First Aid, CPR & AED on the Construction Site

Adult, Child & Pediatric Emergencies — OSHA Construction Industry Reference (29 CFR 1926)

JOBSITE QUICK REFERENCE

FUNDAMENTALS & THE OSHA DUTY

29 CFR 1926.50(a)–(c) — Employer must ensure availability of medical personnel and provide a first-aid–certified worker on site whenever a clinic/hospital/physician is not *reasonably accessible* in time and distance.

OSHA interpretation: response should generally be available within **3–4 minutes** for life-threatening hazards (severe bleeding, respiratory/cardiac arrest); **8 minutes** is treated as an outer limit for lower-severity sites.

1926.50(d) — Weatherproof, stocked first-aid kit (ANSI Z308.1) inspected weekly. **1926.50(g)** — Eyewash/drench facilities where corrosives are present.

1926.23 First aid supplies/training required on every jobsite. **29 CFR 1910.1030** Bloodborne Pathogens — gloves/PPE required before contact with blood.

ADULT CARDIAC EMERGENCIES (CAB)

Check scene & responsiveness → **Call 911 / activate EMS + AED** → **30 compressions (2 in / 100–120 bpm)** → **2 breaths** → **Attach AED, follow prompts**

Push hard/fast center of chest, allow full recoil, minimize interruptions. Continue cycles until AED analyzes, EMS arrives, or signs of life return.

PEDIATRIC / CHILD CARDIAC EMERGENCIES

Child (1yr–puberty): 1 or 2 hands, compress ~2 in, 30:2 (one rescuer) or 15:2 (two rescuers). **Infant (<1yr):** 2 fingers or thumb-encircling technique, compress ~1.5 in, same ratios. Use pediatric AED pads/attenuator if available; if not, adult pads may be used on child/infant (anterior-posterior placement to avoid pad overlap).

If arrest is witnessed suddenly (collapse) — call EMS first. If unwitnessed in a child/infant — give 2 minutes CPR before leaving to call.

CHOKING (ADULT / CHILD / INFANT)

Adult/Child, conscious: 5 back blows + 5 abdominal thrusts (Heimlich), repeat until object clears or person becomes unresponsive → begin CPR, check mouth before breaths.

Infant, conscious: 5 back blows + 5 chest thrusts (never abdominal thrusts on an infant). If unresponsive → infant CPR, check for visible object before each breath.

SUDDEN ILLNESS & LIFE-THREATENING BLEEDING

Sudden illness (heat stroke, diabetic emergency, seizure, stroke): Recognize F.A.S.T. stroke signs (Face, Arm, Speech, Time); protect from injury during seizure — do not restrain or put anything in mouth; treat heat stroke as a medical emergency — cool aggressively, call 911.

Severe bleeding: Apply direct pressure with gauze; if bleeding continues, apply a **roller/pressure bandage** wrapped firmly (not cutting off circulation) to maintain constant pressure; add more gauze on top rather than removing soaked dressings. Use a tourniquet 2–3 in above the wound (not on a joint) for extremity bleeding pressure cannot control; note application time.

Standard interpretation **1926.50(c)/(d)(1)** (6/19/2019) confirms bleeding-control supplies/training fall under required first-aid provisions.

BURN CLASSIFICATION & SEVERITY

Degree	Depth	Signs
1st	Epidermis only	Red, painful, no blisters (e.g., sunburn)
2nd	Into dermis	Blisters, intense pain, red/wet appearance
3rd	Full thickness	White/leathery/charred, may be painless (nerve damage)
4th	Into muscle/bone	Charring, life-threatening — immediate EMS

Cool thermal burns with cool running water; flush chemical burns 15–20+ min (see SDS); never apply ice, butter, or ointments. Electrical burns may look minor at entry/exit points but cause deep internal damage — always treat as a medical emergency and monitor for cardiac arrest.

POISONING & TOXIC EXPOSURE

Inhaled (fumes, CO, solvents, confined-space atmospheres): Move victim to fresh air only if safe to do so — do not enter an unventilated/confined space without rescue training & a permit (**1926 Subpart AA**); call 911; monitor breathing, begin CPR if needed.

Skin/eye contact (chemicals, adhesives, solvents): Flush with water 15–20+ min at eyewash/drench station **(1926.50(g))**; remove contaminated clothing/PPE; check SDS for the specific product before further treatment.

Ingested/swallowed: Do **not** induce vomiting; call Poison Control (**1-800-222-1222**) or 911 immediately; keep container/SDS on hand for responders.

Employer must maintain SDS for all hazardous chemicals on site and train workers on them — **29 CFR 1926.59 / 1910.1200** (Hazard Communication).

PULLING IT ALL TOGETHER — SITE RESPONSE PLAN

- Pre-plan: Identify nearest ER/clinic, confirm 911/EMS response time before work begins (**1926.50(b)**).
- Designate & certify first-aid/CPR/AED responders per shift; post names & emergency numbers.
- Stock, inspect, and weatherproof kits weekly; restock immediately after use.
- Integrate with site-specific hazards: falls, trenching, electrical, heat — match response readiness to hazard severity (3–4 min rule).
- Drill the response: scene safety → call EMS → first aid/CPR/AED → hand-off to responders → document (OSHA 300/301).

EXAMPLES OF ACCIDENTS & CASE STUDIES — PREVENTABLE WITH TRAINING + COMPLIANCE

Trench collapse, no bleeding-control response: Unshored trench (violating **1926 Subpart P**) caved in on a worker; crush injuries went untreated for critical minutes because no trained first-aid responder or bleeding-control kit was on site — fatal outcome cited in multiple OSHA trenching fatality investigations.

Cardiac arrest, no AED on site: Worker collapsed from sudden cardiac arrest on a remote site over 8 minutes from EMS; delayed CPR and absence of an AED reduced survival odds — OSHA case files reinforce agency guidance that AED access within 3–4 minutes dramatically improves outcomes.

Fall from height, expired/empty first-aid kit: A fall-protection violation (**1926.501**, OSHA's most-cited standard) caused severe bleeding on impact; the jobsite kit had not been checked weekly as required, delaying pressure-bandage application.

Electrical contact, untreated burn escalation: Contact with an energized line caused an entry/exit burn that appeared minor; without electrical-burn protocol training, the crew delayed EMS activation — cardiac monitoring is critical since electrical burns can trigger delayed arrhythmia.

Codes cited 29 CFR 1926.50(a)-(g) · 1926.23 · 1926.501 · 1926 Subpart P (Excavations) · 29 CFR 1910.1030 (BBP) · ANSI/ISEA Z308.1