



# FIRST AID PROGRAM

## 0. INTRODUCTION

First aid is emergency care provided for injury or sudden illness before emergency medical treatment is available. The first-aid provider in the workplace is someone who is trained in the delivery of initial medical emergency procedures, using a limited amount of equipment to perform a primary assessment and intervention while awaiting arrival of emergency medical service (EMS) personnel.

The D&D Tech Systems, Inc. workplace first-aid program is part of a comprehensive safety and health management system that includes the following four essential elements

- Management Leadership and Employee Involvement
- Worksite Analysis
- Hazard Prevention and Control
- Safety and Health Training

## 2. PURPOSE

Is to present a summary of the basic elements for a first-aid at the workplace. Those elements include:

- Identifying and assessing the workplace risks that have potential to cause worker injury or illness.
- Designing and implementing a workplace first-aid program that:
  - Aims to minimize the outcome of accidents or exposures
  - Complies with OSHA requirements relating to first aid
  - Includes sufficient quantities of appropriate and readily accessible first-aid supplies and first-aid equipment, such as bandages and automated external defibrillators.
  - Assigns and trains first-aid providers who:
    - Receive first-aid training suitable to the specific workplace
    - Receive periodic refresher courses on first-aid skills and knowledge.
- Instructing all workers about the first-aid program, including what workers should do if a coworker is injured or ill. Putting the policies and program in writing is recommended to implement this and other program elements.

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- Providing for scheduled evaluation and changing of the first-aid program to keep the program current and applicable to emerging risks in the workplace, including regular assessment of the adequacy of the first-aid training course.

This program also includes an outline of the essential elements of safe and effective first-aid training for the workplace.

## 3. RESPONSIBILITIES

### 3.1 SAFETY MANAGER

- Is responsible for corresponding with the Red Cross or an equivalent to keep employee training levels current.

### 3.2 SITE MANAGER / SUPERVISOR

- Is responsible to ensure that first aid kits are provided and maintained.

### 3.3 EMPLOYEES

- Are responsible for using first aid materials in a safe and responsible manner.

## 4. REQUIREMENTS

Sudden injuries or illnesses, some of which may be life-threatening, occur at work. The OSHA First Aid standard (29 CFR 1910.151) requires trained first-aid providers at all workplaces of any size if there is no “infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees.”

In addition to first-aid requirements of 29 CFR 1910.151, several OSHA standards also require training in cardiopulmonary resuscitation (CPR) because sudden cardiac arrest from asphyxiation, electrocution, or exertion may occur. CPR may keep the victim alive until EMS arrives to provide the next level of medical care. However, survival from this kind of care is low, only 5-7%, according to the American Heart Association. The OSHA standards requiring CPR training are:

1910.146 Permit-required Confined Spaces

1910.266 Appendix B: Logging Operations – First-Aid and CPR Training

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- 1910.269 Electric Power Generation, Transmission, and Distribution
- 1910.410 Qualifications of Dive Team
- 1926.950 Construction Subpart V, Power Transmission and Distribution

In absence of medical assistance that is reasonably accessible in terms of time and distance to the worksite, D&D Tech Systems, Inc. will have an employee who has a valid certificate in first aid and it will be available to render first aid. This certificate will be obtained from the U.S. Bureau of Mines, the American Red Cross or equivalent training and it will be verified by documentary evidence. This employee is covered by the requirements of the Occupational Exposure to Blood borne Pathogens standard (29 CFR 1910.1030). This standard includes specific training requirements. A few of the medical emergency procedures mentioned in this program as first aid may be considered medical treatment for OSHA record keeping purposes.

The OSHA Recording and Reporting Occupational Injuries and Illnesses regulation (29 CFR 1904) provides specific definitions of first aid and medical treatment. If a medical emergency procedure which is considered by 29 CFR 1904 to be medical treatment is performed on an employee with an occupational injury or illness, then the injury or illness will be regarded as recordable on the OSHA 300 Log.

## 5. THE RISKS: INJURIES, ILLNESSES AND FATALITIES

There were 5,703 work-related fatalities in private industry in 2004. In that same year there were 4.3 million total workplace injuries and illnesses, of which 1.3 million resulted in days away from work.

Sudden cardiac arrest (SCA) may occur at work. According to recent statistics from the American Heart Association, there are 250,000 out-of-hospital SCAs annually. The actual number of SCAs that happen at work are unknown. If an employee collapses without warning and is not attended to promptly and effectively, the employee may die. Sudden cardiac arrest is caused by abnormal, uncoordinated beating of the heart or loss of the heartbeat altogether, usually as a result of a heart attack.

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Workplace events such as electrocution or exposure to low oxygen environments can lead to SCA. Overexertion at work can also trigger SCA in those with underlying heart disease.

The outcome of occupational illnesses and injuries depends on the severity of the injury, available first-aid care and medical treatment. Prompt, properly administered first aid may mean the difference between rapid or prolonged recovery, temporary or permanent disability, and even life or death.

## 6. ASSESS THE RISKS AND DESIGN A FIRST-AID PROGRAM SPECIFIC FOR THE WORKSITE

Obtaining and evaluating information about the injuries, illnesses and fatalities at a worksite are essential first steps in planning a first-aid program. D&D Tech Systems, Inc. use the OSHA 300 log, OSHA 301 forms, the Workers' Compensation insurance carrier reports and other records to help identify the first-aid needs for its businesses. For risk assessment purposes, national data for injuries, illnesses and fatalities is be obtained from the Bureau of Labor Statistics (BLS) website at [www.bls.gov/iif](http://www.bls.gov/iif). The annual data, beginning in 2003, are grouped by the North American Industrial Classification System (NAICS) that assigns a numeric code for each type of work establishment. Prior to 2003, the Standard Industrial Classification (SIC) system was used to categorize the data instead of NAICS.

D&D Tech Systems, Inc. will make efforts to obtain estimates of EMS response times for all permanent and temporary locations and for all times of the day and night at which they have workers on duty, and they will use that information updating the first-aid program.

## 7. FIRST-AID SUPPLIES

It is advisable for D&D Tech Systems, Inc. to give a specific person the responsibility for choosing the types and amounts of first-aid supplies and for maintaining these supplies. The supplies will be adequate, will reflect the kinds of injuries that occur, and will be stored in an area where they are readily available for emergency access. An automated external defibrillator (AED) will be considered when selecting first-aid

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supplies and equipment. The contents of first aid kit will be periodically assessed to ensure the availability of adequate first aid supplies.

Where the eyes or body of any person may be exposed to injurious corrosive materials, a safety shower and/or eye wash (suitable facilities) or other suitable facilities shall be provided within the work area. Ensure expiration dates are checked and water used in storage devices is sanitized.

D&D Tech Systems, Inc. will use the OSHA 300 log, OSHA 301 reports or other records to identify the first-aid supply needs of their worksite. Consultation with the local fire and rescue service or emergency medical professionals may be beneficial. By assessing the specific needs of their workplaces, employers can ensure the availability of adequate first-aid supplies. D&D Tech Systems, Inc. will periodically reassess the demand for these supplies and adjust their inventories.

## 7.1 AUTOMATED EXTERNAL DEFIBRILLATORS

With recent advances in technology, automated external defibrillators (AEDs) are now widely available, safe, effective, portable, and easy to use. They provide the critical and necessary treatment for sudden cardiac arrest (SCA) caused by ventricular fibrillation, the uncoordinated beating of the heart leading to collapse and death. Using AEDs as soon as possible after sudden cardiac arrest, within 3-4 minutes, can lead to a 60% survival rate. CPR is of value because it supports the circulation and ventilation of the victim until an electric shock delivered by an AED can restore the fibrillating heart to normal.

All D&D Tech Systems, Inc. worksites are potential candidates for AED programs because of the possibility of SCA and the need for timely defibrillation. Each workplace will assess its own requirements for an AED program as part of its first-aid response. A number of issues will be considered in setting up a worksite AED program: physician oversight; compliance with local, state and federal regulations; coordination with local EMS; a quality assurance program; and a periodic review, among others.

## 8. FIRST-AID COURSES

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First-aid courses will be individualized to the needs of the workplace. Some of the noted program elements may be optional for a particular plant or facility. On the other hand, unique conditions at a specific worksite may necessitate the addition of customized elements to a first-aid training program.

## 9. TRANSPORTATION

Based on the first responder's assessment of the injuries involved, decide whether the injured requires to be taken directly to a hospital's emergency room, occupational medicine provider or administer first aid on location.

Examples of serious injuries that result in the injured being transported to a medical provider are those resulting in severe blood loss, possible permanent disfigurement, head trauma, spinal injuries, internal injuries and loss of consciousness. Keep in mind that the needs and wellbeing of the injured are the first priority.

Proper equipment for prompt transportation of the injured person to a physician or hospital or a communication system for contacting necessary ambulance service shall be provided.

Choices to consider include: private automobile, D&D Tech Systems, Inc. vehicle, helicopter, crew boat, EMS vehicles including medi-vac helicopters, or any other transportation that can provide safe transportation to the hospital or doctor's office in order to provide medical attention to the injured in the quickest manner without any additional complications or injuries to the injured employee. Transportation needs must be preplanned and coordinated with the transportation provider prior to an incident requiring such service.

## 10. TRAINING

These elements are based on the best practices and evidence available at the time this program was written. Statistical information is available from BLS to help assess the risks for specific types of work. Program elements to be considered are:

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## 10.1 TEACHING METHODS

Training programs will incorporate the following principles:

- Basing the curriculum on a consensus of scientific evidence where available;
- Having trainees develop “hands-on” skills through the use of mannequins and partner practice;
- Having appropriate first-aid supplies and equipment available;
- Exposing trainees to acute injury and illness settings as well as to the appropriate response through the use of visual aids;
- Including a course information resource for reference both during and after training;
- Allowing enough time for emphasis on commonly occurring situations;
- Emphasizing skills training and confidence-building over classroom lectures;
- Emphasizing quick response to first-aid situations

## 10.2 PREPARING TO RESPOND TO A HEALTH EMERGENCY

The training program will include instruction or discussion in the following:

- Prevention as a strategy in reducing fatalities, illnesses and injuries;
- Interacting with the local EMS system;
- Maintaining a current list of emergency telephone numbers (police, fire, ambulance, poison control) accessible by all employees;
- Understanding the legal aspects of providing first-aid care, including Good Samaritan legislation, consent, abandonment, negligence, assault and battery, State laws and regulations;
- Understanding the effects of stress, fear of infection, panic; how they interfere with performance; and what to do to overcome these barriers to action;
- Learning the importance of universal precautions and body substance isolation to provide protection from blood borne pathogens and other potentially infectious materials. Learning about personal protective equipment -- gloves, eye protection, masks, and respiratory barrier devices. Appropriate management and disposal of blood-contaminated sharps and surfaces; and awareness of OSHA’s Blood borne Pathogens standard.

## 10.3 ASSESSING THE SCENE AND THE VICTIM(S)

The training program will include instruction in the following:

- Assessing the scene for safety, number of injured, and nature of the event;

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- Assessing the toxic potential of the environment and the need for respiratory protection;
- Establishing the presence of a confined space and the need for respiratory protection and specialized training to perform a rescue;
- Prioritizing care when there are several injured;
- Assessing each victim for responsiveness, airway patency (blockage), breathing, circulation, and medical alert tags;
- Taking a victim's history at the scene, including determining the mechanism of injury;
- Performing a logical head-to-toe check for injuries;
- Stressing the need to continuously monitor the victim;
- Emphasizing early activation of EMS;
- Indications for and methods of safely moving and rescuing victims;
- Repositioning ill/injured victims to prevent further injury.

## 10.4 RESPONDING TO LIFE-THREATENING EMERGENCIES

The training program will be designed or adapted for the specific worksite and may include first-aid instruction in the following:

- Establishing responsiveness;
- Establishing and maintaining an open and clear airway;
- Performing rescue breathing;
- Treating airway obstruction in a conscious victim;
- Performing CPR;
- Using an AED;
- Recognizing the signs and symptoms of shock and providing first aid for shock due to illness or injury;
- Assessing and treating a victim who has an unexplained change in level of consciousness or sudden illness;
- Controlling bleeding with direct pressure;
- Poisoning
  - Ingested poisons: alkali, acid, and systemic poisons. Role of the Poison Control Center (1-800-222-1222);
  - Inhaled poisons: carbon monoxide; hydrogen sulfide; smoke; and other chemical fumes, vapors, and gases. Assessing the toxic potential of the environment and the need for respirators;

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- Knowledge of the chemicals at the worksite and of first aid and treatment for inhalation or ingestion;
- Effects of alcohol and illicit drugs so that the first-aid provider can recognize the physiologic and behavioral effects of these substances.
- Recognizing asphyxiation and the danger of entering a confined space without appropriate respiratory protection. Additional training is required if first-aid personnel will assist in the rescue from the confined space.
- Responding to Medical Emergencies
  - Chest pain;
  - Stroke;
  - Breathing problems;
  - Anaphylactic reaction;
  - Hypoglycemia in diabetics taking insulin;
  - Seizures;
  - Pregnancy complications;
  - Abdominal injury;
  - Reduced level of consciousness;
  - Impaled object.

## 10.5 RESPONDING TO NON-LIFE-THREATENING EMERGENCIES

The training program will be designed for the specific worksite and include first-aid instruction for the management of the following:

- Wounds
  - Assessment and first aid for wounds including abrasions, cuts, lacerations, punctures, avulsions, amputations and crush injuries;
  - Principles of wound care, including infection precautions;
  - Principles of body substance isolation, universal precautions and use of personal protective equipment.
- Burns
  - Assessing the severity of a burn;
  - Recognizing whether a burn is thermal, electrical, or chemical and the appropriate first aid;
  - Reviewing corrosive chemicals at a specific worksite, along with appropriate first aid.
- Temperature Extremes
  - Exposure to cold, including frostbite and hypothermia;

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- Exposure to heat, including heat cramps, heat exhaustion and heat stroke.
- Musculoskeletal Injuries
  - Fractures;
  - Sprains, strains, contusions and cramps;
  - Head, neck, back and spinal injuries;
  - Appropriate handling of amputated body parts.
- Eye injuries
  - First aid for eye injuries;
  - First aid for chemical burns.
- Mouth and Teeth Injuries
  - Oral injuries; lip and tongue injuries; broken and missing teeth;
  - The importance of preventing aspiration of blood and/or teeth.
- Bites and Stings
  - Human and animal bites;
  - Bites and stings from insects; instruction in first-aid treatment of anaphylactic shock.

## 10.6 TRAINEE ASSESSMENT

Assessment of successful completion of the first-aid training program include instructor observation of acquired skills and written performance assessments.

## 11. SKILLS UPDATE

First-aid responders may have long intervals between learning and using CPR and AED skills. Numerous studies have shown a retention rate of 6-12 months of these critical skills. D&D Tech Systems, Inc. encourages skills review and practice sessions at least every 6 months for CPR and AED skills. Instructor-led retraining for life threatening emergencies will occur at least annually. Retraining for non-life-threatening response will occur periodically.

## 12. PROGRAM UPDATE

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The first-aid program will be reviewed periodically to determine if it continues to address the needs of the specific workplace. Training, supplies, equipment and first-aid policies will be added or modified to account for changes in workplace safety and health hazards, worksite locations and worker schedules since the last program review. The first-aid training program will be kept up-to date with current first-aid techniques and knowledge. Outdated training and reference materials will be replaced or removed.

## 13. SUMMARY

Employers are required by OSHA standard 29 CFR 1910.151 to have a person or persons adequately trained to render first aid for worksites that are not in near proximity to an infirmary, clinic, or hospital. It is advised that the first-aid program for a particular workplace be designed to reflect the known and anticipated risks of the specific work environment. Consultation with local emergency medical experts and providers of first-aid training is encouraged when developing a first-aid program. The program must comply with all applicable OSHA standards and regulations. (See section on OSHA Requirements.) OSHA requires certain employers to have CPR-trained rescuers on site.

Sudden cardiac arrest is a potential risk at all worksites, regardless of the type of work. Serious consideration will be given to establishing a workplace AED program. First-aid supplies are available in adequate quantities and are readily accessible. First-aid training courses will include instruction in general and workplace hazard-specific knowledge and skills. CPR training will incorporate AED training if an AED is available at the worksite. First-aid training will be repeated periodically to maintain and update knowledge and skills. Management and worker involvement is vital in developing, implementing and assessing a workplace first-aid program.

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