



International
Association
of Fire Chiefs



National
Fire Protection
Association

Fundamentals of Fire Fighter Skills

SECOND EDITION

Chapter 2

Fire Fighter Safety

Objectives (1 of 4)

- List safety precautions you need to take during training, during emergency responses, at emergency incidents, at the fire station, and outside your workplace.
- Describe the protection provided by personal protective equipment (PPE).
- Explain the importance of standards for PPE.

Objectives (2 of 4)

- Describe the limitations of PPE.
- Describe how to properly maintain PPE.
- Describe the hazards of smoke and other toxic environments.
- Explain why respiratory protection is needed in the fire service.

Objectives (3 of 4)

- Describe the differences between open-circuit breathing apparatus and closed-circuit breathing apparatus.
- Describe the limitations associated with self-contained breathing apparatus (SCBA).
- List and describe the major components of SCBA.

Objectives (4 of 4)

- Explain the skip-breathing technique
- Explain safety precautions when using SCBA
- Describe importance of daily, weekly, monthly and annual inspections
- Explain the procedures for refilling SCBA cylinders.
- List the steps for donning a complete PPE ensemble.

Fire Fighter Safety

- Fire fighter safety is paramount in all operations.
- Fire fighters must be trained and proficient in the use of personal protective clothing and respiratory protection equipment.

Fire Fighter Safety (1 of 2)

- Firefighting is inherently dangerous.
- Departments must do what they can to reduce known hazards and dangers.

Fire Fighter Safety (2 of 2)

- Incident command (IC) has ultimate responsibility for the overall safety of every operation.
- Safety officer is responsible for evaluating hazards and recommending appropriate safety measures.
- Final responsibility for personal safety falls to the individual fire fighter.

Causes of Fire Fighter Deaths and Injuries (1 of 5)

- Each year in the United States about 100 fire fighters are killed in the line of duty.
- Deaths occur:
 - At emergency incidents
 - In the station
 - During training
 - Responding to or returning from emergencies

Causes of Fire Fighter Deaths and Injuries (2 of 5)

- Heart attacks are the leading cause of fire fighter deaths.
 - Both on and off the fire ground

Causes of Fire Fighter Deaths and Injuries (3 of 5)

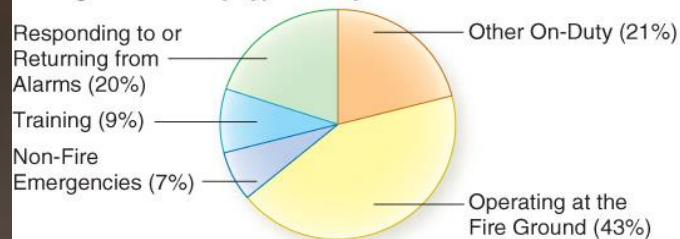
- Vehicle collisions
 - One emergency vehicle collision per 1000 responses
 - 39% of fatalities involved failure to use seat belts.
 - Seat belt usage is key!

Causes of Fire Fighter Deaths and Injuries (4 of 5)

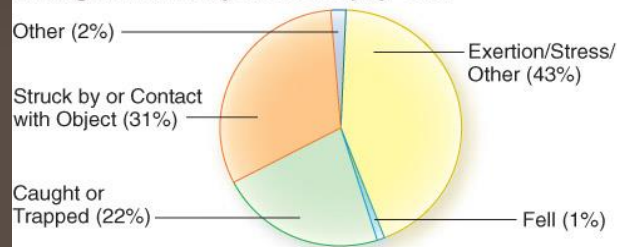
- 80,100 injuries incurred in the line of duty in 2005 (Source: NFPA)
 - Strains, sprains, and soft-tissue injuries most common
 - Burns and smoke and gas inhalation only a small percentage

Causes of Fire Fighter Deaths and Injuries (5 of 5)

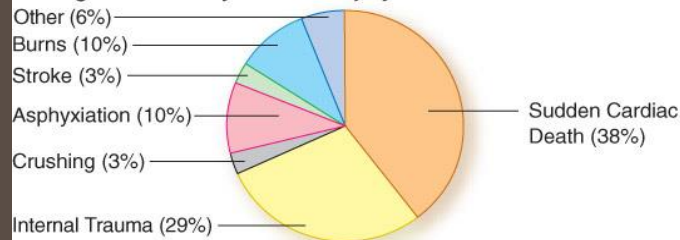
Fire Fighter Deaths by Type of Duty—2006



Fire Fighter Deaths by Cause of Injury—2006



Fire Fighter Deaths by Nature of Injury—2006



Injury Prevention (1 of 2)

- Every team member is responsible for preventing injuries.
- Priority of safety on the fire ground is:
 - Self (personal safety)
 - Other team members
 - Everyone else

Injury Prevention (2 of 2)

- A successful safety program will address:
 - Standards and procedures
 - Personnel
 - Training
 - Equipment

Standards and Procedures (1 of 2)

- Fire service safety is governed by:
 - National Fire Protection Association (NFPA) 1500
 - State and federal agencies programs such as the Occupational Safety and Health Administration (OSHA)
- Every department should have standard operating procedures (SOPs)

Standards and Procedures (2 of 2)

- Incidence command system (ICS) used in the command and control of emergency incidents to ensure safe operations.
- Each department should have (or consider having) a health and safety committee.

Personnel (1 of 2)

- A safety program is only as effective as the individuals who implement it.
- Teamwork is essential to safe operations.
- Freelancing is acting independently of orders or SOPs or SOGs.
- Freelancing is extremely dangerous and has no place on the fire ground.

Personnel (2 of 2)

- Safety officer
 - Designated member of the fire department
 - Primary responsibility is safety.
 - Reports directly to the IC
 - Has the authority to stop any action deemed to be unsafe

Training

- Knowledge and skills from training are essential for safety.
- Fire fighters must continually seek out additional courses and work to keep their skills current.

Equipment

- Fire fighters must know how to use equipment properly and operate it safely.
- Equipment must be properly maintained.
- Follow manufacturers' operating instructions and safety procedures.

Reducing Injuries and Deaths

- Requires the dedicated effort of every firefighter and every fire department
- In 1992 Congress created the National Fallen Firefighters Foundation (NFFP).
- 16 Fire Fighter Life Safety Initiatives
- National Fire Fighter Near-Miss Reporting System

Safety and Health (1 of 4)

- A healthful lifestyle includes:
 - A balanced diet
 - Weight training
 - Cardiovascular exercises
- A healthful lifestyle:
 - Helps reduce risk factors for heart disease
 - Enables fire fighters to meet the physical demands of the job

Safety and Health (2 of 4)

- Each department member is responsible for personal conditioning and nutrition.
- All fire fighters should spend at least one hour a day in physical fitness training.



Safety and Health (3 of 4)

- Drink up to a gallon of water each day to keep properly hydrated.
- Diet is an important aspect of physical fitness.
- Avoid tobacco products entirely for both health and insurance reasons.

Safety and Health (4 of 4)

- Never work under the effects of alcohol or drugs.
 - Ensure off-duty alcohol consumption is within reason and never less than 8 hours before going on duty.

Employee Assistance Programs (EAP)

- Provide help with a wide range of problems
- Fire fighters who use an EAP can do so with complete confidentiality and without fear of retribution.

Safety During Training (1 of 3)

- Average of nine fire fighters are fatally injured during training exercises every year (Source: NFPA).
- Proper protective gear and teamwork are as important during training as they are on the fire ground.
- Follow safe working habits during training to ensure safety on the fire ground.

Safety During Training (2 of 3)

- Do not attempt anything you feel is beyond your ability or knowledge.
- Bring unsafe practices to the attention of your instructors or designated safety officer.

Safety During Training (3 of 3)

- No freelancing during training (or any other time)!
- Work as a team!
- A fire fighter injured during training should not return to work until medically cleared for duty.

Safety During Emergency Response (1 of 2)

- Walk quickly to the apparatus; do not run.
- Personal protective gear should be properly positioned so you can don it quickly before getting into the apparatus.



Safety During Emergency Response (2 of 2)

- Be sure that seat belts are properly fastened before the apparatus begins to move.
- Know how to don seat-mounted SCBA without compromising safety.
- Do not speed!
- Comply with all applicable traffic laws.

Safe Driving of Private Vehicles (1 of 3)

- Motor vehicle accidents are the second leading cause of fire fighter deaths.
- Emergency driving requires added considerations.
- Collisions consist of a series of separate collision events.

Safe Driving of Private Vehicles (2 of 3)

- Laws governing emergency vehicle operation vary from one state to another.
- Fire departments should have SOPs that dictate the usage of personal vehicles.
- Safe driving begins with you.
 - Attitude and ability
 - Emergency driving requires good reactions and alertness.

Safe Driving of Private Vehicles (3 of 3)

- Safe driving practices will prevent most vehicle collisions.
- Anticipate the road and road conditions.
- Make allowances for weather conditions.

Safety at Emergency Incidents

(1 of 2)

- Wait for officer in command to “size up” the situation.
- Use the buddy system.
- Adhere to a personnel accountability system.
- Understand incident scene hazards.
- Use tools and equipment safely.
- Take precautions for electrical safety.

Safety at Emergency Incidents

(2 of 2)

- Practice good lifting and moving techniques.
- Use caution in adverse weather.
- Ensure sufficient time is spent in rehabilitation.
- Know how to cope with violent scenes.
- Understand critical incident stress debriefing

The Buddy System–Fire Fighter II Standard (1 of 2)

- Never work alone.
- If one team member needs to leave the structure, the entire team must leave.
- Maintain visual, vocal, or physical contact with each other at all times.



The Buddy System–Fire Fighter II Standard (2 of 2)

- Buddies check each other's PPE to ensure it is on and working correctly.
- At least one team member should have a portable two-way radio.
- Have a back-up team ready.

Accountability (1 of 2)

- Personnel accountability system:
 - Provides an up-to-date accounting of everyone at the incident and how they are organized
- Fire fighters must learn their department's system, how to work within it, and how it works within IMS.

Accountability (2 of 2)

- Acceptable systems include:
 - Paper-based systems
 - Display boards
 - Laptop computer systems
 - “Passport” systems



Incident Scene Hazards

- Be aware of your surroundings.
- Always operate within established boundaries and protected work areas.
- Changing fire conditions will affect safety.
- Do not let down your safety guard even though the main part of the fire is over.

Using Tools and Equipment Safely (1 of 2)

- Learn to use tools and equipment properly and safely before using them at an emergency incident.
- Use protective gear such as PPE, safety glasses, and hearing protection.

Using Tools and Equipment Safely (2 of 2)

- Equipment should always be in excellent condition and ready for use.
- Practice doing basic repairs on tools and equipment at the fire station.

Electrical Safety–Fire Fighter

II Standard (1 of 2)

- Energized power lines may be present on the fire ground.
- Always check for overhead power lines when raising ladders.
- Electric power supply to the building should be turned off.

Electrical Safety–Fire Fighter

II Standard (2 of 2)

- Park apparatus outside the area and away from power lines.
- A downed power line should be considered energized until the power company confirms that it is dead.
- Do not use water to suppress fires near downed power lines.

Lifting and Moving

- Do not try to move something that is too heavy alone—ask for help.
- Prevent back injuries by always bending at the knees and using the legs to lift.

Working in Adverse Weather Conditions

- Dress appropriately for adverse weather conditions.
- Watch your footing on slippery surfaces.

Rehabilitation (1 of 3)

- Fatigued fire fighters are more prone to making mistakes and becoming injured.
- Rehabilitation is a systematic process to provide periods of rest and recovery for emergency workers during an incident.

Rehabilitation (2 of 3)

- “Rehab” time can be used to:
 - Replace SCBA cylinders.
 - Obtain new batteries for portable radios.
 - Make repairs or adjustments to tools or equipment.

Rehabilitation (3 of 3)

- Personnel should not return to duty until they are rested and refreshed.
- Any fire fighter exhibiting signs and symptoms of heat exhaustion, chest pain, or discomfort should stop and seek medical attention immediately.

Violence at the Scene

- Fire fighters must sometimes contend with violent scenes.
- Do not proceed to the scene until the police have declared it safe.
- If confronted with a potentially violent situation, do not respond violently.

Critical Incident Stress Debriefing (CISD)

- CISD provides a forum for personnel to discuss anxieties, stress, and emotions triggered by difficult calls.
- Most departments have CISD staff available 24 hours a day.

Safety at the Fire Station

- Be careful when working with power tools, ladders, electrical appliances, pressurized cylinders, and hot surfaces.
- Injuries that occur at the firehouse can be just as devastating as those that occur at an emergency incident scene.

Safety Outside Your Workplace

- Follow safe practices when you are off-duty.
- An accident or injury, regardless of where it happens, can end your career as a fire fighter.

Personal Protective Equipment

- PPE is an essential component of a fire fighter's safety system.
- PPE must provide full body coverage and protection from a variety of hazards.



Structural Firefighting Ensemble

- Structural firefighting PPE is designed to be worn with SCBA.
- To be effective, the entire ensemble must be worn whenever potential exposure to those hazards exists.



Protection Provided by the Helmet (1 of 3)

- Protects against blunt trauma and includes ear coverings
- A hard outer shell is lined with energy-absorbing material and a suspension system.



Protection Provided by the Helmet (2 of 3)

- The shape of the helmet deflects water from the head and neck.
- A face shield, goggles, or both, protect the eyes.
- A chin strap keeps the helmet in the proper position.

Protection Provided by the Helmet

(3 of 3)

- When entering a burning building, the fire fighter should pull down the ear tabs for maximum protection.
- Helmet shells are often color-coded according to the fire fighter's rank and function.

Protection Provided by the Protective Hood

- Covers any exposed skin
- Constructed of flame-resistant materials such as Nomex® or PBI®.
- Worn over the face piece but under the helmet



Protection Provided by Turnout Gear (1 of 4)

- Turnout coat and bunker pants have tough outer shells.
 - Can withstand high temperatures
 - Repel water
 - Protect against abrasions and sharp objects
- Leather pads on knees for protection when crawling.

Protection Provided by Turnout Gear (2 of 4)

- Reflective trim adds visibility.
- Insulating layers of fire-resistant materials protect from high heat.
- Moisture barrier keeps hot liquids and vapors from reaching the skin.

Protection Provided by Turnout Gear (3 of 4)

- Sleeves have wristlets to keep out liquids or hot embers.
- Both long and short style turnout coats will protect the body as long as the matching style of pants or coveralls are worn.



Protection Provided by Turnout Gear (4 of 4)

- Bunker pants can have a waist-length or bib-overall design.
- Manufactured with a double fastener system at the waist
- Should be big enough to allow you to crawl and bend your knees.



Protection Provided by Boots

(1 of 2)

- Boots protect feet and ankles from fire, keep them dry, prevent puncture injuries, and protect the toes.
- The outer layer repels water and must be flame and cut resistant.



Protection Provided by Boots

(2 of 2)

- Boots must have:
 - A heavy sole with a slip-resistant design
 - A puncture-resistant sole
 - A reinforced toe to prevent injury from falling objects
- An inner liner constructed of materials such as Nomex or Kevlar adds thermal protection.

Protection Provided by Gloves (1 of 2)

- Gloves protect the hands from heat, cuts, and abrasions.
- Usually constructed of heat-resistant leather
- Required wristlets prevent skin exposure



Protection Provided by Gloves (2 of 2)

- A liner adds thermal protection and serves as a moisture barrier.
- Fire fighters need to practice manual skills while wearing gloves to become accustomed to them and to adjust movement accordingly.

Respiratory Protection

- SCBA provides respiratory protection through an independent air supply.
- PPE ensemble for structural firefighting is not complete without respiratory protection.

Personal Alert Safety System (PASS) (1 of 2)

- A PASS is an electronic device that sounds a loud audible signal if a fire fighter is motionless for a set time period or if activated by the fire fighter.



PASS (2 of 2)

- A PASS can be separate from or integrated into the SCBA unit.
 - Integrated PASS automatically turns on when the SCBA is activated.
 - Separate PASS often worn on the SCBA harness and must be turned on manually.

Additional Personal Protective Equipment (1 of 2)

- Goggles provide additional eye protection.
- An apparatus intercom facilitates team communication while protecting hearing from sirens.



Additional Personal Protective Equipment (2 of 2)

- Flexible ear plugs are useful in other situations involving loud sounds.
- A fire fighter should always carry a hand light.
- At least one member of each team in a hazardous area should have a radio.

Limitations of the Structural Firefighting Ensemble (1 of 3)

- Each component must be properly donned and worn to provide complete protection.
- Components must be put on in the proper order and correctly secured.

Limitations of the Structural Firefighting Ensemble (2 of 3)

- PPE is heavy and can cause fatigue.
- PPE retains body heat and perspiration.
 - Fire fighters in full PPE can rapidly develop elevated body temperatures.

Limitations of the Structural Firefighting Ensemble (3 of 3)

- PPE limits mobility and range of motion.
- PPE also decreases normal sensory abilities.

Work Uniforms

- A work uniform is also part of the personal protective package.
- Clothing containing nylon or polyester may melt.
- Volunteer fire fighters should consider these fabric properties when selecting their wardrobe.

Donning and Doffing PPE

- Donning PPE must be done in a specific order to obtain maximum protection.
- Fire fighters should be able to don PPE in 1 minute or less.
- To doff PPE, reverse the procedure used in getting dressed.

Care of PPE (1 of 2)

- A complete set of PPE (excluding SCBA) costs more than \$1000.
- Check the condition of PPE regularly.
- Repair worn or damaged PPE at once.

Care of PPE (2 of 2)

- Clean PPE when necessary.
 - When badly soiled by exposure to smoke or other contaminants
 - PPE exposed to chemicals or hazardous materials may have to be impounded for decontamination or disposal.
 - Follow the manufacturer's cleaning instructions.

Specialized Protective Clothing

(1 of 2)

- Vehicle extrication PPE
 - Most fire fighters will wear full turnout gear.
 - Some PPE is specifically designed for vehicle extrication and is generally lighter in weight and more flexible than structural firefighting PPE.
 - Latex gloves should be worn when providing patient treatment.
 - Eye protection also should be worn.

Specialized Protective Clothing

(2 of 2)

- Wildland fires
 - PPE must meet NFPA 1977.
 - Wildland PPE is made of fire-resistant materials and designed for comfort and maneuverability.
 - Fire fighters wear a helmet, eye protection, gloves, and boots designed for comfort and sure footing while hiking.

Respiratory Protection

- The interior atmosphere of a burning building is considered immediately dangerous to life and health (IDLH).
- Fire fighters must be proficient in using SCBA before engaging in interior fire-suppression activities.
- Using SCBA confidently requires practice.

Respiratory Hazards of Fires

- Three primary respiratory hazards of fires:
 - Superheated air and gases
 - Smoke and by-products of combustion
 - Oxygen-deficient atmospheres

Smoke

- Smoke particles are unburned, partially burned, and completely burned substances that can be toxic or irritating.
- Smoke vapors can be toxic or irritating.
- Toxic gases in smoke include:
 - Carbon monoxide
 - Hydrogen cyanide
 - Phosgene

Oxygen Deficiency

- Air is normally about 21% oxygen.
- Oxygen deficiency in an enclosed area occurs in two ways:
 - Fire consumes large quantities of the available oxygen, decreasing the concentration of oxygen.
 - Fire produces large quantities of other gases, which displace the oxygen that would otherwise be present.

Other Toxic Environments

- Fire fighters will encounter toxic gases or oxygen-deficient atmospheres in many emergency situations, including:
 - Hazardous materials releases
 - Confined-space or below-grade structures

Conditions that Require Respiratory Protection

- SCBA must be used:
 - In enclosed areas where there is smoke
 - During overhaul until the air has been tested and deemed safe by the safety officer
 - Whenever toxic gases or an oxygen-deficient atmosphere is possible
- Golden rule: Always assume that the atmosphere is hazardous!

Types of Breathing Apparatus

(1 of 3)

- Open-circuit SCBA
 - Most common type of SCBA used for structural firefighting
 - Tank of compressed air
 - Exhaled air is released into the atmosphere



Types of Breathing Apparatus

(2 of 3)

- Closed-circuit SCBA
 - Seldom used for structural firefighting
 - Air passes through a mechanism that removes carbon dioxide and adds oxygen within a closed system.



Types of Breathing Apparatus

(3 of 3)

- Supplied-air respirator:
 - Uses a hose line connected to a breathing-air compressor or to compressed air cylinders
 - Sometimes used for specialized operations



SCBA Standards and Regulations (1 of 2)

- National Institute for Occupational Safety and Health (NIOSH)
 - Sets the design, testing, and certification requirements for SCBA
- OSHA and state agencies
 - Responsible for establishing and enforcing regulations for respiratory protection programs

SCBA Standards and Regulations (2 of 2)

- NFPA standards related to SCBA:
 - NFPA 1500: Basic requirements
 - NFPA 1404: Requirements for SCBA training
 - NFPA 1981: Requirements for design, performance, testing, and certification of open-circuit SCBA

Limitations of SCBA (1 of 3)

- Duration of work using SCBA limited by the capacity of the cylinder
 - SCBA for structural firefighting must carry enough air for a minimum of 30 minutes.
 - Duration ratings are based on ideal laboratory conditions.

Limitations of SCBA (2 of 3)

- Generally, an SCBA weighs at least 25 pounds.
- Size of unit makes it difficult for user to fit into small places.
- Added weight and bulk decrease user's flexibility and mobility.



Limitations of SCBA (3 of 3)

- Face piece can limit visibility, particularly peripheral vision.
- Face piece may fog up under some conditions.
- SCBA also may affect the user's ability to communicate.
- SCBA is noisy during breathing, which may limit the user's hearing.

Physical Limitations of the User

- Moving with the extra weight of SCBA and PPE requires additional energy, which increases air consumption and body temperature.

Psychological Limitations of the User

- Breathing through an SCBA is different from normal breathing and can be very stressful.
- The surrounding environment, which is often dark and filled with smoke, is foreign as well.
- Fire fighters must adjust to these stressful conditions.

Components of SCBA (1 of 3)

- Backpack
 - Frame for mounting the other working parts of the SCBA
- Harness
 - Straps and fasteners to attach the SCBA to the fire fighter



Components of SCBA (2 of 3)

- Air cylinder
 - Holds breathing air for an SCBA
 - Neck equipped with a hand-operated shut-off valve
 - Pressure gauge located near the shut-off valve that shows amount of pressure currently in cylinder

Components of SCBA (3 of 3)

- Regulator
 - Controls the flow of air to the user



SCBA Regulator Operation (1 of 3)

- Inhaling
 - Decreases the air pressure in the face piece, which opens the regulator and releases air from the cylinder into the face piece
- Exhaling
 - Opens the exhalation valve, which exhausts used air into the atmosphere

SCBA Regulator Operation (2 of 3)

- SCBA regulators maintain a slightly positive air pressure in the face piece.
- Normal operational mode
 - Regulator supplies breathing air during inhalation, stops when inhalation stops, then opens an exhalation valve to exhaust used air into the atmosphere.
 - Controlled using the yellow-colored on/off valve

SCBA Regulator Operation (3 of 3)

- Emergency bypass mode
 - Releases a constant flow of breathing air
 - Used only if the regulator malfunctions
 - Activated when the user turns on the emergency bypass valve



SCBA Face Piece Assembly

(1 of 3)

- Face piece assembly consists of:
 - Facemask with a clear lens
 - Exhalation valve
 - Regulator



SCBA Face Piece Assembly

(2 of 3)

- Models with harness-mounted regulator face pieces have a flexible low-pressure hose.
- Later models will have the regulator attached directly to the face piece.

SCBA Face Piece Assembly

(3 of 3)

- Face piece should cover the entire face.
- Some models have a voice amplification device to improve communication.
- Face pieces manufactured in several sizes.

Pathway of Air Through an SCBA (1 of 2)

- Air passes through the cylinder shut-off valve into the high-pressure hose that takes it to the regulator.
- Regulator reduces high pressure air to low pressure.
- Air next goes directly into the face piece.

Pathway of Air Through an SCBA (2 of 2)

- From the face piece, the air is inhaled through the user's air passages and into the lungs.
- When the user exhales, used air is returned to the face piece.
- Exhaled air is exhausted from the face piece through the exhalation valve.

Skip-Breathing Technique

- Skip-breathing helps conserve air.
- Take a short breath, hold, take a second short breath (do not exhale in between breaths).
- Relax with a long exhale.
- Each breath should take 5 seconds.

Mounting Breathing Apparatus

- SCBA should be located so that fire fighters can don it quickly when they arrive at the scene of a fire.
- Exterior-mounted SCBA should be protected from weather and dirt by a secure cover.

Donning SCBA

- Fire fighters must be able to don and activate SCBA in 1 minute.
- Fire fighters must be wearing full PPE before donning SCBA.
- Check the SCBA to ensure it is ready for operation before donning it.

Readiness SCBA Check (1 of 2)

- Check that air cylinder has at least 90% of its rated pressure.
- If the SCBA has a donning/doffing switch, be sure that it is activated.
- Open the cylinder valve two or three turns, listen for the low-air alarm to sound, and then open the valve fully.

Readiness SCBA Check (2 of 2)

- Check that pressure gauges on both the regulator and cylinder read within 100 psi of each other.
- Check that all harness straps are fully extended.
- Check that all valves are in the correct position.
 - An open bypass valve will waste air.

Safety Precautions for SCBA

(1 of 2)

- Learn to recognize the low-air alarm.
- As soon as your alarm goes off, you must exit the hazardous environment.
- Before you enter a hazardous environment, make sure your PASS device is activated.

Safety Precautions for SCBA

(2 of 2)

- Be sure you are properly logged into your accountability system.
- Always work in teams of two.
- Always have at least two fire fighters outside at the ready.

Preparing for Emergency Situations

- Be prepared to react if an emergency occurs while using SCBA.
- Keep calm, stop, and think.
- Exit the hostile environment.
- If in danger, activate your PASS.
- Use your hand light to attract attention.
- Use a portable radio to call for help.

Doffing SCBA

- Follow procedures recommended by the manufacturer and your department's SOPs.
- In general, you should reverse the steps for donning SCBA.

Putting It All Together

- Complete PPE ensemble consists of personal protective clothing and SCBA.
- You must be able to integrate donning PPE and donning SCBA.

SCBA Inspection and Maintenance

(1 of 4)

- SCBA must be properly serviced and prepared for the next use each time it is used.
- Air cylinder must be changed or refilled.

SCBA Inspection and Maintenance

(2 of 4)

- Face piece and regulator must be sanitized according to the manufacturer's instructions.
- Unit must be cleaned, inspected, and checked for proper operation.

SCBA Inspection and Maintenance

(3 of 4)

- It is the user's responsibility to ensure that the SCBA is in ready condition before it is returned to the fire apparatus.
- The daily inspection procedure should be used when restoring a unit to service after it has been used.

SCBA Inspection and Maintenance

(4 of 4)

- If an SCBA inspection reveals any problems that cannot be remedied by routine maintenance, the SCBA must be removed from service for repair.
- Only properly trained and certified personnel are authorized to repair SCBA.

Daily Inspection

- Each SCBA unit should be inspected daily or at the beginning of each shift.
- When fire stations are not staffed, SCBA should be inspected at least once a week.

Monthly Inspection

- SCBA should be completely checked each month for proper operation, for leaks, and for any deterioration.

Annual Inspection

- Complete annual inspection and maintenance must be performed on each SCBA.
- Annual inspection must be performed by a certified manufacturer's representative or a person who has been trained and certified to perform this work.

Servicing SCBA Cylinders

- Cylinders must be visually inspected during daily and monthly inspections.
- Federal law requires periodic hydrostatic testing and limits the number of years a cylinder can be used.

Replacing SCBA Cylinders

- A single fire fighter must doff SCBA to replace the air cylinder.
- Two fire fighters working together can change cylinders without removing SCBA.
- A fire fighter should be able to change cylinders in the dark and while wearing gloves.

Refilling SCBA Cylinders

- Compressors and cascade systems are used to refill SCBA cylinders.
- Proper training is required to fill SCBA cylinders.



Cleaning and Sanitizing SCBA

(1 of 2)

- Follow manufacturers' specific instructions for care and cleaning of SCBA.
- Rinse entire unit using a hose with clean water.
- Clean harness assembly and cylinder with a mild soap and water solution.

Cleaning and Sanitizing SCBA

(2 of 2)

- Clean face pieces and regulators with mild soap and warm water or disinfectant cleaning solution.

Summary (1 of 4)

- Safety is a critical part of a fire fighter's job.
- Preventing injuries is always preferable to treating them.
- Injury prevention measures extend to standards and procedures, personnel, training, and the department's equipment.
- It is important to exercise good safety practices during training, during responses, at emergency incidents, at the fire station, and outside the workplace.

Summary (2 of 4)

- PPE must meet NFPA standards to ensure your safety.
- The PPE includes a helmet, a protective hood, a turnout coat, bunker pants, boots, gloves, SCBA, and a PASS device.
- All parts of the PPE ensemble must be donned and in place for maximum protection. Fire fighters must be able to don PPE in 1 minute or less.
- Fire fighters must properly care for and maintain PPE

Summary (3 of 4)

- Fire fighters must understand the major parts of SCBA and be able to don the equipment quickly—in 1 minute or less.
- Regular inspection and proper maintenance of SCBA is vital to the fire fighter's safety.

Summary (4 of 4)

- Understanding the uses and limitations of SCBA is essential for your safety at fire scenes.
- Fires produce smoke particles, smoke vapors, toxic gases, oxygen-deficient atmospheres, and high temperatures. These conditions require fire fighters to use respiratory protection.