipline
5. Failure to comply with regulations
6. Arson



# Cont...

## Hazardous Conditions are:-

- a. Electrical faults (overloading, short circuits, poor insulation -overheating etc)
- b. Disposal of smoking materials
- c. Arson
- d. Natural causes e.g. sun, lightening**
- e. Poor-house keeping
- f. Contractors





# FIRE FIGHTING EQUIPMENTS



# FIRE FIGHTING EQUIPMENTS

- Fire extinguishers are purposely meant to extinguish fires in their incipient stages by cooling, smothering or starving principles



- Since 1997, all modern fire extinguishers have to be red in colour with a small part of the extinguisher (generally the label) in the appropriate colour to help identification.



# COLOUR CODING SCHEME

ALL ARE RED IN COLOUR DIFFERENTIATED BY LABEL

WATER	FOAM	CARBON-DIOXIDE	DRY POWDER
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# Water Extinguisher 'Signal Red'



- **Extinguishes by:**
  - Removing heat
  - Cooling burning materials
- **Use for:**
  - (Class 'A' fires)
- **WARNING - NEVER USE ON LIVE ELECTRICALS, OILS OR FATS**

# Foam Extinguisher. (Aqueous film-forming foam) (AFFF) – ‘Signal Cream’



## Extinguishes by:

Removing heat

Cooling burning materials

Removing Oxygen and smothering the fire

## Use for:

(Class ‘B’ Fires)

**Can also be used** (Class ‘A’ and ‘B’ fires)

# Dry Powder Extinguisher. (Multi-Purpose) – ‘Signal Blue’

## Extinguishes by:

Reacting physically with the chemical reaction of fire

## Use for fighting:

Class ‘A’, Class ‘B’, Class ‘C’ and Electrical fires

## Warning:

1. **Avoid inhaling powders can cause asphyxiation**
2. **Be aware of re-ignition**
3. **Visibility will be reduced**



# Carbon Dioxide Extinguisher .

## 'Signal black'



### Extinguishes by:

Displacing Oxygen and smothering the fire

### Use for:

Live electrical fires

### WARNING –

- ✓ **DO NOT TOUCH THE PLASTIC HORN DURING USE AND**
- ✓ **BE AWARE OF THE LOUD NOISE DURING DISCHARGE**
- ✓ **This type of extinguisher is not very effective when used outside.**

## The PASS Technique:

1. **PULL** - Pull the pin. This will also break the tamper seal.
2. **AIM** - Aim low, pointing the extinguisher nozzle (or its horn or hose) at the base of the fire.
3. **SQUEEZE** - Squeeze the handle to release the extinguishing agent.
4. **SWEEP** - Sweep from side to side at the base of the fire to gain a wider area of the fire.

# Fire blanket



- Fire blankets are made of fire resistant materials (Fiber Glass).

## How to Use

- Place carefully over the fire. Keep your hands shielded from the fire. Do not waft the fire towards you.



# FIRE HOSE REELS



## How To Operate

- Turn on the hose reel valve before releasing the hose reel.
- Run out the hose.
- Turn on water at nozzle and direct the stream at the base of the fire.

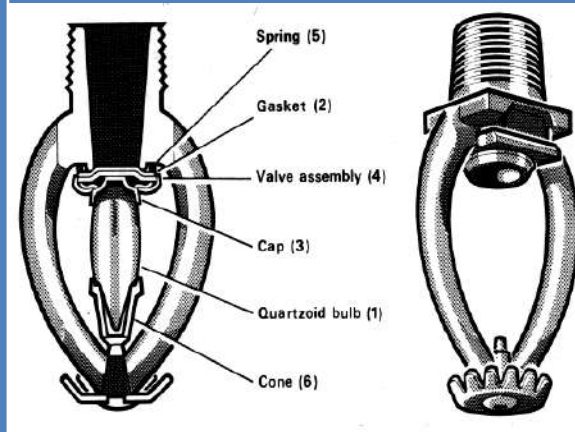


# OTHER FIRE FIGHTING EQUIPMENTS

## SAND BUCKET



## SPRINKLER SYSTEM



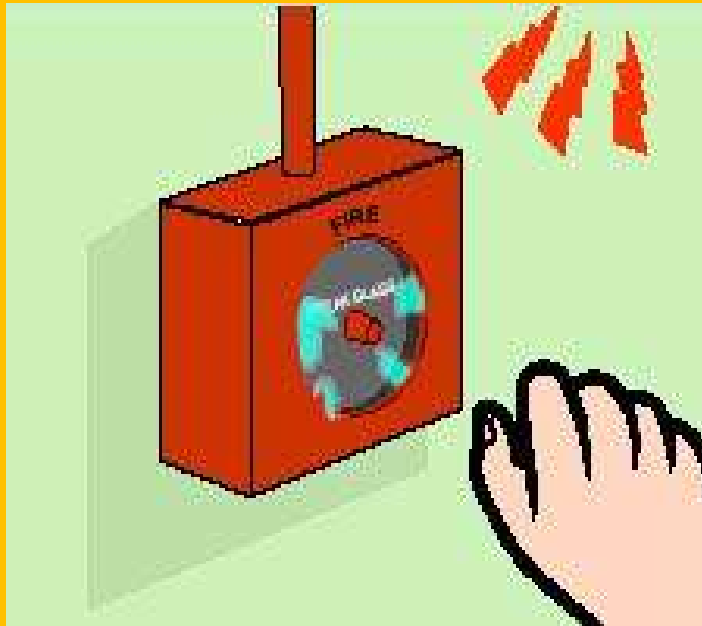
## FIRE BEATERS



## GAS Suppression SYSTEM



# Operating A Manual Call Point



**Break glass of  
manual call point**

In the event of a fire, break the glass of the nearest manual call point that you have located. This will cause the fire alarm system to sound throughout the building.

# FIRE ALARM SYSTEMS



Smoke  
Detector

The primary function of most basic fire alarm systems is warning occupants of potential or impending danger, while simultaneously summoning the fire department

Fire Bell







Fire  
Call  
Point

# THRESHER

0016:11:45:22



# Fire Extinguishers - General operating procedures









-  Raise the alarm!
-  Is it safe to tackle?
-  Exit route to safety?
-  Correct type of extinguisher?
-  **Test it!- P.A.S.S**
-  Safe position from which to fight fire?





# Fire Extinguishers

## Health and Safety Implications

-  **Electrocution**
-  **Asphyxiation**
-  **Impaired vision**
-  **Frostbite**
-  **Noise**
-  **Inhalation of smoke  
and toxic gases**
-  **Failure rate**
-  **Means of escape**

# You Should Only Tackle Fire If:

- ➡ The alarm has been raised and evacuation is under way
- ➡ The fire brigade has been called
- ➡ It is safe to do so and there is no possibility of your escape route being cut off by smoke or fire
- ➡ The fire is in its early stages
- ➡ You have had proper training and know how to recognize the various types of extinguishers, which to use when, and how to use them



**We Salute This  
Genius Man**



# NEVER FIGHT A FIRE IF:

- **The fire grows in spite of your efforts.** Only use a fire extinguisher when the fire is in its early stages. If the fire is already spreading quickly, evacuate and call the fire department.
- **You don't know what is burning.** Unless you know what is burning, you won't know what type of fire extinguisher to use. Even if you have an ABC extinguisher, there could be something that will explode or produce highly toxic smoke.
- **You don't have the proper fire extinguisher.** The wrong type of extinguisher can be dangerous or life-threatening.
- **There is too much smoke or you are at risk of inhaling smoke.** Seven out of ten fire-related deaths occur from breathing poisonous gases produced by the fire.

# FIRE RISK ASSESSMENT

- Should focus on the safety in case of fire of all ‘relevant persons’. And,
- Will help you identify the risks that can be removed or reduced, and to decide the nature and extent of the general fire precautions you need to take



FIRE EXIT

DO NOT BLOCK  
FIRE EXIT

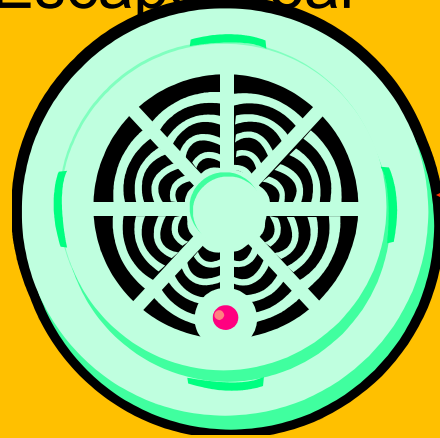


# Housekeeping



Keep Means of  
Escape clear

Keep fire  
doors  
closed



Test alarm  
regularly



Keep exit  
door keys  
accessible

Store flammable  
materials safely







# EMERGENCY EVACUATION

# Emergency Evacuation

## Objective

To equip all of you with skills and knowledge to enable you to;

- Ensure proper evacuation, fire safety in the event of an emergency until back up arrives.

# Who is a fire marshal?

- Fire Marshals are persons appointed to take care and safe guard other persons lives (i.e. by carrying all necessary evacuation procedures) and their properties (by extinguishing the fire if possible to do so.



# Selection of Fire marshal

- Assigned based on bldg/floor design and number of employees
- Ratio should be approximately one floor Marshals to 20 employees
- If large area, additional Floor Marshals or other designated personnel should be assigned

- ✓ Willing to accept the responsibility of being a floor marshals
- ✓ Reliable
- ✓ Respected by other employees
- ✓ Rarely out of the office
- ✓ Be familiar with the names and faces of all employees in the area they are assigned

# How are Fire Marshals identified?

- ✓ Vest
- ✓ Armband
- ✓ Clipboard
- ✓ Take Charge

## **BEFORE a fire alarm sounds:**

- Be familiar with your assigned area
- Coordinate with other Marshals in your zone to determine search areas and responsibilities
- Know your building(s) - all means of escape, doors, staircases, alarms
- Notify your alternate (Deputy) when you are away
- Be aware of mobility challenged individuals in your area



## WHEN a fire alarm sounds:

- Never assume it is a false alarm
- Don your vest and check your area
  - **Green for Chief Marshals Orange for Fire Marshals**
- Calmly request all persons to evacuate  
(Do not use elevators)
- Ensure all washrooms, offices, classrooms, and hallways are clear of occupants
- Assist with mobility challenged if necessary



## Conducting Headcount

- Employees should check-in with their Fire marshal once they reach the assembly area
- Employees should be instructed they are not to leave the area until the Fire marshal gives the all-clear, instructs them to move to an alternate area, or starts the procedure to send them home



## **When you are safely outside:**

- Inform the Chief Fire marshal of the status of your area
- Ensure proper assembly at muster points
- Clear all emergency access routes
- Keep a list of people you are responsible for on clipboard
- Use list to take roll call
- Inform personnel to not re-enter the building
- Do not risk your personal safety for any person- refusing to cooperate

# EVACUATION PROCEDURES

## ON DISCOVERING A FIRE:

- ▶ **SOUND THE ALARM.** If you discover or suspect a fire, sound the building fire alarm. If there is no alarm in the building, warn the other occupants by knocking on doors and shouting as you leave.
- ▶ **LEAVE THE BUILDING.** Try to rescue others only if you can do so safely. Report to the Fire Assembly Point. Don't go back into the building until the fire department says it is safe to do so.
- ▶ **CALL THE FIRE DEPARTMENT.** Dial..... and give as much information as possible to the emergency dispatcher
- ▶ **Total and immediate evacuation** is safest. Attack the fire if possible using the appliances provided, but without taking risks. If you can't put out the fire, leave immediately.

# Evacuation Procedures

## ON HEARING THE FIRE ALARM:

- Leave by the nearest/safest fire exit, escorting visitors, guests etc;
- **Do not** stop to collect personal belongings;
- Report to your designated Assembly Point;
- **Do not** re-enter the building until you have been told that it is safe to do so. Shut the doors behind you as you leave and if possible close windows too.
- Fire Marshals should take the role call

# Evacuation Procedures

## KNOW:

1. The means of escape routes, primary and secondary.

2. The nearest Fire Alarm point.

3. **WHERE THE ASSEMBLY POINT IS.**

***Never take risks - if in doubt GET OUT***

# Fire Safety Signs



**Fire action**  
ON DISCOVERING A FIRE

 1 Operate nearest fire alarm call point \\ Dial  to call the fire brigade

 2 If possible tackle the fire using the appliances provided.  
(Do not endanger yourself or others in doing so)

**ON HEARING THE FIRE ALARM**

 3 Leave the building by the nearest available exit / route, closing all doors behind you.

 4 Report to person in charge of assembly point at:-

 5 Do not take risks  
Do not stop to collect personal belongings  
Do not use lifts  
Do not re-enter the building for any reason unless authorised to do so.

26/06/2019



# ASSEMBLY POINT PROCEDURES

- ❑ On the sounding of the alarm people should make their way to the assembly point and gather in an orderly fashion
- ❑ The Fire Warden should take the role call and then report the findings to the coordinator who in turn reports to the fire service on arrival.
- ❑ Assembly should be quiet and orderly and the Fire Wardens should make sure that the people are not in danger



# CON'T

- ❑ Protected means of escape or alternatives give people a choice of direction and therefore safety.
- ❑ Early warning, good fire safety, regular drills, and good means of escape are the ingredients for success.





# SMOKE AND DANGERS

- Smoke is a combination of lethal gases, vapours and particles of partially burnt materials. Most fires release smoke and **ALL** smoke is dangerous - more than half of fire related deaths are as a result of smoke inhalation.

# Smoke can cause

- Unconscious after 2-3 breaths.
- Severe burns to respiratory tract.
- Death in 1-3 minutes.

# Escaping Through Smoke

- If you become trapped by smoke, you should:
  - Lie on the floor;
  - Breathe through your nose;
  - Crawl to safety;
- In a fire, smoke will naturally rise leaving some fresh air about 30cm to 60cm off the floor.



# What To Do If You Are Trapped

- If you see smoke coming from behind a closed door, **NEVER** open it - there is the possibility of a violent explosion as a result of a sudden inrush of air. Remember that without a supply of air (Oxygen) the fire will suffocate.

# What To Do If You Are Trapped

- **Don't panic. Stay calm and follow these steps:**



**Enter a safe room, preferably one that overlooks a road.**



**Shut the door behind you. Cover the bottom gap of the door with a blanket or rug, to prevent smoke from seeping through.**



**Shout for help from the window or other openings to alert passers-by. Then wait for rescue to arrive.**

# If Your Clothing Catches Fire

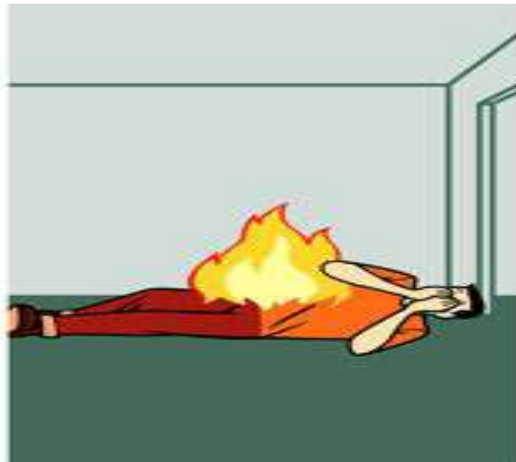
**Stop. Do not panic and run.**

**Whether indoors or outdoors, drop down immediately, covering your face with your hands**

**Roll over and over to put out the flames.**

**Rolling smothers the flames by removing the oxygen.**

**Covering your face with your hands prevents the flames from burning your face and help keep fumes and smoke from reaching your lungs.**



# HUMAN BEHAVIOUR DURING EMERGENCY





- ***People are often altruistic.*** In an emergency, strangers will often help each other out even when they put themselves at greater risk by doing so
- ***People are inertial creatures.*** People don't like to stop what they're doing, and often a fire alarm isn't enough of a cue to get them to drop their everyday tasks and exit a building
- ***Most people will try to exit through the door they entered.*** This is true even when emergency exit signs are well marked.

# What happen during a fire?

- How people react during a fire is impacted by the hazards produced by a fire situation. Such as Temperature, Heat, Smoke, Oxygen Depletion.
- How someone becomes aware of the fire is going to have a direct impact on their actions.
- There are several ways that individuals can be made aware of the fire threat. May be through, vocal alerting systems, odor of smoke, personal and noise.

# Proposed solutions

- ***Vocal alarms.*** A vocal alarm that instructs building occupants to evacuate is more convincing than a simple bell.
- ***Automatic exits.*** An alarm system might automatically open emergency exit doors,
- ***Comprehensive building orientations.*** In World Trade Center, many employees had never tried to walk down the emergency stairwells from their offices to the ground floor, and had no idea whether they could do so or how long it would take.

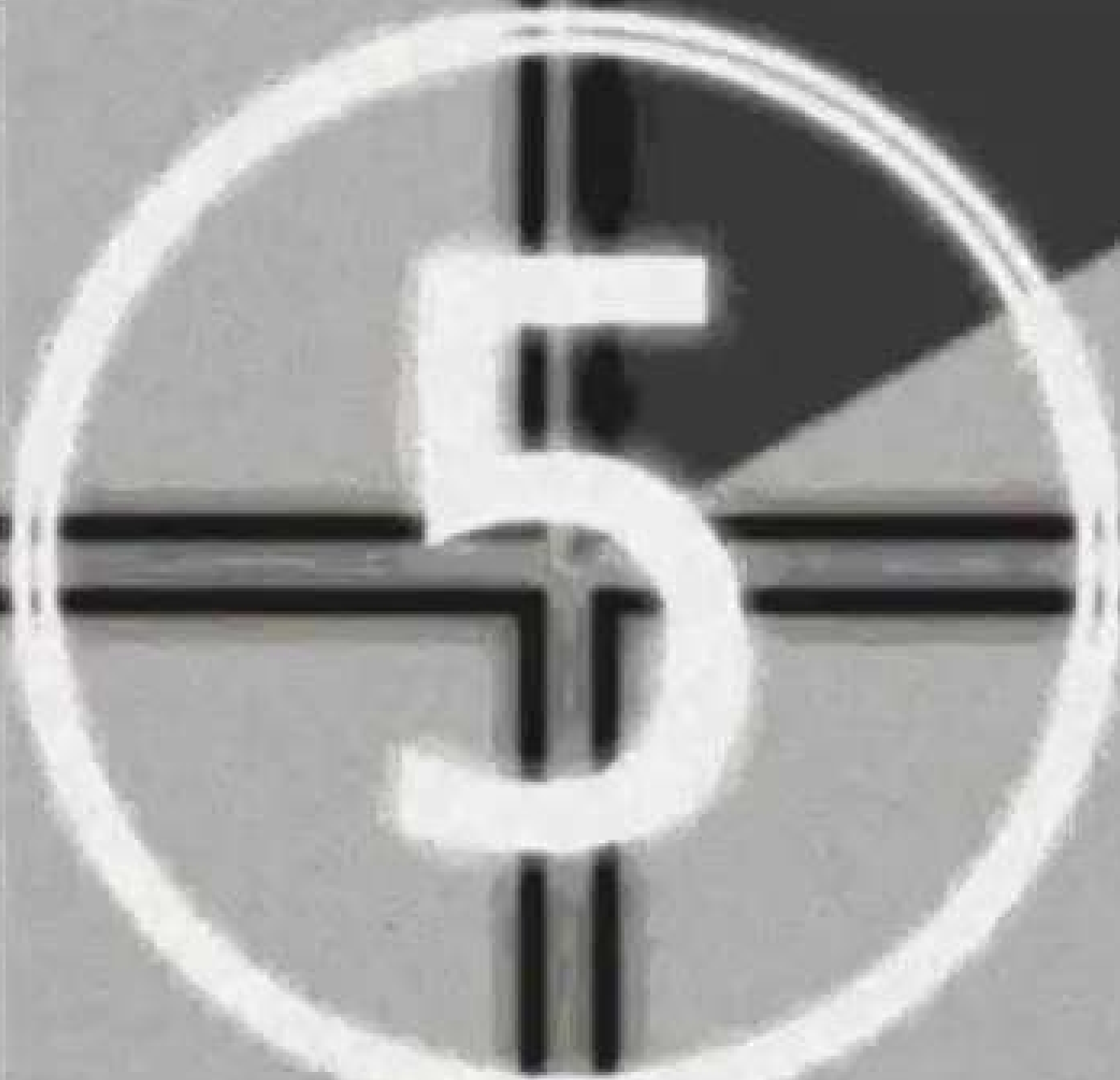
- ***People will move through smoke when necessary.*** People will move through terrible smoke if they feel they must in order to survive

# Managing good house keeping

- hazards and help get a job done safely and properly. Poor housekeeping can frequently contribute to accidents by hiding hazards that cause Effective housekeeping can eliminate some workplace injuries.

# Good house keeping

- ▣ Housekeeping is not just cleanliness. It includes
  - ✓ keeping work areas neat and orderly;
  - ✓ maintaining halls and floors free of slip and trip hazards;
  - ✓ removing of waste materials (e.g., paper, cardboard) and other fire hazards from work areas.
  - ✓ It also requires paying attention to important details such as the layout of the whole workplace, aisle marking, the adequacy of storage facilities, and maintenance.
  - ✓ Good housekeeping is also a basic part of accident and fire prevention.



# LPG SAFETY

- Empty cylinders must be stored in a cool and well ventilated place with the safety cap put on.
- Do not put cylinders inside closed compartment.
- Do not put cylinders in a pit below floor level.
- Always keep the gas stove on a platform above the cylinder.



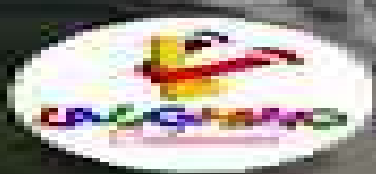
# LPG SAFETY CONT'

- **A cylinder upright is a cylinder right.**
- **Check rubber tube regularly for cracks if any change.**
- **Strike match first then open burner knob.**
- **Do not allow children to play inside the kitchen**
- **Use cotton apron while cooking.**
- **Do not repair the cylinder on your own.**
- **If you smell gas do not operate electrical switches**

# LPG SAFETY CONT'

- **If you smell you smell gas put off all flames**
- **If you smell gas ventilate the room.**
- **Never dip the main frame /body of the stove in water . The grease in the gas taps may get washed away and this may result in continuous leakage of gas.**

**PLEASE WATCH THIS VIDEO**



**SEND TO YOUR FAMILY  
FOR SAFETY**

# Fire drill

- ❑ Fires and evacuations are serious matters, therefore fire drills are essential for the safety of all staff (and visitors) of a workplace.
- ❑ A fire drill is a method of practicing the evacuation of a building for a fire or other emergency
- ❑ Generally, the emergency system (usually the fire alarm/smoke detector) sounds and the building is evacuated as though a real fire had occurred.
- ❑ Usually, the time it takes to evacuate is measured to ensure that it occurs within a reasonable length of time, and problems with the emergency system or evacuation procedures are identified to be remedied.

# WHAT TO DO AFTER A FIRE

After a fire, danger and injury are still possibilities.

It is extremely important to keep the following information and safety standards in mind:

- Do not enter a fire-damaged building unless fire department says it is okay .
- If the building is deemed unsafe to enter, secure to prevent possible looting
- Know who to call after a fire (family members, tenant and insurance company)
- Understand what happens with a "fire report"
- Consider the clean up requirements.
- Have an electrician check the wiring before the current is turned back on. Do not attempt to reconnect any utilities yourself

# Counseling support

- After a fire you may experience anxious feelings, depression, difficulty concentrating, sadness, anger, fatigue, irrational fears and nightmares. These are common responses to a traumatic event. If one of your staff needs support in case of any emergency you can call any agency that can offer the same.





TRAVEL WOODCOTE FK

15:43:03

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96





# Burns:

- Thermal injuries to the skin.

## ❖ The Skin

- The skin is the largest organ in the body.
- Its divided into three layers.
- Includes hair, fingernails and toe nails.
- Functions include: protection, temperature regulation, vit D synthesis e.t.c.



# Causes

## CAUSES

- Wet Heat
- Electrical
- Chemical
- Friction
- Radiation
- Cold
- Dry Heat
- Hot Liquids
- Electric Current
- Corrosive Liquid
- Fast Moving Belts etc
- Sunburn
- Freezing vapour
- Fire, Hot Objects



# Top Layer-1<sup>st</sup> Degree Burn:

## TOP LAYER 1<sup>ST</sup> DEGREE BURNS

### ➤ Characteristics:

- Redness.
- white plaque.
- minor pain at the site of injury.
- These burns involve only the top layer e.g. sunburns.

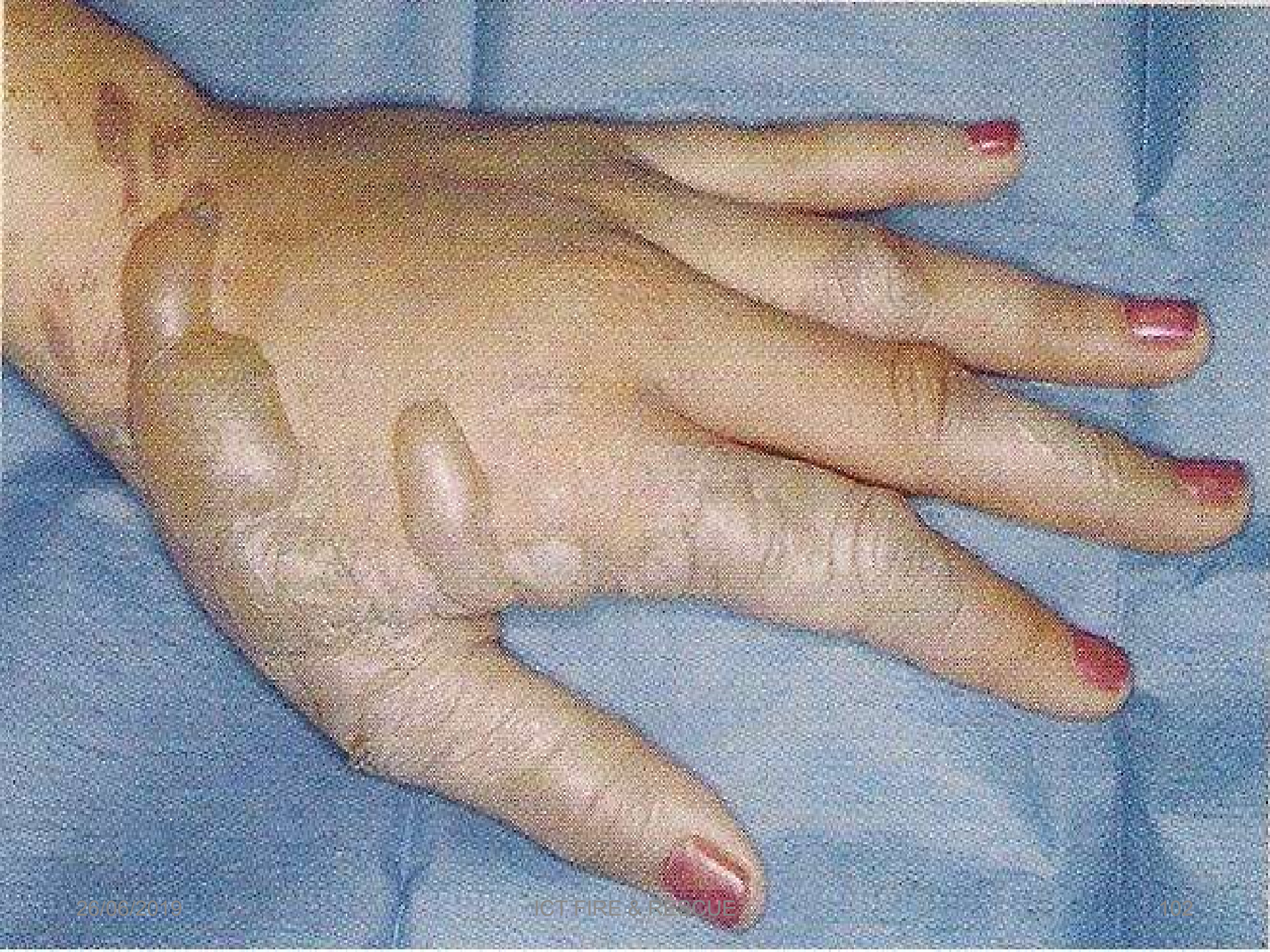
# 1<sup>st</sup> Degree Burn:



## b) Top & Middle Layer- 2<sup>nd</sup> Degree Burn:

### ➤ Characteristics:

- Involves the top and the middle layer of the skin
- Reddening
- Blistering
- Very painful
- Pains sensation is not lost



## c) Top, Middle & Inner Layers – 3<sup>rd</sup> Degree

### ➤ Characteristics:

- Involves all the three layers of the skin.
- There is loss of pain sensation.
- May look waxy, pale or charred.
- Need urgent medical attention depending on the region.



# 3<sup>rd</sup> Degree Burn:







# CLASSIFICATION BY AREA

ADULT( rule of nine):

Head & neck 9%

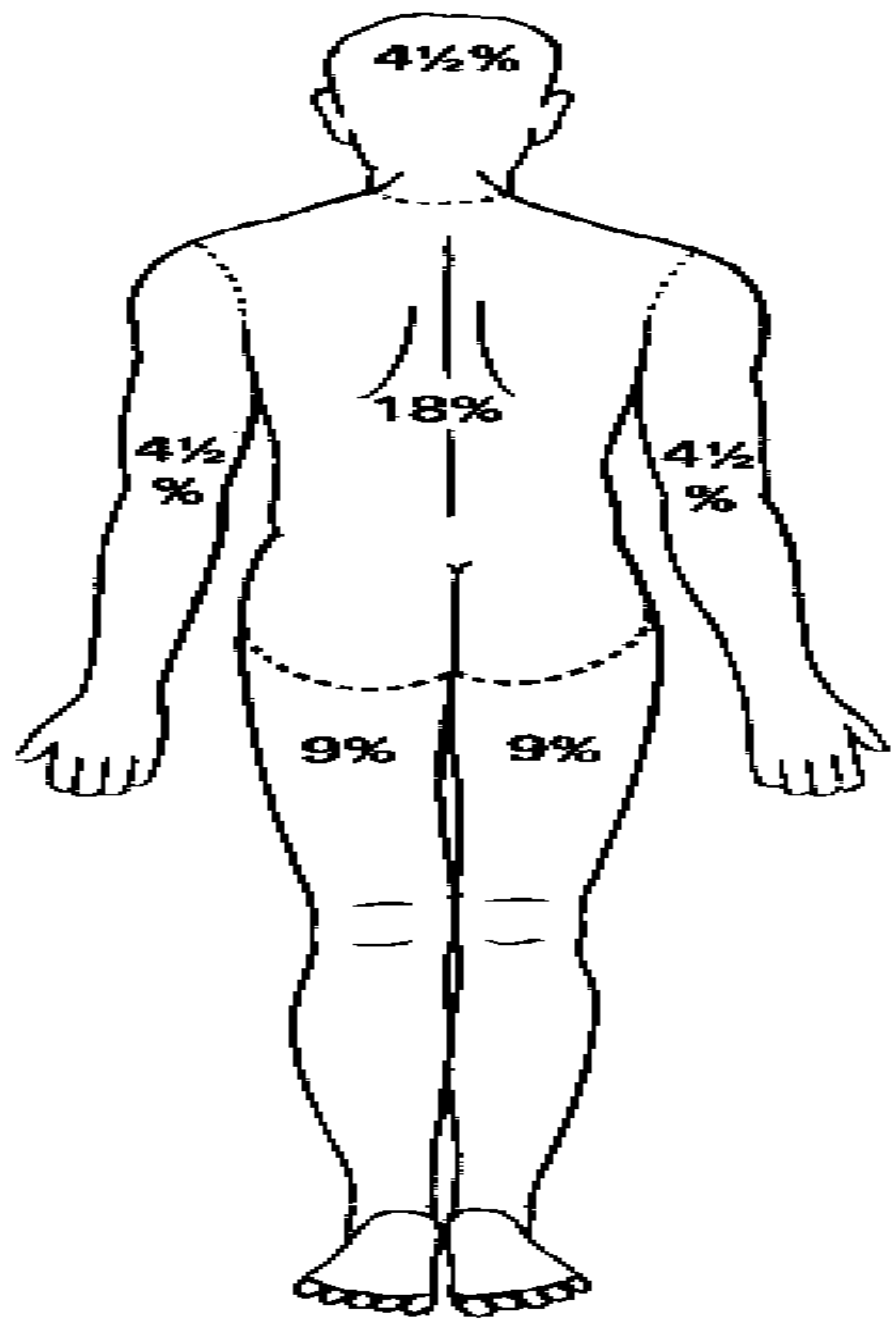
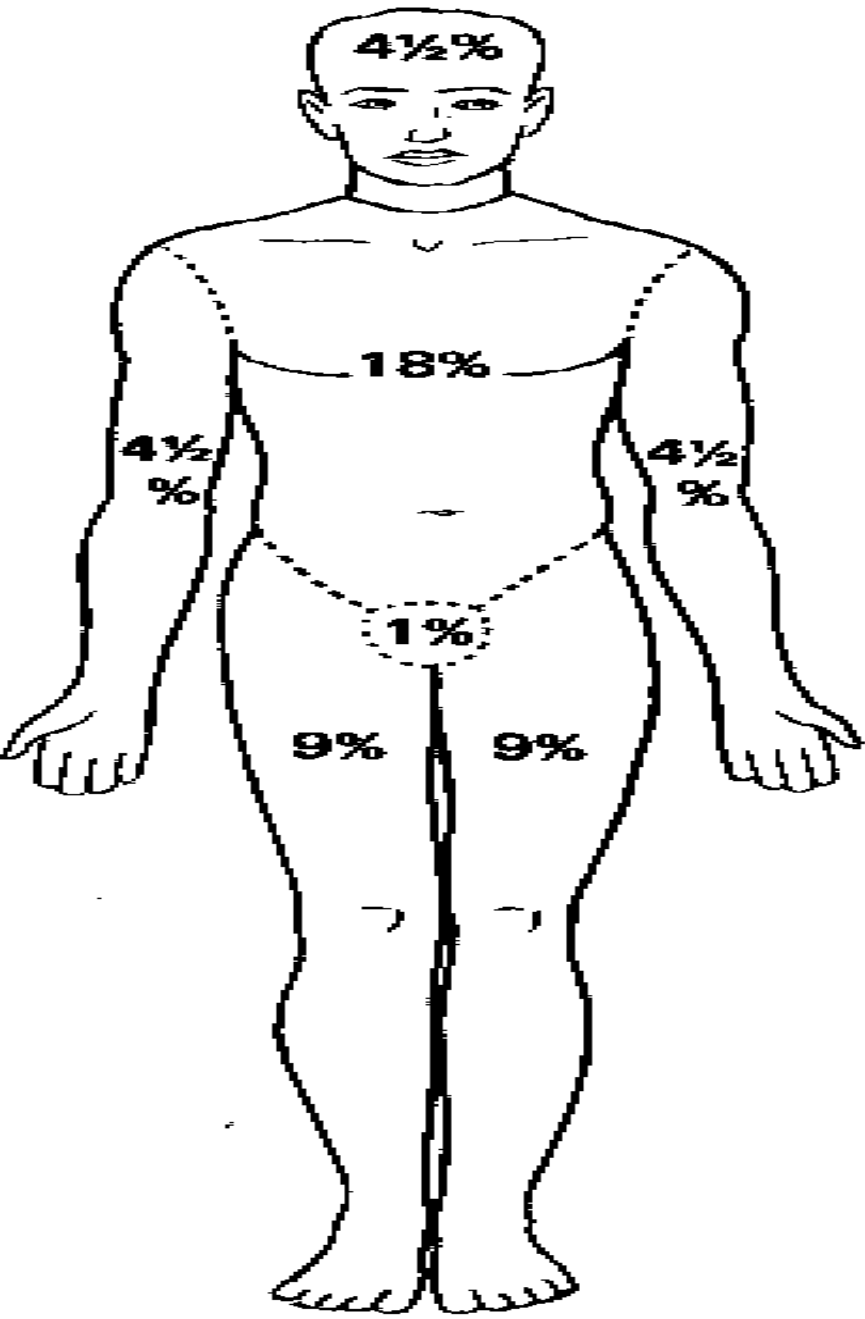
upper limbs 18%

Chest & abdomen 18%

Genitalia 1%

Back 18%

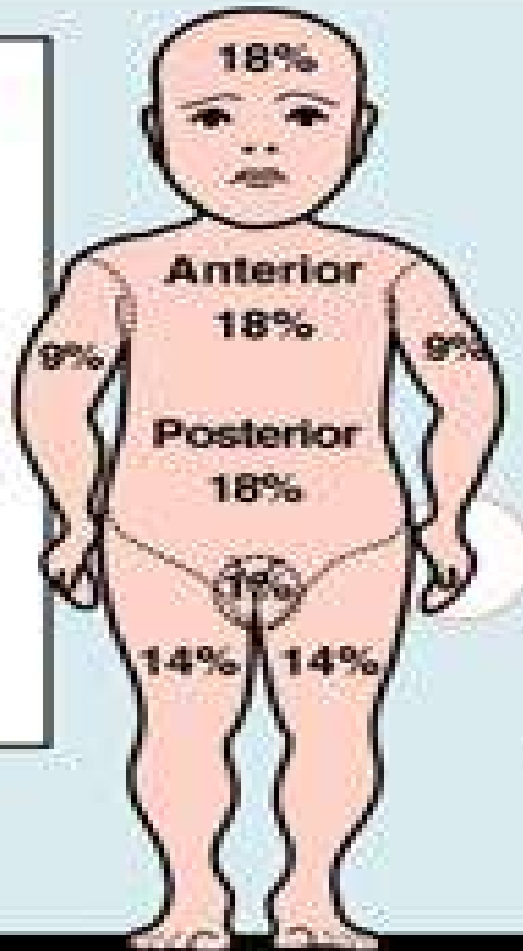
Lower limbs 36%



# Estimating Burn Area for Infants

## Rule of Nines

The body surface is divided into areas representing 9% or multiples of 9%



The Child's Palm Represents 1% of his or her body



# Care and treatment

- **L LOCATION**
  - of burn on the body
- **A AGE**
  - of casualty
- **D DEPTH**
  - of burn
- **A Area**
  - of burn



# Management

- Ensure safety.
- Remove patient from danger or danger from the patient.
- Cool the burnt area with tepid water
- Remove rings/watches if you can
- Plenty of reassurance
- Cover the burnt area with clean non adhesive dressing.
- Take care with hygiene.
- Remove burnt clothing
- **DO NOT** apply any oils, flour e.t.c

# Stop The Burning Process

✓ Use water or saline to cool burn injuries

✓ Within first 10 minutes of injury, if possible.

✓ Remove jewelry and any smoldering clothing





**Cut around areas of clothing that adhere to patient; do not attempt to remove adhered fabric**



# Burns requiring hospital care

- Burns involving the hands, Feet ,face or genitalia.
- Burns covering more than 20% of the bodies surface area





# Complications

- Shock
- Infection
- Respiratory tract complications.
- Emotional stress
- contractures





# TERRORISM

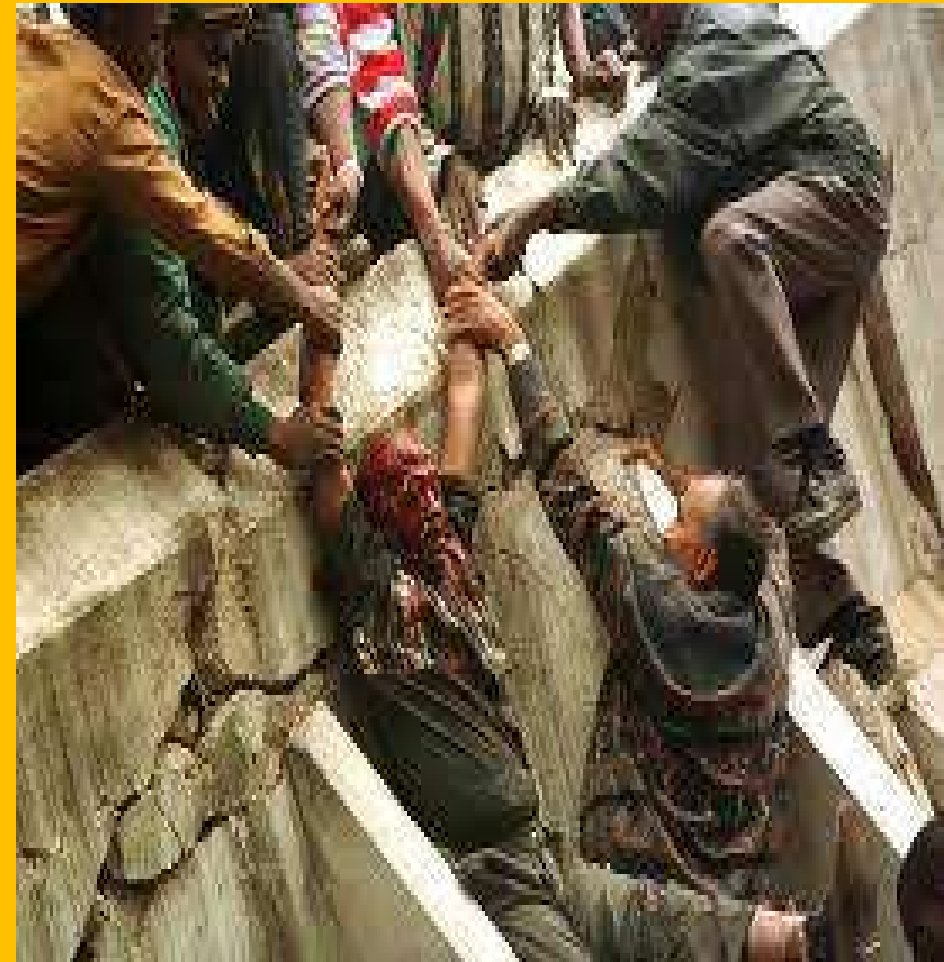




# Active Shooter Preparation & Training

## “It’s NOT A Shot In the Dark”

# Nairobi Bomb Attack 1998



# KAMPALA BOMBING WORLD CUP BEFORE THE ATTACK



26/06/2019

ICT FIRE & RESCUE

118

# AFTERMATH





# LOVED ONES GONE





## DEFINING TERRORISM.

Agreement on the definition of terrorism remains a source of much disagreement. The problem of definition is raised when an individual, who is labeled as a terrorist by one segment of society, is revealed as a freedom fighter by another segment of society.

It is necessary to define that it's a behavior which is unacceptable and considered illegal according to the criminal justice system of each country.

# Continuation

- Although many will argue the definition of terrorism, all agree that acts of terrorism make the terrorists a criminal.
- The dictionary defines terrorism as “the use of violence and intimidation to subjugate people or to achieve an end or purpose.” Based on this definition, terrorism is any action that evokes terror among some defined group of people.

WE HAVE BOTH DOMESTIC AND INTERNATIONAL

## Terrorist Groups

### DOMESTIC

Most domestic terrorists/extremists are relatively easy to detect. Warning signs will include;

- Dress – Though not all.
- Writing
- Speech
- Actions
- Markings

# INTERNATIONAL

- International terrorists will be more difficult to detect and will exhibit fewer warning signs than domestic groups and individuals.
- Officers will have to use basic police instincts raised to a higher level.

## GENERAL OBSERVATIONS

- It can be anyone /even your own relative.
- Money with no employment - furnishings
- Radical literature
- Hand drawn maps
- Loitering around sensitive areas
  - ▣ Repeated use of “God” not coupled with profanity
  - ▣ Use of foreign terms/phrases not in context
  - ▣ Misstatements about other groupings/communities.

# PRE-INCIDENT INDICATORS Terrorist Surveillance

- Personnel observed near identified potential targets carrying video cameras or observation equipment with high-magnification lenses.
- Persons observed with maps, photos, or diagram sketches with facilities highlighted
- Persons possessing or observed using night-vision devices

# Continuation

- Individuals observed at the parking, standing, or loitering in the same areas over multiple days
- A pattern or series of false alarms requiring law enforcement and /or emergency response
- Reported thefts of military, law enforcement, or fire ID cards, license plates, uniforms, etc.
- Non military persons stopped with military-style weapons, clothing, or equipment

# Continuation

- Reports of computer hackers attempting to access sites with personal identifications, maps, or other targeting examples.
- ▣ Theft or unusual sale of large numbers of semiautomatic weapons.
- ▣ Theft or large sale of ammunition.
- ▣ Reports of automatic weapons firing.
- Theft or sale of protective body armor to non-law enforcement persons
- ▣ Paramilitary groups carrying out training scenarios.



# TARGET SURVEILLANCE BY TERRORIST

- Scheduled deliveries
- Work-shift changes
- Identification procedures
- Presence of a guard force
- Reaction time of response units
- Hardening of the facility or area surrounding the site
- Barriers, fences, sensors, cameras and personnel
- Package delivery and vehicle screening procedures
- Peak times of pedestrian traffic
- Checkpoints for pedestrian and vehicular traffic
- Other sensitive information

# Continuation

- Last-minute, walk-in registrants
- Rigorous supervision of security officers
- Sudden change of appearance – hair etc
- Questionable identity on bookings – ID, names, photos, add. Etc
- Payment in cash for large sums –etc
- Reports of the thefts of customers' luggage or baggage containing sensitive documents such as passports/visas and other forms of identification.

# Continuation

- Hi-tech photographic/surveillance equipment, binoculars or other equipment not typically carried/used by UNIVERSITY OF EMBU students, e.g., night vision goggles, military binoculars
- Possession of unauthorized uniforms (airport, postal, police, military)
- Unusual odors or substances unknown to you; oil-based stains or other flammable material
- Abandoned Luggage – bulky, empty, etc

# Continuation

- Unusual requests – please allow me to deliver these documents during odd hours etc
- Delivery of a suspicious parcel
- Suspicious person(s) loitering near system vents, air intakes, equipment, etc.
- Several guest's who looks suspicious / meetings.

# TARGET SELECTION

- **Maximum shock effect (commons. Nerve centre, heavily populated areas)**
- **Choose environment low risks to terrorist groups**
- **To gain international attention**
- **Maximum disruption of facility and operation**
- **Assault targets because of the dollar placed on them**

## ***SPECIFIC CONDITIONS***

Specific conditions that may indicate a potential for terrorist activities in your area

- Public demonstrations by support groups
- Information about new groups forming
- Dissident meetings, rallies, demonstrations
- Reports of young boys being recruited for training (home or overseas).

# Continuation

- Appearances of anti government.
- Posters/leaflets, Underground press publications, CDs.
- Politicization of social, religious causes.
- Unrest at colleges, universities, worksites, places of work.
- Speeches advocating violence.
- Influx of illegal arms and foreign operatives
- Pamphlets, communiqués, flyers, etc.

## THE GARISSA UNIVERSITY ATTACK

- **At least 147 people, mostly students, were killed in an assault by al-Shabab militants on a university in north-eastern Kenya.**
- Heavily armed attackers stormed Garissa University early on a Thursday 3<sup>rd</sup> april 2015, killing two security guards then firing indiscriminately on students.
- Four of the gunman were eventually surrounded in a dormitory, and died when their suicide vests detonated.



# CONT'

- It is the deadliest attack yet by al-Shabab.
- The militants singled out Christians and shot them, witnesses said.
- More than 500 students managed to escape, 79 of whom were injured.
- A fifth gunman has reportedly been arrested.

# GARRISA UNIVERSITY ATTACK

1. Militants enter the university grounds, two guards are shot dead
2. Shooting begins within the campus
3. Students attacked in their classrooms while preparing for exams
4. Gunmen believed isolated in the female dormitories
5. Some students make an escape through the fence

# Cont'

Al-Shabab says it attacked the university because it is at war with Kenya, Kenyan troops entered Somalia in October 2011 in an effort to stop the Islamists from crossing the long, porous border between the two countries and kidnapping people - but their presence achieved the opposite effect, provoking al-Shabab to increase its activity in Kenya, The group was behind the Westgate shopping mall attack, when 67 people were killed

# Why we took a proactive role...

- University Health Services has a high exposure profile on campus, due to the nature of our close interaction with students and patients.
- Years after GARRISA ATTACK there was still no policy or procedure in place across our campus addressing how to respond to such a crisis.

# Learning Objectives

- Understand / define the term “active shooter.”
- List necessary measures that can be employed to reduce the effectiveness of an active shooter.
- Understand Law Enforcement Response.
- Understand the key components of a lockdown policy.

# The Active Shooter Defined

- An armed suspect or assailant who has used deadly force on other persons and continues to do so while having unrestricted access to additional victims.
- Threat is not contained and there is immediate risk of death or injury.



# Active Shooter



- Considered the greatest terrorist threat on campuses.
- You need to be informed of law enforcement response plans so you can take protective measures.

# Mentality of Active Shooter

- Desire to kill without concern for their safety or threat of capture.
- Normally has intended victims, and will search them out.
- Accepts targets of opportunity while searching for or after finding intended targets.



# Mentality of Active Shooter

- Will continue to move throughout building or area until stopped by law enforcement, suicide, or other intervention.
- This has necessitated a change in tactics by law enforcement (RDU, RECCE SQUAD).

# Shooters Intentions / Goals: To Kill and Injure



Losses can be mitigated with community preparedness training and response during actual event.

# Considerations

- Unlike public school systems, University facilities do not feature:
  - Intercoms in classrooms / buildings
  - One centralized administrative office
  - Visitor access points (open campus)
  - Dense campus facility (large area)
  - Immediate Campus wide Emergency Notification System

# Campus Mitigation

- Campus Protective Posture:
  - Early Warning / Notification System?
  - Campus training involvement?
  - Building construction?
  - Established escape routes?
  - Identification / location of safe rooms?

# Facility Mitigation

- Building / departmental Lockdown Policy development:
  - Well thought out?
  - Multi-disciplinary approach?
  - Simple / understandable?
  - Practiced / rehearsed?
  - Funded AND endorsed?

# Law Enforcement Mitigation



# Law Enforcement Mitigation

- Campus Police Training Status:
  - Campus SWAT Team?
  - Campus training involvement?
  - Number of officers on shift / available?
- **External Law Enforcement:**
  - Collective training with Campus Police?
  - Nearest station / sub-station?
  - Command / Control integration?

# Law Enforcement Response





# Law Enforcement Response

- Law Enforcement's mission is to locate, contain and stop the shooter.
- Once officers are at the scene and determine that violence is **actually, currently** occurring, they enter the building. They will **not** wait for a SWAT team.
- The shooter will generally not flee when law enforcement enters the building. Responding officers become "new" targets.

# Law Enforcement Response



- Remember, the shooters main goal is not to escape, but rather to kill as many people as possible.

# Law Enforcement Response

- **Injured persons**
- Initial responding officers will not treat the injured or begin evacuation until the threat is neutralized.
- You may need to explain this to others in an attempt to calm them.
- Fire / Rescue will respond as soon as it is safe to do so.



# Law Enforcement Response

- Evacuation - when area is secure.
- Safety corridors will be established. This may be time consuming.
- You will be searched.
- You will be escorted out of the building by armed police officers. Follow their instructions at all times.



# The Investigation

- The entire area will be treated as a crime scene. Once you evacuate, you will not be permitted to retrieve items or access the crime scene.
- After evacuation you will be taken to a holding area for medical care, interviewing, counseling, etc.



# Your Response



- Your actions will influence others.
- Stay Calm.
- Render 1<sup>st</sup> Aid until help arrives.
- Assure others that you and the police are working to protect them.

# Lockdown Policy

- Policy / Procedure Development Goals:
  - Facility / site security
  - Staff, student, visitor safety
  - Proactive – NOT Reactive
  - Reduce staff anxiety
  - Tested and Re-tested: Effective & Efficient



# Lockdown Policy

Definition:

“an emergency protocol to protect people inside your facility from a dangerous external or internal event.”



# Lockdown Procedure

Enables staff, students, visitors, and patients to quickly move to multiple safe locations in the building and shelter in place until the threat has been removed or resolved.

# Lockdown Framework

Immediate isolation = protected posture.

Lockable door – behind cover.

History shows that when intruders come to a locked door, they keep moving – taking the path of least resistance to locate unlocked doors or windows where they can see people inside.

# Triggers

There two types of events that might trigger a lockdown:

- An external unsafe activity, condition, or event on campus.
- An internal IMMEDIATE event or threat.

# External Lockdown Event

## External Events:

Bomb Threat (not in current building)

Bio / Chemical Hazard / Bio Terrorism

Armed Intruder on campus OR External  
Shooting Event (unresolved)

# External Lockdown Response

Initiated by Outside Entity: University Administration /  
Law Enforcement

Barrier security – secure all exterior doors immediately.

All staff, visitors, patients to move immediately away  
from windows.

Complete all in-progress patient care.

Shut down elevator / secure internal doors.

Move to safe areas or designated Safe Rooms.

Length of time in lockdown posture: HOURS??

# Internal Lockdown Event

## Internal Events:

Staff have active view of intruder with weapon or explosive device.

Shots fired.

Robbery or hostage situation.

# Internal Lockdown Response

Immediate response

Secure first line barrier doors

Gather patients / visitors

Quickly move to and secure Safe Rooms

Open lockdown packet

Check in (radio) with Operations Center

Maintain quiet & order; establish calm demeanor

Length of time in Lockdown posture: 20 - 30 minutes  
maximum

# Initiation of Internal Lockdown

- 1) When the trigger event occurs, observing party will initiate the lockdown by broadcasting “**LOCKDOWN LOCKDOWN LOCKDOWN**” on 2-way radios; both on Channel 2, and again on Channel 1.

On completion, 2-way radios switched to Channel 1 and monitored.



# Initiation of Lockdown

- 2) Observing party (or designated staff member) will call Campus Police @ “123-4567” ASAP.

This may or may not be the designated “911” number; depending on the nature of the emergency, 911 may be overwhelmed (ring busy).

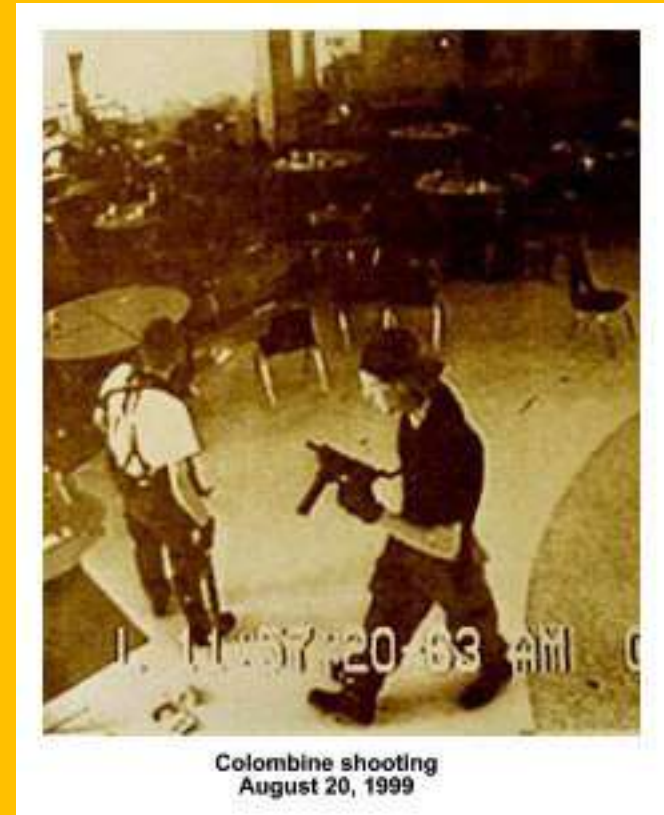
Report details of incident / event.

# What to Report?

- Your Name & Phone Number.
- Specific Location of incident or event:  
    Building Name + Room Number
- Injuries:  
    Number of People Injured  
    Types of injuries
- Additional details, such as...

# What to Report?

- Suspect Information
  - Specific location
  - Number of suspects
  - Race and Gender
  - Clothing color and style
  - Physical features
  - Type of weapons
  - Backpack
- Do you recognize the shooter?  
What's their name?



# Initiation of Lockdown

- 3) It is essential that each staff member and Supervisor assess their local areas for threats.

**IF SAFE LOCALLY**, all departments will lock their 1<sup>st</sup> barrier doors immediately, and then quickly move to Safe Room.

**IF NOT SAFE LOCALLY**, immediately move to designated Safe Room OR seek immediate cover / protection.

# Initiation of Lockdown

- 4) Move all staff, visitors, and patients to identified Safe Room.

## Safe Room considerations:

- \* must be immediately accessible.
- \* large enough to contain functional groups of staff, visitors, and patients.
- \* no windows; no exterior walls.
- \* preferably “room within a suite” to give 2-deep barrier locking doors.

# Safe Room Shepherd

- Each Safe Room has primary and backup members designated as “Shepherds”.
- Shepherd is last person “in” Safe Room, and acts as the door gatekeeper.
- Ensure doorway access remains unobstructed.

# Safe Room Shepherd Responsibilities

- Get your flock into the Safe Room & secure the door. Silence all cell phones.
- Remove envelope from lockdown package & review the authentication code word or phrase.
- Ensure 2-way radio is present, operating, and on channel 1.
- Take headcount by name – staff, patients, visitors.
- Quietly respond to command center by 2-way radio when requested.
- Maintain calm and order.

# During the Lockdown

- Ignore all door knocks or fire alarms.
- Ignore all verbal commands from outside your Safe Room unless authentication code word / phrase is delivered by authorized administrative staff.
- The authentication code word / phrase must be unique to your organization and available – ours is located in a dedicated envelope in the lockdown kit.
- A known administrative staff member will come to each Safe Room and give the authentication word or phrase and announce code clear when the danger has resolved.



# Debriefing

- In an actual event, the Environment of Care committee will conduct a Health Center debriefing after release from Law Enforcement.
- **Goals:** help staff explore and manage strong emotions; take action against demeaning or aggressive attitudes, words, or behavior; monitor and settle emerging conflicts; correct misinformation; make corrective actions in the plan as needed; connect staff to available resources or support groups.

# Drills

- Purpose: to familiarize occupants of the building with the process, signals, and lockdown procedures, and authentication for all clear when an emergency occurs.
- Authority to call drills: Director, Medical Director, Chair
- All persons in building must take part in a drill.

# Responsibility of Administration

- Full charge of organizing and conducting drills in the Health Center.
- Capability and familiarity to secure all building exits in a lock down event.
- Establish and operate incident command center.

# Unsecured Areas

- If you find yourself trapped in an open area, immediately seek protection.
- Put a physical barrier between you and the suspect. Consider “concealment” (can’t be seen) versus “cover” (protection).
- Consider your options:  
Escape or shelter in place.

# Lock Down Packet Contents

- 1 large zip lock bag
- 1 pen
- 1 flashlight
- Cover sheet –Health Center Lockdown
- Signage – Health Center is under Lockdown
- Lock Down Policy
- Lock Down Checklist / Attendance Forms
- Health Center Phone List

# Lock Down Packet Contents

- Green & Red Paper (to be used to identify injury state of building to outside law enforcement observation). Only in Admin (3<sup>rd</sup> Floor) and IT (2<sup>nd</sup> Floor) with exterior window placement.
- Envelope with “all clear” code phrase / codeword.
- List of staff member cell numbers.
- List of Administration staff who can give “all clear”.

# Have you seen S.P.O.C.??

Suspicious Person On Campus

No!! Not me!!  
Suspicious Person on Campus  
DUH!!

What is Suspicious?

Anything that seems out of the ordinary... Trust your gut!

How do I report suspicious behavior?

- Emergency? 407-823-5555 or 9-1-1

What to remember if you see S.P.O.C.?

- What did they look like?  
Ex. Clothing? Physical Features?  
(Identifying marks)
- Where were they located?
- What made them suspicious?

**Warning!!!**

NEVER  
CONFRONT

S.P.O.C.

# Train...and train some more

- You may need to conduct a “near” off campus training exercise for 1<sup>st</sup> responding groups of officers to an “active shooter” scenario.
- Full instrumentation – video and military grade laser engagement system / monitors.
- Empty 2 story multi-roomed office building.
- Armed shooter roaming building, targeting individuals and targets of opportunity.
- Faculty, Staff, and students play the victim roles.



# Drill – Lessons Learned

- No time to lock stairwell / external doors.
- Size of some Safe Rooms too small.
- Pathways / escape routes found not secure.
- Safe Room packets / procedures too “noisy” and flashlight problems.
- Safe Rooms were not quiet.
- Some Pod doors found unsecured.
- Police cancelled participation at last minute.
- Staff requesting additional training & drills.
- Policy / Plan requires revision(s).

# Summary

- Active Shooter – take a leadership role.
- Follow Lockdown protocol – triggers, notify, report, secure, shelter, safeguard, authenticate all-clear.
- Calm, reassure, and quiet others; treat injured until aid arrives.
- Law enforcement will respond; their mission is to neutralize the threat.
- Evacuation – follow Law Enforcement commands.
- Follow up - medical care, interview, counseling.
- Drill – evaluate, refine, practice, repeat.

# Closing Comments

- We can not predict the origin of the next threat.
- Assailants in some recent incidents across the country were not students or employees.
- Victims are often unaware they were targets, until attacked.
- There are no “Cookie Cutter” plans – each building and campus is unique.



THANK YOU, TEAM.