



City of Boston
Archaeology

City of Boston Archaeology Program Field & Lab Safety Protocols

Introduction

Participating in a City of Boston archaeological dig should be a safe and enjoyable experience for everyone involved. To mitigate the potential for risks related to work carried out at an archaeological site, please refer to the guidelines below. They include basic instructions for work-related illness and injury prevention and treatment as well as information on the City's strict harassment, discrimination, and retaliation policy.

ANSI Z87 rated safety glasses and ANSI/ISEA 105 rated cut-resistant work gloves are recommended for field work. **Close-toed work shoes are required for participation in all field work.**

Please email archaeology@boston.gov if you have any questions.

****Please note that face masks may be required under certain circumstances****

Heat Safety

Monitoring for heat stress should occur at all Archaeology Program field activities. Ambient environmental conditions combined with heavy

work can create dangerous conditions for workers and volunteers. Onset of heat stress can be very rapid; early stages can include drowsiness, rashes, and cramps and if left untreated can lead to stroke and death.

When working outdoors in hot weather, precautions must be taken to avoid heat stress and heat illness. If ambient temperatures reach 85°F or greater with a relative humidity greater than 35%, caution for heat illness is advised. If the temperature reaches 90°F or greater with a relative humidity of greater than 60%, fieldwork activities should be terminated.

All Program staff and volunteers should feel free to take breaks whenever needed to avoid heat illness. Precautionary measures such as drinking plenty of water even before you feel thirsty, wearing light and loose-fitting clothing, and using sun protection (sunscreen, wide-brimmed hat, sunglasses, etc.) should be taken in hot weather.

Symptoms & Treatments of Heat Illness

Symptoms of heat illness can be progressive and treatment should begin immediately upon identification.

- Heat rash: red rash on the skin that is warm to the touch and can look bumpy or feel itchy
 - Treatment: rest out of the sun or in a cool place; change of clothing

- Heat cramps: muscle spasm or muscle pain in the hands, feet, or abdomen
 - Treatment: administer lightly salted water (3 tsp of salt per gallon) or liquid with electrolytes orally unless the ill person has medical restrictions

- Heat exhaustion/heat stress: headache, dizziness, or confusion; excessive sweating and pale, clammy skin; loss of appetite or feeling sick; rapid breathing or pulse
 - Treatment: remove the ill person to an air conditioned place or into the shade and administer lightly salted/electrolyte enhanced fluids orally or have a physician administer saline intravenously. Monitor the person closely.
- Heat stroke: headache, dizziness, or confusion/altered mental state; flushed skin that is hot to the touch; decreased sweating; nausea or vomiting; body temperature of 104°F or greater; rapid breathing or pulse; convulsions, seizure, or collapse
 - Treatment: immediately begin to cool the ill person's body using by whatever means possible: immersion in cool water or applying wet cloth or a wet sheet to their body while fanning them; sponge or mist them with cool liquid; apply ice packs or cold, wet towels to their head, neck, armpits, and groin. CALL AN AMBULANCE IMMEDIATELY. BEGIN CPR IF THE PERSON IS UNRESPONSIVE AND NOT BREATHING.

DO NOT DELAY TREATMENT
COOL THE BODY WHILE AWAITING AN
AMBULANCE

Cold Safety

Wintertime field work can carry the risk of hypothermia. If a person has been shivering and stops, has bluish skin, lips, fingers, or toes, is experiencing numbness in any extremities or appendages, or is experiencing disorientation or lack of coordination bring them indoors

and begin to warm them immediately by any means possible including blankets, heaters, warm drinks if conscious, etc.

In an emergency, call 911 immediately. Otherwise seek medical assistance as soon as possible.

If the affected person is not breathing or has no pulse begin rescue breathing while awaiting an ambulance.

DO NOT DELAY TREATMENT
WARM THE BODY WHILE AWAITING AN
AMBULANCE

Be aware of the signs of frostbite including reddened skin with gray/white patches, numbness in the affected body part, skin that feels unusually firm to the touch, or blisters.

To prevent cold weather injury, wear multiple layers of warm clothing that can be added or removed as necessary. Avoid wearing cotton clothing; instead, wear wool or synthetic moisture-wicking and fast-drying materials, especially for base layers. Wear waterproof, insulated gloves and a warm hat.

Carry an extra pair of dry socks with you.

Chemical hand and foot warmers are recommended for added warmth in the field.

Injury Prevention

To prevent injury in the field, be aware of your surroundings and the location of the people around you, use field equipment appropriately,

do not overexert yourself, and use the appropriate safety and personal protective equipment.

Appropriate Clothing

Close-toed shoes are required for participation in an archaeological dig. Long pants are recommended for fieldwork. Protective work gloves are recommended. Sun protection such as sunscreen and wide-brimmed hats are recommended for all outdoor work. Moisture-wicking base layers are recommended in all weather conditions; it's much easier to cool down and warm up in dry clothing. Rain gear such as a waterproof shell or rain pants is recommended during inclement weather.

Comfortable clothing allowing for full range of motion should be worn during fieldwork. In hot weather, wear clothing made from lightweight, breathable materials in lighter colors to help regulate body temperature and protect you from the sun. In cold weather, wear multiple layers of clothing so you can add/remove layers as necessary to maintain comfort. You may want to bring an extra pair of dry socks.

Use of Equipment

Field work may include the use of equipment such as a shovel, trowel, file/rasp, archaeological screens, large and small vegetation pruners, and loppers or machetes for clearing vegetation.

Make sure you are completely clear on how to use the equipment to avoid injuring yourself or someone else. Be aware of your surroundings, especially if wearing a hat or sunglasses that may obscure parts of your vision. Do not overexert yourself when digging, screening, lifting buckets of dirt, etc. Alert a staff member immediately if you are injured or feeling sick.

Contact with Deteriorating Artifacts

Field work may involve contact with artifacts such as glass shards, rusted metal, and other items with sharp or pointed edges. Be aware of your surroundings and the contents of your unit/STP. Handle these artifacts carefully or wear protective gloves to avoid cuts, lacerations, and puncture wounds. If a crew member is injured by an artifact, stabilize the wound and seek medical attention if necessary.

Make sure your tetanus vaccine is up to date. Tetanus boosters must be administered every 10 years to remain effective.

Environmental Risks

Know the risks associated with the environment you will be working in. While we perform field work in mostly urban areas, we may occasionally need to work in wooded areas or clear brush from a site.

Terrain

Be mindful of any uneven terrain or other risks for slips, trips, and falls such as roots, architectural elements or debris, loose gravel etc. Wear appropriate footwear with good traction and ankle support.

Animals, Insects, & Plants

Be aware of any animals or insects in the area. Use insect repellent to avoid bites from disease-carrying pests such as mosquitoes and ticks. If bitten or stung, treat with antibiotic ointment or administer antihistamine as necessary. **IF A PERSON IS ALLERGIC TO BEES THEY MUST HAVE AN EPI-PEN OR SIMILAR ON THEIR PERSON AT ALL**

TIMES; IF STUNG ADMINISTER MEDICATION AND CALL AN AMBULANCE IMMEDIATELY

Be aware of rodent activity in the area and avoid contact with animals like rats or squirrels and their feces; wear a protective face mask if working in a place with visible rodent activity. Be aware of rabid animal behavior and avoid contact if approached; call animal control immediately. If bitten, seek medical assistance and have someone monitor the direction the animal is traveling in to report to animal control in case they need to test the animal for rabies.

Be aware of any poisonous plants that may be present in the area. This may include poison ivy, oak, or sumac, briars, or plants and trees you may be allergic to.

Weather

Refer to earlier sections of this handbook for guidance on hot/cold weather safety procedures and guidance on appropriate clothing.

If a severe weather warning is in effect, cease working and seek shelter.

Thunderstorms and lightning can appear quickly and require rapid response. If you hear thunder, cease working immediately and seek shelter indoors or in a vehicle. If you are within 6 miles of a thunderstorm (30 seconds or less between a clap of thunder and a flash of lightning), you are in the danger zone and should remain sheltered.

Medical Emergency

Always know your location (nearest address, intersection or landmark) to help emergency services reach you as quickly as possible.

If a crew member experiences a medical emergency while in the field or lab, stabilize the person by any means possible and call an ambulance immediately.

- If someone is wounded and bleeding, apply constant pressure to the wound while you wait for an ambulance
- If someone is choking, commence the Heimlich maneuver while you wait for an ambulance
- If someone experiences an allergic reaction, administer their medication (Epi-Pen, Benadryl, etc.) while awaiting an ambulance

Personal Safety & Harassment

Every person on a City of Boston archaeological site is entitled to feel safe and respected. Every participant and site visitor is expected to conduct themselves in a professional manner with respect and concern for their fellow workers and members of the public. Every employee has the right to file a report against a fellow employee, vendor, resident, or site visitor for harassment, discrimination, or retaliatory behavior.

Discrimination, harassment (including sexual harassment and creation of a hostile work environment), and retaliation are illegal and subject to disciplinary action. Definitions of these terms can be found in the City's policy here:

[Policy Prohibiting Discrimination, Harassment, Sexual Harassment...](#)

Any harassing or discriminatory behavior witnessed or experienced on a City of Boston archaeological site should be immediately reported either to the Director of the Program or another Program staff member.

Anyone who engages in harassing or discriminatory behavior will be ejected from the work site immediately.