



Deepwater Horizon Oil Spill Miami-Dade County Pre-Impact Beach Cleanup Volunteer Training Module

July 2010

Miami-Dade County Priorities

- Miami-Dade County values our relationship with our volunteers. Your assistance in this difficult time is very much appreciated by your community!
- A key component of our safety process is to stop any activity that is not going according to plans or appears to be unsafe.
- Your safety is our top priority
 - If it doesn't look right don't do it!
 - If it doesn't feel right, don't do it!
 - If you're not sure, don't do it!
- Training, planning and safe work is the key to safety!

Course Objective

To provide personal safety and health training for volunteers removing debris in preparation for the potential impact from the Deepwater Horizon Oil Spill.

Overview of Oil Spills, Volunteer Purpose, and Scope of Duties

Background Information

South Florida is about 600 miles from the Deepwater Horizon wellhead. Any oil that reaches South Florida will have traveled hundreds of miles and would likely arrive in the form of tar balls.

You will only be working in areas that have not been impacted by any type of oil product. The worksites have been selected by the Miami-Dade Department of Environmental Resources Management (DERM).

Volunteer Purpose

Safely Remove Debris From Shorelines

Volunteer Duties

Remove debris using assigned equipment, tools, and materials

Know how to contact your group supervisor at all times (sites and personnel may change each day)

Know **safety, health, and other** hazards present at each site

Know and use safe work practices including personal hygiene, and sanitation

Volunteer Duties

Know how to minimize your risks by properly understanding and using management and equipment controls including your personal protective equipment.

Review safety flyers before starting work

Know and be able to recognize signs and symptoms due to overexposure to sun and dehydration

Know buddy system surveillance

Hazards, Controls, and General Precautions

General Hazard Statement:

This list is not all inclusive.

Each site will have its own set of hazards!

Primary Hazards

- Ingestion
- Contamination on Skin and Eyes
- Slips, Trips, and Falls (changes in terrain)
- Puncture Wounds
- Contamination of Blood Borne Pathogens
- Heat Stress
- Sunburn



Debris Hazards

Hazard – Ingestion (route of entry into your body)

Control - Your group supervisor will inform you of hand-washing / restroom station locations during the site safety and health plan brief; which will occur before you enter each site.

You must wash your hands prior to meals and smoking breaks. Never rub or touch your mouth with dirty gloves or without washing your hands first.



Debris Hazards

Hazard – Contamination on skin and eyes (route of entry into your body)

Control - Your group supervisor will inform you of required personal protective equipment and clothing prior to your entry during the site safety and health plan brief for each site.

All volunteers should use some form of eye and hand protection at all times.



Operational Hazards

Hazard – Slips, Trips, and Falls.

Control – Do not walk backwards. Watch out for unforeseen hazards! Your group supervisor will inform you of potential hazards at each site which may cause you to slip, trip, or fall (sites may change each day)

Be aware of the potential for unforeseen hazards!

Operational Hazards

Hazard – Ergonomic Stress (Bending and Lifting)

Control – Your group supervisor will inform you of potential for heavy lifting, tasks, and tools used prior to entry for each site (sites may change each day)

Use the proper technique when bending and lifting.



Operational Hazards

Hazard – Puncture Wounds (route of entry into your body for product contamination as well as blood borne pathogens)

Control – Sharp objects should not be picked up by volunteers. If you come across a sharp object immediately notify your group supervisor.

*Be on the look out for **syringes, needles, and other unforeseen sharp objects***



Environmental Hazards

Hazard – Heat Stress

Control – It is important to keep drinking water throughout the day. You should begin hydrating even before you get to the worksite.

*Watch out for signs of heat stress and dehydration
(this will be discussed in later slides)*



Environmental Hazards

Hazard - Sunburns and blistering are the most common hazards encountered during a beach cleanup.

Control – Apply sunscreen to exposed areas before entering the worksite, and reapply throughout the day. (SPF 50 is recommended by the Occupational Safety and Health Administration)



Environmental Hazards

Hazard – Wildlife: oiled wildlife have injured and even killed responders during rescue operations

Control – **DO NOT Touch or Pick Up!** Let your supervisor know immediately if you come across any oiled or injured wildlife.

Special Hazards and Controls Associated With Working Around Stressed Wildlife

- Requires Special Training
- Stressed animal's do not act normally
- You may be held personally liable
- Your job is to only report the animals position



Other Environmental Hazards

- Barnacle-covered debris, broken glass
- Boards with nails or screws sticking out
- Biological – jellyfish, crabs, fish bones
- Bio-hazardous debris – syringes, needles, dead animals



Other Response Hazards

- General Stress



- Wildlife – bees, snakes, spiders, mosquitoes, ants, rodents, etc.



- Animals – stray dogs and cats

- Trench Foot – wet footwear



Other Response Hazards

- To date no tar balls from the Deepwater Horizon Oil Spill have been found in South Florida. However, tar balls are occasionally encountered on Miami-Dade County Beaches.
- If you come across any type of oil product immediately notify your group supervisor, and most importantly **DO NOT TOUCH!**



Personal Protective Equipment

Volunteers are responsible for bringing the appropriate personal protective equipment. This includes:

- Closed Toe Shoes
- Hand Protection (gloves)
- Hat
- Eye Protection

Site Safety, Health Plan, and Emergency Procedures

Site Safety and Health Plan

The Site Safety and Health Plan will include:

- Site Description
- Site Organization
- Site Control
- Communications
- Emergency Procedures
- Specific Hazards
- Site Maps



Emergency Procedure Steps

Your site supervisor will review what to do in the case of:

- Thunderstorms
- Injury
- Illness
- Site Evacuation



Over-Exposure Signs and Symptoms

- Heat Stress
- Heat Exhaustion
- Heat Stroke

Heat Stress

When the body is unable to cool itself by sweating, several heat-induced illnesses such as heat stress or heat exhaustion and the more severe heat stroke can occur, **and can result in death.**

Heat Stress

On average, about 1,500 people die from heat-related causes in the United States - that's more than tornados, hurricanes, lightning, and floods combined.

NEVER ignore anyone's signs or symptoms of heat-related disorders

Heat Stress

Factors Leading to Heat Stress:

- Exposure to high temperature and humidity, direct sun or heat
- Limited air movement
- Physical exertion, poor physical condition, and some medicines
- Inadequate tolerance for hot workplaces

Avoiding Heat Stress

Clothing

- Wear the lightest weight available
- Loose fitting

Fluid Replacement

- Start hydrating the night before.
- Keep cool (not ice cold) water readily accessible, and begin hydrating prior to commencing work.
- Drink at least one cup of water every 20 minutes.

Be Aware of Environmental Conditions

- Air Temperature, Humidity, Direct Sun Exposure
- Air Movement

Heat Stress

Symptoms of Heat Exhaustion:

- Headaches, dizziness, lightheadedness or fainting
- Weakness and moist skin
- Mood changes such as irritability or confusion
- Upset stomach or vomiting



Heat Stress

Symptoms of Heat Stroke:

- Dry, hot skin with no sweating
- Mental confusion or losing consciousness
- Seizures or convulsions



Heat Stress

Preventing Heat Stress:

- Know signs/symptoms of heat-related illnesses; monitor yourself and fellow volunteers
- Block out direct sun or other heat sources
- Use cooling fans/air-conditioning; rest regularly
- Drink lots of water; about 1 cup every 15 minutes for heavy work
- Wear lightweight, light colored, loose-fitting clothes
- Avoid alcohol, caffeinated drinks, and heavy meals

Avoiding Heat Stress

Additional Controls / Mitigation

- Check heart rate at start of break. If it is not below (180 – age) within 10 minutes of sitting down, you are at risk of heat stress. Continue to monitor heart rate and remain seated in a cool environment.
- Fans
- Portable evaporative coolers would provide enhanced cooling.
- Shade from direct sunlight
- Scheduling higher intensity work for nights when the radiant heat load is reduced
- Position work to take advantage of predominant wind direction
- Fresh fruit high in potassium, e.g. oranges, cantaloupe, bananas
- Buddy System to monitor your team member(s).
- “Stop the Job” if any team member needs a break.

Heat Stress

What to Do for Heat-Related Illness

- Contact Supervisor
- While waiting for help to arrive:
 - Move the person to a cool, shaded area.
 - Loosen or remove heavy clothing.
 - Provide cool drinking water.
 - Fan and mist the person with water.

Heat Stress

The Effect of % Water Loss on Performance

- 2% Impaired performance
- 4% Capacity for muscular work declines
- 6% Heat exhaustion
- 8% Hallucination
- 10% Circulatory collapse and heat stroke

Lifting and Carrying

What to consider when doing lifts and carries...

- Material characteristics
(ex., size, shape, weight, grip points)

- Task characteristics
(ex., frequency and duration)

Proper Lifting Technique

1. Plan ahead before lifting.
2. Lift close to your body.
3. Keep your feet shoulder width apart
4. Bend your knees and keep your back straight
5. Tighten your stomach muscles
6. Lift with your legs
7. If your straining, get help!

Who is lifting properly?

INCORRECT

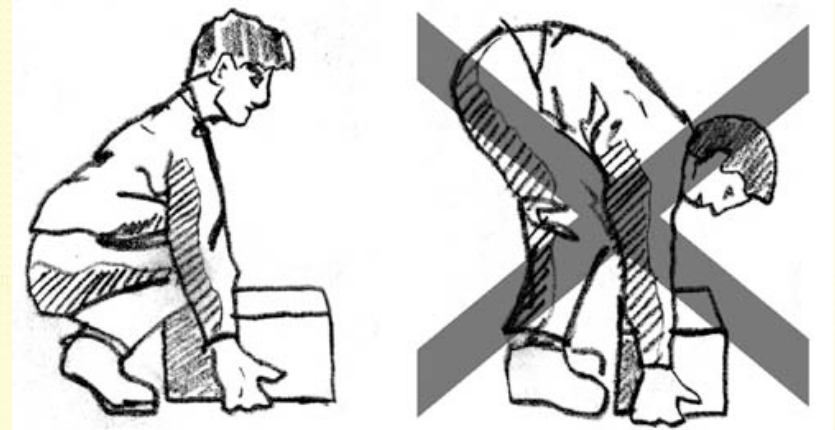


CORRECT!



Risk Factors When Lifting

- Improper technique
- Twisting/bending
- Heavy objects
- Uneven carrying & lifting
- Awkward postures
- Sudden “jerk” movements



Endurance

- Long duration makes any task difficult
- Everybody is subject to fatigue
- Many factors determine endurance:
 - physical condition/fitness level
 - age
 - environmental conditions
 - many others...

What Impacts On-the-Job Endurance?

- Posture
- Manual Material Handling
- Duration of Effort
- Work Pattern
- Pacing

How to Improve Endurance

- Use stronger/larger muscle groups
- Reduce unnecessary efforts
 - Know how to do the job
 - Use correct posture
 - Think first!
- Improve fitness



Buddy System

- The buddy system is used to ensure the safety of all volunteers working at the site. Volunteers will be assigned into groups of two people which will then work together as a single unit.
- Benefits of the Buddy System:
 - Ability to monitor each other
 - Stop adventurous or dangerous activities
 - Improved overall safety
 - Induction of newcomers



Safety Summary

- **Your safety is the #1 priority!**
- Tips for a safe beach cleanup:
 - Do not touch any sharp objects
 - Drink lots of water
 - Regularly re-apply sunscreen
 - Watch for signs of fatigue or exhaustion among your fellow volunteers

Have a Safe and Fun Beach Cleanup



**THANK YOU FOR VOLUNTEERING WITH
MIAMI-DADE COUNTY**

Prepared By:

Miami-Dade Department of Emergency Management
9300 NW 41 St.
Doral, FL 33178
(305) 468-5400

