CAL-MAT Base Camp Field Guide Supporting the Mission of CAL FIRE

Fourth Edition
May 2025

Emergency Medical Services Authority (EMSA)
California Medical Assistance Team (CAL-MAT)

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INTRODUCTION and PURPOSE

The mission of CAL-MAT when deployed during fires is to support CAL FIRE and other personnel, e.g., vendors, federal responders, etc., at base camp. CAL-MAT is composed of medical professionals and support personnel who are rapidly assembled into a team by the Response Personnel Unit in the Disaster Medical Services Division (DMS) of the State EMSA Authority (EMSA) to fulfill the mission. This guide is meant to serve as a field manual to assist the variety of clinicians responding to a fire mission and was compiled by clinicians with fire base camp experience. Material has been adapted from a variety of sources including FEMA's AEMS Field Guide, UpToDate, and our collective personal experience.

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SECTION 1

Evacuation/Transfer to Higher Level of Care

Fire Camp personnel may present to the CAL-MAT Medical Aid Station for two reasons:

1. To receive a medical evaluation and treatment, the majority of this will be simple and straightforward
2. To request self-care supplies like sunscreen, lip balm, moleskin, ibuprofen, eye drops/wash, etc.

In case you encounter a medical emergency, please notify the CAL FIRE Base Camp Medical Unit Leader (MEDL) and **follow these procedures**:

ALS Emergency Evacuation/Transfer: Transport from the Fire Camp Base of Operations (BoO) in the case of serious illness or an injury that requires urgent treatment above and beyond CAL-MAT capability.

- Contact ALS unit assigned to base camp for CAL-MAT use:
  - Stabilize patient to your ability for transport
  - Contact ALS unit lead regarding urgent transport
  - Ensure CAL-MAT lead and EMSA A-Rep are notified
  - Notify the base camp MEDL
  - If information is available, call the receiving facility regarding transport
- ALS unit not assigned or unavailable:
  - Call 9-1-1 for transport – ensure you know the address of your location and give directions to your location on the base camp
  - Follow all other instructions listed above

BLS Evacuation/Transfer: Transportation from the Fire Base Camp to receive a higher level of care which CAL- MAT cannot provide at the Camp.

- When BLS unit assigned to base camp for CAL-MAT use:
  - Stabilize patient to your ability for transport
  - Contact BLS unit lead regarding urgent transport
  - Ensure CAL-MAT lead and EMSA A-Rep are notified
  - Notify the base camp MEDL
  - If information is available, call the receiving facility regarding transport
- When BLS unit is not assigned or unavailable:
  - If no other form of transportation can be provided and condition permits
  - Call 9-1-1 for transport – ensure you know the address of your location and give directions to your location on the base camp
  - Follow all the other instructions listed above.

Burn Evacuation/Transfer: Any BURN of any severity (even the mildest appearing burn) that occurs to any Fire Camp staff from any agency **must** be reported to the MEDL while the patient is still in the medical aid station. The MEDL will determine the disposition of the patient with you via the CAL FIRE Burn Policy.

- Complete the appropriate work-related form (provided by CAL-MAT/CAL FIRE Admin)
- Follow the above instructions related to emergency or BLS evacuation procedures

DEMOBILIZATION

Demobilization refers to removing an individual, resource, or crew from an incident. There are many reasons a demobilization occurs – the most common reason is that the resource is no longer needed. Other common reasons are safety reasons, the resource is needed at their home unit/program/employer, the resource is re-directed to another incident, or they are not in a physical/mental/health condition to continue their assignment.

CAL-MAT is typically only involved in the latter demobilizations. Demobilizing a resource is a very big decision. This is people's jobs, livelihood, and in many cases, they are proud to work, and most do not want to go home. The decision to demobilize due to health issues must be made in conjunction with the MEDL. Understand that sometimes this decision is against what an individual wants and would encourage the team to let the incident command structure handle this process once that joint decision has been made and not to get into any arguments.

In general, if someone is not expected to have a quick recovery, they will be told to demobilize. CAL FIRE recognizes that those who have contagious infectious disease should not remain on the incident. It is important for the CAL-MAT team to recognize if they are seeing a large number of infections (i.e. a large number of gastroenteritis, COVID patients, etc.) as this could become extremely transmissible in this environment. If there is an illness outbreak, the safety officer for the incident along with the MEDL and incident command may make additional requirements or isolation of certain individuals. There is also the possibility of needing to involve the local health department (do not call without a discussion with MEDL) Remember that not everyone who receives care is a firefighter. There are a significant number of administrative personnel within the incident base. These individuals may be able to go back to work in some situations where a firefighter would not be able to (i.e. severe ankle sprain). It is important to involve the MEDL so their injury or illness can be assessed within the scope of their duties.

If there is any disagreement between the medical team and the MEDL regarding demobilization, please reach out to CAL FIRE's Medical Director.

CAL-MAT will also be told to demobilize. This typically occurs toward the end of the incident and the MEDL will be able to update the EMSA A-Rep on site as it gets closer. At the end of demobilization, you will be able to go home after your checkout procedures with EMSA.

In general, your demobilization will occur at the same time as the vast majority of the CAL FIRE Incident Management Team. In occasional cases, CAL-MAT is deployed to fire incidents with an abbreviated incident team (local unit) from CAL FIRE or a joint federal/CAL FIRE incident. If a CAL FIRE incident team MEDL is not present or you are told to report to a federal MEDL, please notify your team lead and EMSA AREP.

SECTION 2

BURN MANAGEMENT

CAL FIRE routinely updates its burn policy, and it is important to review this prior to coming to the camp. Many minor burns can be treated locally at the camp while others will require transfer to the local emergency department or a burn center per CAL FIRE Medical Unit Leader (MEDL) protocol. Transfer to a burn center may be delayed if appropriate as the policy does not require emergent transfer unless dictated by local EMS destination criteria. An example of this could be a hand burn where follow-up in the next 1-2 days can often be arranged. Most fires are in the northern part of the state for which the closest burn center would be UC Davis. They have agreed to discuss potential transfers with the CAL-MAT physician or to arrange follow-up if it is felt the patient can be evaluated in the outpatient burn clinic. The phone number for UCD transfers is 916-734-3636. When evaluating personnel with a burn, involve the MEDL immediately. Do not make any disposition decisions prior to speaking with the MEDL. Call Dr. Rosen (CAL FIRE's Medical Director) if you and/or the MEDL wish to discuss disposition. The more you work out ahead of time, the easier it will be to manage patients.

CAL FIRE Burn Policy

INITIAL BURN TREATMENT

Burn Categories: Burn severity is categorized as follows:

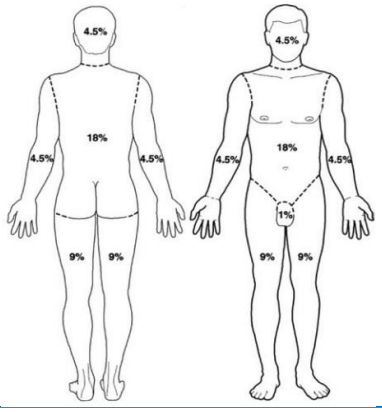
- **First-Degree**
  Superficial (limited to the epidermis), redness, sometimes mildly to moderately painful, and no skin sloughing

- **Second-Degree** (Partial Thickness)
  Involve the epidermis and dermis, skin may be red, raw, blistered, swollen, wet, white and weepy, and very painful

- **Third-Degree** (Full Thickness)
  Involving complete destruction of the epidermis and dermis, whitish dry, charred or translucent, sensation is usually absent in burned area

Estimating the Percentage of Body Surface Burned
In addition to estimating the depth of the burn, it is necessary to estimate the amount of skin surface area involved, specifically the extent of second-degree and third-degree burns since first-degree burns are not included in this estimate. The Wallace Rule of Nines provides a quick method of estimating the percentage of skin which has been burned. The Palmar Method is another quick and simple method for field use on small burn areas.

WALLACE RULES OF NINE



PALMAR METHOD

Initial Burn Treatment

Personnel who suffer from a burn injury should immediately be removed from the heat source and evaluated as soon as safely possible.

Immediately assess for signs of airway compromise and burns. Continue to monitor airway, breathing, and circulation. Burned clothing should be cut away, but do not remove any clothing adhered to burned skin. All jewelry near the injured area should be removed.

Clean water should be applied over the burned area for up to 5 minutes to stop the burning process. Do not use ice packs and avoid the use of cold water due to the risk of hypothermia.

The burned area should be covered with a clean, sterile dressing, moistened with clean water followed by a second application of dry gauze. Burns should be kept moist. Burns covering large areas of the body should be wrapped with a clean sheet followed by a plastic sheet. The patient should be placed inside a burn blanket. Continue to monitor until patient transfer to higher level medical care. Patient extraction should be performed as quickly as possible. [Confirm all of these are in cache.]

Personnel should assess traumatic injuries and treat them according to established local protocols. Patients with traumatic injuries will be transported to the closest trauma center if they meet local trauma center criteria listed below.

Transportation of the Burn Patient

Transport to Initial Treatment Facility

CAL FIRE employees shall follow Local Emergency Medical Services Agency (LEMSA) protocols and procedures in the transportation and destination of burn patients. The patient may be transported to a local emergency department or directly to a burn center based on local protocol and resources availability

Burn Center Referral Criteria

The Criteria below identify what types of burn injuries should be referred to an American Burn Association (ABA) Verified Burn Center:

- Partial thickness burns greater than 10% of the total body surface area (TBSA)
- Partial thickness burns that involve the face, hands, feet, genitalia, perineum, or major joints
- Third-degree (full thickness) burns
- Electrical burns, including lightning injury
- Chemical burns
- Inhalation injury (urgent or emergent airway issues should be treated by the closest emergency room)
- Burn injury in patients with pre-existing medical disorders that could complicate management, prolong recovery, or affect mortality
- Burn injury in patients who will require special social, emotional, or rehabilitative intervention due to a significant event (i.e., a burnover or shelter deployment as determined by the treating/evaluating physician)

- Burns that do not allow the patient to return to full duty as directed by a treating physician

NOTE: **Trauma always takes priority over burns**. In patients with burns and associated trauma, the trauma should be addressed first.

If the patient meets the Local Emergency Medical Services Agency (LEMSA) trauma triage criteria, they should be transported to a Trauma Center. If the patient does not meet trauma triage criteria, they may be transported per the LEMSA burn policy criteria.

If a first-degree or second-degree burn injury occurs on an incident or at an Incident Base and the injury does not meet the Burn Center Referral Criteria; if available, an on- site physician may be utilized to assess and treat the burn injury.

All burns resulting from fire entrapments, direct flame contact or superheated gases will be treated as having the potential for inhalation injuries and must be evaluated by a physician to determine if treatment is warranted.

All second-degree burn injuries that do not meet the Burn Center Referral Criteria above must be assessed by a physician within 24 hours to determine a treatment plan.

Mode of Transportation

Mode of transportation to a destination Emergency Department and/or Burn Center will be determined by the LEMSA destination policy, and resource availability. If a secondary transport to a Burn Center is deemed necessary, the mode of transportation will be determined by the treating/sending physician in collaboration with the receiving Burn Center.

If the patient is transported to a hospital that is not an ABA verified Burn Center, referral to a verified Burn Center shall **only** be determined by the attending physician treating the patient.

References

For the CAL FIRE Burn Kit inventory, refer to the 7200 CAL FIRE Emergency Medical Services Handbook Exhibit 7243-1.

For the list of Burn Centers by CAL FIRE Region, refer to the 7200 CAL FIRE Emergency Medical Services Handbook Exhibit 7243-2.

REVISION DATE

MANAGEMENT OF BURNS IN THE FIELD

Consultation – UC Davis Burn Center can be consulted for clinical questions on possible transfers or follow-up coordinate with CAL FIRE Medical Unit Leader (*MEDL). Dr. Rosen with CAL FIRE is also available.*

First degree (superficial partial thickness) burns

1. Cool the burn. Immediately immerse the burn in cool running tap water (MEDL can make this available) or apply cold, wet compresses. Do this for about 20 minutes (see CAL FIRE policy)
2. Apply unscented moisturizing cream to the intact skin. A topical antibiotic should only be applied to partial- or full-thickness burns.
3. Dress - Cover the burn with *a* nonstick, sterile bandage. If blisters form, let them heal on their own while keeping the area covered. Do not pop the blisters.
4. Pain medication. Acetaminophen or ibuprofen can help relieve the pain and reduce inflammation.
5. These typically do not require transfer to the burn center

Second degree (deep partial-thickness) burns

1. Cleanse – gently clean the wound bed with cool running tap water and mild soap
2. Debride if necessary - gently cut off all loose tissue and broken blisters up to the edge of healthy tissue. Fear not, the loose tissue is dead! Use clean tweezers and scissors (they need not be sterile). Intact blisters should be ruptured and debrided if there is risk of spontaneous rupture with daily activity (most blisters).
3. Protect - Cover the burn with a nonstick, sterile bandage. If blisters form, let them heal on their own while keeping the area covered. Do not pop the blisters.
4. Some of these burns may require evaluation at a burn center per CAL FIRE policy. If they do not meet burn center criteria: depending on the characteristics of the burn, they may be managed in the tent or a local emergency department if you feel it is more appropriate.

NOTE: All-inclusive dressings such as Mepilex® Ag and Aquacel® Ag are the dressing of choice for 2nd degree burns. They consist of self-adherent foam impregnated with silver. They are trimmed to fit the wound and secured in place by wrapping the injured body part with an elastic bandage. If the foam dressing cannot be kept in place because of the anatomic location of the wound, then layered dressing should be used instead (see description below). Foam dressings may be left in place for seven (7) days. Small, superficial burns to the face do not keep a dressing well and they may be treated with frequent (at least five times a day) application of bacitracin ointment instead of dressings.

Third degree (full thickness) burns

1. Cool – immediately remove burning material and apply cool running water
2. Cleanse – gently clean the wound bed with tap water and mild soap
3. Debride – gently cut off all loose tissue and broken blisters up to the edge of healthy tissue. Fear not, the loose tissue is dead! Use clean tweezers and scissors (they need not be sterile).

Layered dressings consist of:

- a topical antibacterial (preferably bacitracin ointment) covering the wound bed. Silver sulfadiazine is best used for deeper wounds, NOT for those expected to heal, because it slows healing and may cause a permanent skin stain if exposed to sun

- a non-adherent dressing (preferably petrolatum)
- a dry gauze over the non-adherent dressing
- tape or an elastic bandage to hold the dry gauze in place

Emergent Transfer to higher level of care via ALS

While awaiting ALS transport, early management of the airway is vital due to rapid development of laryngeal and tracheal edema from the fire smoke and heat. Maintain a high index of suspicion, notably if facial burns or soot in the nose are present.

- Facial burns can present special problems in securing an advanced airway device such as an endotracheal tube.
    - Use Kerlix gauze to protect the skin and tape ETT to that.
        - Advise having 1 person assigned to manage ETT from mispositioning
- Start with 100% O2 by a non-rebreathing mask (NRBM) if the patient has altered mental status. Assist ventilations with a Bag-Valve-Mask (BVM), if necessary.
- Administer initial fluid bolus LR (preferred) or 0.9% Normal Saline 250 ml IV/IO. Titrate to maintain Systolic BP > 90 mm Hg.
- For more serious burns, consider two IVs.
- Avoid placement of the catheter adjacent to burn if feasible

Smoke Inhalation

- Administer Albuterol 2-4 puffs, by metered dose inhaler (MDI) or nebulizer, if available, every 15 minutes; may repeat 3x. Repeat 2-4 puffs every 2 hours, as indicated.

Eye Burns

- For a chemical burn to the eye, irrigate with either LR or NS (with Morgan Lens ocular irrigation device, if available):
    - Acid burn (crusty appearance): 30 minutes minimum, or until pain subsides
    - Alkali burn (soapy appearance; e.g. caused by lye, lime or ammonia): 60 minutes minimum, or until pain subsides

Electrical Burns

- Treat the entrance and exit wounds.
- Internal injuries are often severe and must be treated appropriately.

    Obtain 12-lead ECG and monitor cardiac rhythm and treat any dysrhythmia according to current American Heart Association (AHA) ACLS guidelines.

- Assess and treat fractures of bones and/or spine.

Circumferential Burns

- Burns can constrict the chest and restrict respiratory efforts.
- Burns can constrict the limbs and impair peripheral circulation.

    If chest constriction or impaired peripheral circulation occur, consider escharotomy after consulting on- line medical direction.

SECTION3

DERMATOLOGY

POISON OAK:
Poison Oak is commonly encountered during fire response. Symptoms include redness, itching and swelling. Symptoms start 4-96 hours after exposure and peak 1-14 days after exposure. Oil from poison oak (urushiol) can persist on clothes or equipment and cause new skin exposure if clothing, tools and other objects are not cleaned after contact. **This protocol is to serve as a guide for treatment and return to work for clinicians providing treatment at Fire Camps.**

PREVENTION: Clothing barrier between skin and the plant: Long sleeves, neck covering, and socks. Pre-exposure creams are important. --These are barrier preparations made of organoclay with demonstrated effectiveness. Precontact/Pre-exposure gel (*Ivy X*) or Pre-exposure wipes can prevent oil from the plant bonding with skin.

POST EXPOSURE: Rinse sap immediately. Use cold water and bar or liquid soap (including Dawn, Palmolive etc. dish soap) Use of soap is inferior to better solvents specific to this purpose.
Use product washes/wipes that will remove urushiol oil from skin. If applied soon enough after exposure, these have the potential to decrease urushiol-induced allergic contact dermatitis.

- Ivy X Post-exposure contact scrub/skin cleanser
- Wildland prevention/Pre-exposure wipes
- Tecnu post-exposure scrub
- Zanfel post exposure scrub: a mixture of alcohol soluble and anionic surfactants that binds to the urushiol antigen and renders it unable to induce an allergic reaction.

Personnel to wash as above and bag exposed clothes, then change into fresh uncontaminated clothing prior to presenting to medical tent for treatment.

TREATMENT OF POISON OAK RASH:

MILD- MODERATE: Erythema, minimal swelling, small vesicles
Medium to High Potency Steroids: (see Section 1 FORMULARY for complete list) BID up to 14 days to most affected areas ('hot spots') twice a day

- Clobetasol propionate 0.05% (high potency)
- Triamcinolone acetonide 0.5% (moderate potency)
- For face, axilla, groin use hydrocortisone 1%--in addition to systemic steroids
- Instruct patient to wash hands after application

Symptomatic treatment

- Diphenhydramine 25-50mg or hydroxyzine 10 mg orally QHS for itching and sleep
- Calamine Lotion

- The following are soothing but not usually possible in Fire Camp:
- Bathe with 1 cup Aveeno oatmeal
- 1:40 dilution of aluminum acetate (Domeboro, Burrow's solution)

MODERATE-SEVERE: >10% body surface area, large areas of swelling, large blisters, facial or groin involvement

Note: There are no well-designed studies examining the proper dose and course of systemic corticosteroids for poison oak dermatitis; however, extensive clinical experience suggests that rebound dermatitis occurs commonly if too short a course is used, especially in the context of a wildfire. There are no published studies comparing 14- and 21-day courses of prednisone in poison oak. Although oral administration of corticosteroids offers flexibility in daily dosing, intramuscular injection of corticosteroids is a treatment option for patients who cannot tolerate or comply with administration of oral corticosteroids.

Treatment: Systemic steroids in addition to topical steroids as above
Oral regimen 14-21days tapering dose of prednisone:

Example of a 15-day Prednisone taper:

- Days 1-5 60mg QAM
- Days 6-10 40mg QAM
- Days 11-15 20mg QAM

Example of a 20-day Prednisone taper (Preferred):

- Days: 1-5 60mg QAM
- Days 6-10 40mg QAM
- Days 11-15 QAM 20 mg QAM
- Days 16-20 10mg QAM

Intramuscular (*note: does not work faster than oral dosing*):
Contraindication: an IM regimen in the past 3 months. Oral burst may provide more rapid onset but is not necessary. Anyone under treatment should consider pre-exposure gel (IvyX) or wipes before going to the fire line and post-exposure scrub/cleanser (Tecnu or Zanfel) when returning, if available.

- Triamcinolone 60mg (1mg/kg, 40mg-80mg) + (optional-prednisone 60mg x 3 day at initiation of therapy to obtain more rapid response)

Recurrent rash:
If symptoms return after initial treatment, consideration should be given to a second course of steroids. Discuss with the patient the risks and benefits associated with a second course of steroids. Consider 0.5mg/kg Prednisone with a taper from that for 2 topical high-potency steroids if limited symptoms still present. No more than TWO steroid treatments should be given within 8 weeks unless extenuating circumstances exist and may need to be referred to tertiary care unless extenuating circumstances exist.

Return to Work: Discuss with patient and with CAL FIRE Medical Unit Leader (MEDL). Consider demobilization recommendation from fire site if the following is present:

- Swelling that prevents full flexion/extension of extremities
- Facial swelling that impairs vision
- 40% or more of total body surface area affected
- Superimposed bacterial infection
- Progression of symptoms despite severe treatment algorithm therapy

Comparison of Topical Steroids

Generic name	**Trade name**	**Preparations**
High Potency		
Clobetasol	Temovate, Cormax	0.05% cream or ointment
Medium Potency		
Triamcinolone	Aristicort, Kenalog	0.1% cream or ointment
Low Potency		
Hydrocortisone acetate	Cortaid	0.5% cream or ointment

ATOPIC DERMATITIS

Atopic dermatitis is a chronic intermittent itchy rash which can occur from head to toe. In adults it generally affects the face, neck, and antecubital/popliteal folds. If this is a first episode, think contact dermatitis instead of atopic dermatitis. Triggers include low humidity conditions (e.g., Santa Ana winds), stress, and contact with irritating chemicals such as hotel detergent in bed sheets, Ivory or Zest soap, and over-bathing.

Acute treatment strategies:

- Triamcinolone (TAC) ointment (faster onset than cream) twice daily sparingly and rub in well. For face, axillae, and genital area/folds, recommend nothing stronger than 1 to 2% Hydrocortisone ointment or cream. Stronger steroids like TAC risk thinning the skin. Lubricate with petroleum jelly or fragrance-free creams or lotions twice daily.

People with Atopic Dermatitis get frequent infections in scratched/broken skin. Treat with topical antibiotic ointment. If skin lesions are improving with topical treatment, then oral antibiotics may not be necessary. If febrile or with a history of infection with MRSA, it is reasonable to start Doxycycline 100 mg twice daily for 7 days or trimethoprim /sulfamethoxazole (such as Septra or Bactrim DS) one tablet twice daily for 7 days. Doxycycline and Septra/Bactrim are both photosensitizers so for the next 4 weeks protect the skin from sunburn with clothing and sunscreens. This is especially important for outdoor workers.

- To control intense itch, it may be helpful to use thin cloths soaked in tepid or cool water to hydrate the skin to allow for faster healing.
- Avoid over-bathing, hot water, and contact with chemicals such as fragranced lotions and Neosporin. A cool environment is helpful.
- Occasionally if atopic dermatitis is severe, a one-time systemic corticosteroid intramuscular injection such as TAC 40 to 60 mg deep IM can help. Another option is oral Prednisone for 5 days with breakfast dosing 60mg on days 1 and 2; 40 mg on days 3 to 4; and 20 mg on day 5; then stop.
    - Antihistamines such as diphenhydramine 25-50 mg at bedtime may help with sleep but have no healing properties or anti-itching benefit.

CONTACT DERMATITIS

Contact dermatitis can be caused by allergens or irritants. Poison oak/ivy dermatitis is the most frequent cause of allergic contact dermatitis in the outdoor/firefighting scenario.

- Other common sources of allergic contact dermatitis include other plants; neomycin in triple antibiotic ointment; metals such as nickel on equipment or clothing and/or jewelry; fragrances in soaps, cosmetics, or lotions; black or latex rubber (so use nitrile or vinyl, not latex or rubber gloves); leather; wet epoxy; formaldehyde; resins in some wood (which may be airborne in a fire and cause facial rashes).
- The most common irritants causing contact dermatitis are soaps, detergents, cleansers, turpentine/solvents, peppers, acids, saliva, acetone, and sources of friction to the skin. Chronically wet feet can cause a foot rash which can be prevented by keeping the feet dry with frequent sock changes.
- Many other causes of contact dermatitis may be involved. Some detective work will usually sort out the cause, so ask questions to determine what type of contact has occurred. Remember that the causal exposure may have been hours to days before the rash began.
- Contact with the juice or skin of citrus such as lemon or lime in sunlight can cause blisters followed by streaky tan discoloration, typically on the hands.

Treatment:

- For skin reactions to allergens such as poison oak, refer to the protocol discussed previously. The main treatment is to prevent further exposure to the allergen or irritant. Wash off any remaining substance with cool water and mild soap as soon as possible.
- Use appropriate protective gear such as: gloves, clothing, face shield, etc.

- Topical steroid ointments and creams are the first line of treatment: Triamcinolone cream or ointment sparingly twice daily for up to 2 weeks to thick skin areas, and up to 2% hydrocortisone cream or ointment for face, axillary folds, or genital areas.
- For severe itching or blisters consider systemic corticosteroids:
    - Intramuscular triamcinolone 40 to 60 mg deep in upper outer quadrant of buttock with 1 and 1/2 inch needle, once OR
    - Prednisone by mouth daily with breakfast for 5 days, 60 mg day 1 and 2, 40 mg days 3 and 4, 20 mg day 5, then STOP
    - Benadryl 25-50 mg at bedtime may promote sleep though it will not decrease the itching.

ACUTE HIVES (URTICARIA)

Urticaria or Hives are large or small areas of itchy swelling (welts) which can occur anywhere on the skin. Any one hive will last less than 24 hours, but new hives continue to erupt in other areas. Finger pressure will blanch the hive. Always ask if the patient has had acute or chronic hives in the past; if the answer is yes, the usual cause is probably the current cause.

- One type of urticaria should be considered an emergency: hives on the lips, tongue, or inside the throat which can impair breathing or swallowing (angioedema). This requires urgent treatment and transport to the emergency department.
- Hives have numerous causes: foods, drugs, insect bites, and infections. "Physical urticaria" can be caused by heat, cold, pressure, and exercise, among other causes. The most common causes in a field scenario might include antibiotics, pain relievers such as ibuprofen or codeine, new foods containing nuts or spices or shellfish, insect stings, and pollen.

Treatment (NOTE: if angioedema present or sedative medications used, recommend demobilization)

- For severe hives or angioedema consider epinephrine via EpiPen (STOCKED IN ACLS FORMULARY) or IM epinephrine 0.3 to 0.5 mg (max dose of 0.01 mg/kg) into the mid outer thigh followed by immediate transport to the emergency department. Antihistamines, corticosteroids, and H2 blockers are not appropriate treatment for anaphylaxis. Do not delay epinephrine for anaphylaxis.
- Oral antihistamines: non-sedating as first line, such as cetirizine 10 mg daily or twice daily, or sedating type: diphenhydramine 25 to 50 mg every 4 to 6 hours or a prescription for hydroxyzine 10 to 25 mg every 6 hours. Use until hives subside. Even non-sedating antihistamines may cause sedation, so advise appropriate precautions against operating heavy machinery and avoidance of alcohol intake.
- Apply cool compresses and avoid hot showers and overheated conditions.
- Avoid the suspected trigger.
- For hives of moderate or greater severity, observe closely for worsening over a 24-hour period. Be especially vigilant for low blood pressure, fainting, dizziness, GI symptoms or respiratory symptoms which may indicate a need for emergent transport.

BLISTERS AND HOT SPOTS

Blisters and hot spots are one of the most common injuries encountered in a Fire Camp setting. Within hours, a small rub in your boots can turn into a painful blister. However, a few basic treatment and prevention strategies can relieve pain, promote healing and return firefighters to the line.

HOT SPOTS

Hot spots are sore, red areas of irritation that develop into blisters if allowed to progress. Identifying hot spots early to stop them from becoming blisters will save miles of pain.

Treatment:

- If caught early on, a hot spot can be easily stopped from becoming a blister by covering it with a small piece of moleskin.
- For more irritated hot spots, cover them with a gel type dressing or use moleskin/molefoam. Whichever is used, skin must be prepped using an alcohol wipe for maximum adhesion. If using moleskin, make sure to grab a donut-shaped piece or simply **cut a small hole in the center of a rectangular piece**.
- **Position the moleskin so the hole is over the hot spot, making sure the adhesive surface isn't touching the irritated skin.** This raises the area around the hot spot, preventing further rubbing. If necessary, moleskin can be secured in place with medical tape.

BLISTERS

- If the blister is still intact, do not puncture or drain it. Instead, follow the same steps outlined above on treating serious hot spots by protecting it with a gel type dressing, molefoam or moleskin.
- If you're using moleskin, you may need to use several layers, as **the moleskin doughnut needs to be higher than the blister** to be effective.

For Large or Ruptured Blisters

Blisters can be large, painful and can become a detriment to firefighters effectively doing their job. Leaving large foot blisters intact can be a problem because it still makes walking difficult; putting a circle of padding (moleskin or other pads) can actually make the problem worse and may be neither comfortable nor maximally effective.

Recommendation:

- Gently clean the edge of the large blister with prep solution or alcohol.
- Use a 3-5ml syringe with 18-20 gauge needle and extract the fluid from the blister just above the blister base. This will allow the blister to flatten.
- Then cover with hydrogel dressing and place a larger piece of moleskin over that to hold it in place. If hydrogel unavailable, use HYDROCOLLOID dressing or apply antibiotic ointment and cover the area with a non-adherent dressing or gel type dressing to prevent contaminants from entering the wound and to promote healing, allowing comfortable walking and immediate return to work.
- Moleskin/molefoam (if dressing unavailable) can be used to protect the wound from further rubbing. Use a doughnut-shaped moleskin to raise up the area around the blister – remember to use enough layers to raise the moleskin above the height of the blisters with its dressing. Secure the moleskin in place with medical tape. Due to conditions associated with Fire Camp, recommend change dressings daily and monitor for infection. Signs of infection include redness, swelling, increased pain, or a cloudy fluid under the dressing. If infection occurs, remove the dressing and allow the area to drain. Initiate oral antibiotics for cellulitis/abscess.

PLANTAR WARTS

Plantar warts are often chronic and become a problem when walking on them for long periods of time, which will result in pain. The key to treatment is that the wart itself cannot be treated in the field but symptoms can be relieved with moleskin. However, it is crucial that the moleskin NOT encircle the plantar wart(s) like a donut. This can cause the wart and skin under the wart to protrude and worsens the situation. The way to handle this is to cut a U-shaped piece of moleskin to place around the wart and then at each dressing change (at least once daily) the U opening is rotated 90 degrees. This prevents skin pouching and aggravation of the wart area. The firefighters can be given multiple U-shaped cut moleskin patches to take with them. The same treatment strategy also works for painful foot callus.

CELLULITIS AND FUNGAL SKIN INFECTIONS

Frequently encountered skin disorders in the austere environment include cellulitis (with or without lymphangitis) and fungal infections. Both cellulitis and fungal infections may be misdiagnosed as contact dermatitis but will worsen with steroid treatment. Cold and/or dry conditions increase the risk of all skin conditions due to cracked skin, resulting in breaks to the skin barrier. Hot and/or moist conditions may facilitate spread of skin irritants and fungal infections.

Condition	Signs/Sx	Management	Treatment

Cellulitis	• Skin redness (erythema), increased skin warmth, pain, tenderness
	• Redness usually spreads distal to proximal and can often be traced to a wound
	• May have fever or associated lymphadenopathy
	• Red streaks, often proximal to the wound
	• Fever (may or may not be present)
	• Associated lymphadenopathy
		• If a wound is present:
		  ○ Clean wound site with soap and water and irrigate.
		• Apply neomycin-free topical antibiotic ointment
		  ○ Apply sterile, dry dressing.
		• Surrounding cellulitis should be marked on the skin surface with an indelible ink pen. This allows the initial provider and follow-up providers to track the spread of the cellulitis.
		• Warm soaks for 20 minutes q1-2h may assist cellulitis
			• Amoxicillin/Clavulanate 875/125 mg orally twice daily.
			• Cephalexin 500 mg orally 4 times daily.
			• Doxycycline 100 mg orally twice daily.
			• Trimethoprim-sulfamethoxazole double-strength 1 tab orally every 12 hours.

Fungal Dermatitis	• Maculopapular-type rash with scaling plaques and erythema • Slow-spreading, clearly-defined rash with irregular or circumferential borders • Itching (pruritus) • Typically associated with a specific area of the body o Tinea cruris or "jock itch" (groin) o Tinea pedis or 'athlete's foot" o Tinea capitis or "cradle cap" (scalp) o Tinea versicolor (may be diffuse, particularly found on the arms, shoulders and torso) • Appears as areas of discolored skin that do not tan	• Apply topical antifungal powder, spray, cream or ointment, following the manufacturer's instructions. • Continue topical antifungal treatment for 1 week after lesion resolves. • DO NOT mix creams and powders. Advise patient to keep area clean and dry (showers OK) Change underwear and/or socks daily. Avoid tight fitting clothes covering the affected area.	• Tolnaftate cream applied to interdigital tinea pedis for one week. If oral therapy required • Fluconazole: 150mg once weekly for two to six weeks

SUBCUTANEOUS ABSCESS

A subcutaneous abscess is a localized soft tissue infection resulting in a collection of pus. Pain relief is often rapid following minor surgical intervention. An abscess may form as a reaction to an embedded foreign body, an insect or spider bite, or from a non-traumatic event (e.g., occluded sebaceous glands, ingrown hairs, bacterial infiltration along the hair follicles, or an inversion of skin around a hair follicle or skin pore).

Signs and Symptoms

- Localized skin infection (surrounding cellulitis may or may not be present)
- Fluctuant, non-pulsatile mass (palpable movement of fluid [pus] beneath the skin)
    - A pulsatile mass is NOT an abscess. It is likely a vascular aneurysm or process such as a malformation. **DO NOT incise any pulsatile mass.**
- Lymphangitis, lymphadenopathy (may or may not be present)
- Fever (may or may not be present)

Management

- Surrounding cellulitis should be marked on the skin surface with an indelible ink pen. This will allow the initial provider and follow-up providers to track the spread of the cellulitis.
- Warm soaks for 20 minutes q1-2h may help with cellulitis resolution. Avoid skin maceration from prolonged soaking.

- Administer pain management medication.

If cellulitis, lymphangitis, lymphadenopathy, and/or fever are present, administer oral antibiotics as above or

- Initiate IV antibiotics (ceftriaxone 1 to 2 g IV every 24 hours,)

If the abscess is fluctuant and painful, perform Incision and Drainage (I&D).

- If the provider is not comfortable with performing an I&D, needle aspiration of the abscess may be performed. Needle aspiration may offer pain relief and decrease the risk of a worsening infection. It is often inadequate for complete drainage and the abscess may reform.

Post-Procedural Wound Care

- Lightly pack the wound with iodoform gauze.
- Apply topical antibiotic ointment.
- Apply dry, sterile gauze.
- Patient should report back for evaluation within 24 hours or if pains worsen, redness increases, or red streaks and/or heavy drainage from wound develop.

Demobilization (transfer to higher level of care)

- Transfer any patient exhibiting systemic symptoms, e.g., fever or lymphangitis that does not respond to treatment.
- Any abscess that does not respond to treatment or if an I&D needs to be performed that is beyond the capability of the staff at Fire Camp (e.g., large perirectal, perianal or other perineal or vulvar abscesses).
- Evacuation is not usually required for abscesses that respond to treatment.

Extended Care

- Improvement, with decreased pain and swelling, should be noted within 24 hours after an I&D.
- Continue to track the visible signs of infection with an indelible ink pen every 12-24 hours.
- Following an I&D, remove and replace the outer dressing and packing twice per day. As the wound heals, less packing material will be required to loosely pack the wound.

Management of Complications

- If the wound is packed too tightly, it may occlude drainage, causing swelling and pain.
- Remove the packing from the wound.
- Clean and irrigate the wound with normal saline or sterile water.
- Loosely repack the wound.

ATHLETE'S FOOT (Tinea Pedis)

Tinea pedis may manifest as an interdigital, hyperkeratotic, or vesiculobullous eruption, and rarely as an ulcerative skin disorder. Interdigital tinea pedis is most common. Tinea pedis frequently is accompanied by involvement of the hands, nails or groin.

Management

- Topical antifungal therapy is the treatment of choice for most patients. Systemic antifungal agents are primarily reserved for patients who fail topical therapy. CAL-MAT formulary includes tolnaftate and fluconazole tabs.
- Topical antifungal treatment is generally applied once or twice daily and continued for four weeks. Shorter treatment courses may be effective; high cure rates have been obtained with terbinafine 1% cream applied to interdigital tinea pedis for one week.
- Patients requiring oral antifungal therapy are usually treated with fluconazole. Typical treatment regimens for adults: Fluconazole: 150 mg once weekly for two to six weeks

In patients with hyperkeratotic tinea pedis consider combining antifungal treatment with a topical keratolytic, such as salicylic acid.

- Burrow's (1% aluminum acetate or 5% aluminum subacetate) wet dressings, applied for 20 minutes two to three times per day. Placing gauze or cotton between toes may be helpful as an adjunctive measure for patients with vesiculation or maceration.
- Interventions that may help to reduce recurrences include use of desiccating foot powders, treatment of shoes with antifungal powder, and avoidance of occlusive footwear.
- If the foot appears to have a bacterial superinfection, these antibiotics have appropriate coverage:
    - Dicloxacillin, cephalexin, clindamycin, amoxicillin/clavulanate, sulfamethoxazole/trimethoprim

Patient Instructions for Poison Oak

Poison Oak is a common problem when fighting forest fires. Contact with this plant causes skin redness, itching, and swelling. The skin can then be raised up forming water filled boils and weeping. Symptoms start between 4-96 hours after exposure and peak at 1-14 days after exposure. New lesions can develop up to 21 days after contact making people think they got it again when it is still part of the initial contact.

The oil from poison oak (a compound called urushiol) can stick to clothes and cause a new infection if clothing, tools, and other items are not cleaned after contact. Only the oil from the plant is contagious and the fluid weeping from an ivy/oak blister is not contagious. Without treatment, the rash goes away in 1-2 weeks. A complication of the skin lesions from ivy/oak is a bacterial skin infection.

Prevention: Create a barrier between you and the plant. Clothing is the first barrier. A precontact gel such as IvyX can prevent the oil from the plant from bonding to your skin. Handle exposed clothing carefully and wash right away.

When in contact with poison oak: rinse the sap right away with cold water. Hot water may spread the oil. Then use soap to wash the oil away. Tecnu's Outdoor Skin Cleanser is formulated to remove poison oak oil if you have it. Dawn dish soap also works well. Be sure to wash well under nails as the oil can build up there.

Poison oak dermatitis is not contagious and cannot be passed from person to person. Clothes should be washed with detergent and bleach. Equipment is likely to be contaminated with the sap that can cause additional exposure; wash with isopropyl alcohol or soapy water--if alcohol is not available.

Treatment: Sooth the itch. Take a cold bath, use cool compresses, apply Calamine lotion, and use Aveeno oatmeal bath treatment if possible. Benadryl (diphenhydramine) 25 mg will help you sleep. Topical steroid creams, unless very potent, are of limited value. Avoid antihistamine creams or lotions, anesthetic creams containing benzocaine, or antibiotic creams containing neomycin or bacitracin on the skin. If your blisters have started to pop, cover the oozing areas and keep them clean. Products with aluminum acetate (examples include Burrow's solution and Domeboro) are soothing and help remove crusts.

Steroids: Severe cases, especially those involving the face and genitals, can be treated with steroids. Oral steroids such as Prednisone are used for 14-21 days. Shorter courses have a risk of a rebound return of the skin rash. Injectable steroids are generally reserved for patients who can't take oral steroids. The injectable steroids do not work any faster than the oral steroids.

If you have any questions, please let us know. We hope your deployment goes well and that your poison oak/ivy clears up quickly.

Patient Prescription & Instructions for Poison Oak

Prednisone 20mg pills

Patient: _____

Date: _____

Take with food for 14 days as follows:

3 tabs with breakfast on days 1,2,3,4,5
2 tabs with breakfast on days 6,7,8,9,10
1 tab with breakfast on days 11,12,13,14
Total of 29 pills

Take Benadryl 25 mg at night to help with sleep.

Use plain Calamine, Caladryl, or Caladryl Clear lotion on the skin. Pramoxine lotions are also safe and effective.

Use Domeboro soaks or Burrow's solution on the open lesions.

Avoid antihistamine creams or lotions, anesthetic creams containing benzocaine, or antibiotic creams containing neomycin or bacitracin to the skin.
If the lesions look infected or contain pus, please check with your doctor.

*NOTE: Steroids such as Prednisone can decrease your immunity and make you more susceptible to infections. Please take appropriate precautions such as isolation and medical follow- up.

Aftercare Handout for Athlete's Foot

1. Start with good foot hygiene: Fungus loves moisture, so keep feet dry by drying well after bathing.

   A hair blow dryer set on cool or warm works better than a towel alone. Carry a clean, dry pair of extra socks into the field when deployed, as moist feet can lead to infection.

2. Socks should have copper fiber or silver fiber: look for these as "antimicrobial," copper, or silver socks, found in Walmart and many stores, as well as online. Many styles and colors are available, and the antifungal properties do not wash out. They are inexpensive, readily available, and don't require a prescription.

3. Continue the treatment you received for 4 weeks at least (the turnover time of surface skin cells). If buying the cream yourself, look for terbinafine cream, sold over the counter as Lamisil. Rub twice daily into the entire sole and all toe webs (spaces) until the cream disappears into the skin.

4. Ongoing prevention is very important as the fungus is everywhere: on the floor, in our shoes, in non-antimicrobial socks. Just use the antimicrobial socks every day and the terbinafine cream once a week when your four-week treatment is complete. For diabetics the fungus loves to recur, so treat daily long term.

5. If the toe webs are macerated (moist with broken skin) a bacterial infection may be present. Plain vinegar or prescription metronidazole (gel or cream) will treat the bacteria. Be sure to do steps 1, 2 and 3 to treat the underlying fungus as well.

6. If the feet give off a bad smell, another bacterium called Corynebacterium is usually responsible. Sometimes it appears as small round peeling places covering up to half the sole. Treatment with topical benzoyl peroxide gel 2.5% to 10% (which is used for acne) or prescription clindamycin gel will rapidly resolve this condition. Note that benzoyl peroxide will bleach fabrics and carpeting, so be careful to wear old or white socks while using this.

7. Carry a clean, dry pair of extra socks into the field when deployed, as moist feet are susceptible to infection.

Instructions for Use of Moleskin

Moleskin Use for Blisters

Moleskin is a thin but heavy cotton fabric. It's soft on one side and has a sticky adhesive backing on the other. It's often applied to the inside of shoes to improve fit or make them more comfortable. You can also use it to protect a blister from irritation.

How do I use it on a blister?

Moleskin is very durable, which makes it a good option for protecting blisters in high-friction areas, including your feet.

If you've ever applied a bandage to a blister on the back of your heel, you probably noticed that it came off shortly after you put on shoes. Moleskin tends to stay in place better than traditional bandages. It's also thicker, which adds more support and cushioning.

To use moleskin for blisters, follow these steps:

- Gently clean and dry the area around the blister
- Cut a piece of moleskin that's about 3/4-inch larger than your blister.
- Fold the non-adhesive sides together.
- Cut a half-circle out of the moleskin.
    - The half-circle should be roughly half the size of your blister.
    - When you unfold it, you should have one blister-sized hole in the center of the moleskin.
- Remove the backing from the adhesive side and place the moleskin over your blister, aligning your blister with the hole you made.
    - If your blister sticks out above the moleskin, cut and apply a second layer to make the moleskin thicker.
- For very large blisters, consider using moleskin with a thick foam backing, which you can also find on Amazon.
- Keeping your blister surrounded by padding helps to reduce friction and irritation. It also helps to protect the blister from popping, which is usually painful and increases your risk of infection.

How do I use it to prevent a blister?

If you're breaking in a new pair of shoes or planning to walk or run for a long period of time, you can also place some moleskin on areas that tend to develop blisters. This protects the skin underneath from friction, which causes blisters.

You can also individually wrap your toes in moleskin to prevent them from rubbing against each other. As an alternative, you can also apply moleskin directly to the inside of your shoes. This is particularly useful if your shoes have an uncomfortable seam or narrow heel that tends to dig into your skin.

What not to do

Make sure you don't put moleskin directly over a blister. The strong adhesive on the back can easily rip off the top of your blister (known as the roof) when you remove it. A blister's roof protects it from developing an infection.

Moleskin is an effective way to protect existing blisters and prevent new ones from forming. You can even apply it to the inside of your shoes if they tend to rub against your skin in certain places.

SECTION 4

Head, Eyes, Ears and Neck

EPISTAXIS

Common causes of epistaxis are nasal and/or facial trauma, nose picking, spontaneous nosebleed, and drying of nasal mucosa from environmental causes (such as arid conditions at high altitude and desert locations). Uncontrolled epistaxis may cause significant bleeding and airway obstruction. Anterior epistaxis is much more common than posterior epistaxis, (originating from the posterior nasopharynx) which can be particularly dangerous. Bleeding can be significant in patients who are taking anti-coagulant medications, including aspirin.

Management of Anterior Nosebleed

- Have patient sit and lean forward to allow blood to drain outward from nose and not down the throat.
- Evaluate patient for current level of bleeding.
- If bleeding appears to be significant, begin IV fluid resuscitation and transfer patient to higher level of care. If blood causes obstruction or induces choking, secure and maintain airway. Provide advanced airway support and urgently transfer patient to higher level of care.
- If the bleeding has stopped:
    - DO NOT clear any clot.
    - Monitor for rebleed.
- Evacuation is usually not required for anterior epistaxis controlled with direct pressure or anterior packing.
- If the patient continues to have bleeding:
    - Have the patient clear out any clots by blowing his/her nose.
    - Have the patient pinch his/her nostrils together firmly and continuously for 15 minutes.
        - In some instances, the provider must perform this maneuver for the patient.
        - Consider applying two spray doses of OTC oxymetazoline (Afrin®) nasal decongestant in each nostril, prior to applying pressure.
- If the patient continues to bleed after 15 minutes of continuous pressure: apply anterior nasal tampon, packing or a nasal balloon catheter, if available, and consider transfer patient to higher level of care. Use a topical non-neomycin ointment to lubricate and to prevent toxic shock syndrome.
- May attempt to carefully remove anterior nasal packing after 4 hours.
- Monitor for development of fever.

If anterior epistaxis was related to arid or high-altitude conditions, apply neomycin-free antibiotic ointment or nasal saline spray for prophylaxis.

EYE DISORDERS

Only a few treatments for eye disorders are practical in an austere environment. These include protection, irrigation, rest, eye lubrication, anesthetic drops, and antibiotics. Contact lenses exacerbate most issues. For foreign body, evert eye lid to evaluate if not seen on cornea

- Do not apply an eye patch for a foreign body.

Transfer to higher level of care:

- Conduct urgent evacuation for perforated eye globe or a sudden loss of vision in a normal-appearing eye.
- For a complex lid laceration or hyphema (blood collecting in anterior chamber of the eye).
- Reduce exposure to the light by having patient wear sunglasses. Consider applying eye patch(es), if not detrimental to evacuation.

Signs and Symptoms

Compare eyes to see if the problem affects both sides.

Condition	Signs and Symptoms	Treatment
Dry Eyes	• Red, painful, feel gritty • Both eyes are usually affected. • Long period of wearing contact lenses	• Use artificial tears. • Reduce time wearing contact lenses • Wear sunglasses to protect eyes. • Antibiotic ointment may lubricate eyes and relieve pain,
Foreign Bodies	• Feels like something is in eye • Irritation, redness, tearing • Examine corners of eyes and under lids	• Irrigate eyes with dean water. • Remove the foreign object if present.
Corneal. Abrasion	• It feels like something is in the eye • Irritation, redness, tearing • Examine corners of eyes and under lids • Persistent pain and irritation	• Remove the foreign object if present. • Apply antibiotic ointment to the inner surface of the eyelid. • Patch the eye for 24 hours, then re-examine.
Penetrating Injury	• Obvious penetration • Assess for other injuries • Determine object depth, angle, if feasible.	• Stabilize the object with tape, then surround the object with a cup to prevent jarring. • Patch other eye to prevent ocular movement. • Administer oral pa.in medications. • Administer oral antibiotics.
Corneal. Inflammation/ Ulceration	• Red, painful eyes • Photophobia • Watery, blurred vision • Cloudy cornea (with bacterial infection)	• Remove contacts, if worn. • Administer antibacterial drops or ointments. • Administer oral pa.in medications.
Conjunctivitis 	• Red,, painful eye (cornea is not red) • Vision is not effected • Discharge of pus (most common with bacterial infection) • Watery discharge (most common with viral infections) • Itchy eye (Allergies)	• Treat bath eyes., as both will likely become infected. • Administer antibiotic drops or ointments for a minimum of 5 days. • Viral conjunctivitis will clear without treatment • Administer antihistamine eye drop if allergies are the likely cause. • If vision becomes affected, it is more serious.

EAR INFECTIONS & ISSUES

Ear/Cerumen impaction is occlusion of the external auditory canal (EAC), commonly caused by the accumulation of ear wax (cerumen). This is often the result of use of cotton-tipped swabs in the canal.

- Administer half-strength hydrogen peroxide drops to the EAC and have the patient lie on side with affected ear facing upwards for 20-30 minutes.
    - May need to use ear wax removal such as debrox or ceruminex for a few days to soften, then re-irrigate.
- Begin ear irrigation with warm water, or warm water mixed with half-strength hydrogen peroxide, using a 30 ml syringe with a 16 gauge IV catheter.
- Ensure irrigation fluid is body temperature, as cold water will cause nausea, dizziness, and vertigo.
- Frequently inspect the EAC with otoscope during irrigation. Rely on irrigation, not instrumentation, to dislodge impaction. Repeat as necessary.

Otitis Externa is an infection of the External Auditory Canal (EAC). It is often caused by prolonged exposure to water (e.g., "swimmer's ear").

- Have the patient keep the affected ear dry.
- Administer oflox opth 4 drops TID, until 48 hours after symptoms resolve; may place cotton ball in ear after application.
    - If otic abx is not available, apply a few drops of vinegar mixed with alcohol (1:1) every 2-4 hours.
    - if condition worsens or persists, consider amoxicillin/clavulanate or azithromycin if PCN allergic, 500 mg PO x1 day, followed by 250 mg PO QD days 2-5

Otitis Media is an infection of the middle ear, behind the eardrum. It is caused by a blockage of eustachian tube.

Signs and symptoms include pain from middle ear (primary symptom - may be severe)

- Usually without redness, swelling or tenderness to external ear and EAC; however, can see both (Otitis externa and media) in some settings
- Tympanic membrane (TM) is dull, red, and may be seen bulging with fluid or pus
- Administer pain management medication such as ibuprofen 400-800mg po TID.
- If fever, general malaise, or severe pain is present, administer amoxicillin-clavulanate (Augmentin) 875mg po bid for 5-7days, up to 10 days if indicated.

A **perforated tympanic membrane** (TM) or "perforated ear drum" is a hole or tear in the TM. It may be caused by a history of infection, direct trauma (e.g., close proximity explosion), or after diving. TM may be punctured, torn, or absent on exam

- Keep area clean and dry.
- Administer an antibiotic prophylaxis of amoxicillin/clavulanate or azithromycin.
- If caused by close proximity explosion or other trauma, evaluate for underlying or concomitant injury.

Transfer to higher level of care

- Any ear problem accompanied by altered mental status, ataxia, vomiting, or septicemia.
- Persistent fever, severe pain, or obvious swelling to the face or neck.
- Patients with no improvement after 48 hours of treatment.

Other/Special Considerations

- Perforated eardrum is possible if otitis media persists and internal swelling worsens. It is usually benign, and patient often notes dramatic decrease in pain and ear pressure.

DENTISTRY

General Dental Care
Common dental injuries include fractured, dislocated, and avulsed teeth. Toothaches are also a commonly encountered disorder, and may be caused by pulpitis (dental caries), lost dental fillings, periodontal and apical abscesses, etc. Dental injuries suggest significant blunt force trauma to the head.

In case of dental trauma, evaluate patient for associated serious injury.

Rule out:

- Head injury, inquire for LOC
- Spinal injury, clear C-spine
- Associated facial injuries (e.g., mandible fracture, alveolar ridge fracture, orbital fracture, zygomatic fracture). Blood draining into throat may obstruct airway or induce choking. Swallowing blood may result in nausea and/or vomiting. Always be prepared to protect the patient's airway.
- Field suction is ideal, if available.
    - Early advanced airway management may be necessary in severe maxillofacial trauma.
    - If bleeding is present or anticipated with procedure and suction is unavailable, have the patient sit with head forward to prevent blood from draining into throat.

Alveolar Ridge Fracture: This condition is a traumatic fracture of the alveolar ridge of the maxilla or mandible (soft tissue adjacent to the teeth and gums). It often involves multiple teeth. If fracture is not grossly obvious, check for stability by rocking the alveolar ridge anteriorly and posteriorly. Any movement indicates fracture.

Avulsed Tooth: This condition is a result from direct trauma causing detachment of the tooth from the bone. The best chance of tooth survival is replacement within one hour. If the tooth is not replaced within 1 hour of injury, then the chances for tooth survival are very poor.

(Note location of periodontal ligaments. Careful handling of tooth helps preserve these ligaments. DO NOT scrub, rub, scale or otherwise roughly handle tooth prior to replacement. Handle tooth ONLY by the crown.)

Dislocated Tooth: This condition is caused by trauma to the mouth that results in the tooth being moved from its normal position, without complete avulsion. It is also known as a "luxated tooth" or "partial avulsion

Management

	Alveolar Ridge Fracture	Avulsed Tooth	Dislocated Tooth
Signs & Sx	Movement of the alveolar ridge, anteriorly or posteriorly Tooth dislocation or avulsion	Tooth completely detached from other structures -Empty socket -Can indicate a severe impact to the head Head injury, inquire for LOC Spinal injury, clear C-spine	Tooth is obviously dislocated from normal position, is loose and mobile • Can indicate a severe impact to the head • Head injury, inquire for LOC
Management	Administer pain management medications.	Replace the tooth: Handle the tooth ONLY by the crown. DO NOT scrub, rub, or remove any tissue from the tooth -Gently rinse the tooth with normal saline or potable water. -Place the tooth in normal saline, milk, or saliva prior to procedure. -Gently irrigate the empty socket with normal saline or potable water.	Manually reposition tooth: -Use a finger to gently guide the tooth down and back while simultaneously repositioning the crown with another finger. -Have the patient stabilize the tooth by gently biting down on a gauze pad. -Secure the tooth.
Disposition	Transfer to ER	Evacuation is required	Dental evaluation needed

Antibiotics: For appropriate dental cases, amoxicillin/clavulanate 875/125 mg PO q12h

SECTION 5

Extremes of Temperature

HEAT ILLNESS / STRESS

PHYSIOLOGY OF HEAT INJURIES

In addition to environmental conditions and intensity of exertion, dehydration is the most important predisposing factor in heat illness. Dehydration also reduces exertional performance, decreases time to exhaustion, and increases internal heat load. Temperature and heart rate increase in direct proportion to the level of dehydration. Sweat is a hypotonic fluid containing sodium and chloride. Sweat rates commonly reach 1 liter (L) per hour or more, resulting in substantial fluid and sodium loss.

MINOR HEAT DISORDERS

- *Heat cramps* are painful muscle contractions following exercise. They begin an hour or more after stopping exercise and most often involve heavily used muscles in the calves, thighs, and abdomen. Rest and passive stretching of the muscle, supplemented by commercial rehydration solutions or water and salt, rapidly relieve symptoms. Water with a salty snack is often sufficient. An oral salt solution can be made by adding one-fourth to one-half teaspoon of table salt (or two 1-gram salt tablets) to 1 L of water. To improve taste, add a few teaspoons of sugar and/or orange or lemon juice.
- *Heat syncope*—sudden fainting caused by vasodilation—occurs in unacclimatized people standing in the heat or after 15–20 minutes of exercise. Consciousness rapidly returns when the patient is supine. Rest, relief from heat, and oral rehydration are sufficient treatment.
- *Heat edema* is mild swelling of the hands and feet that occurs more frequent in women during the first few days of heat exposure. It resolves spontaneously and should not be treated with diuretics, which may delay heat acclimatization and cause dehydration.
- *Prickly heat* (miliaria or heat rash) manifests as small, red, raised itchy bumps on the skin caused by obstruction of the sweat ducts. It resolves spontaneously, aided by avoiding continued sweating and relief from heat. It is best prevented by wearing light, loose clothing and avoiding heavy, continuous sweating.

MAJOR HEAT DISORDERS

Heat Exhaustion

- Most people who experience acute collapse or other symptoms associated with exertion in the heat are suffering from heat exhaustion—the inability to continue exertion in the heat. The presumed cause of heat exhaustion is loss of fluid and electrolytes, but there are no objective markers to define the syndrome, which is a spectrum ranging from minor complaints to a vague boundary shared with heat stroke. Transient mental changes, such as irritability, confusion, or irrational behavior may be present in heat exhaustion, but major neurologic signs such as seizures or coma indicate heat stroke or profound hyponatremia.
- Most cases can be treated with supine rest in the shade or other cool place and oral water or fluids containing glucose and salt; subsequently, spontaneous cooling occurs, and patients recover within hours. An oral solution for treating heat exhaustion can be made by adding one-

fourth to one-half teaspoon of table salt (or two 1-gram salt tablets) to 1 L of water plus 4–6 teaspoons of sugar. To further improve taste, add one-quarter cup of orange juice or 2 teaspoons of lemon juice. Commercial sports-electrolyte drinks are also effective. Plain water plus salty snacks may be more palatable and equally effective. Subacute heat exhaustion may develop over several days and is often misdiagnosed as "summer flu" because of findings of weakness, fatigue, headache, dizziness, anorexia, nausea, vomiting, and diarrhea. Treatment is as described for acute heat exhaustion.

- Body temperature may be normal or mildly to moderately elevated.

Exercise-Associated Hyponatremia

- Symptoms of heat exhaustion and early exertion-associated hyponatremia (low sodium levels in the blood) are similar. Hyponatremia can be distinguished from heat illnesses by persistent alteration of mental status without elevated body temperature, delayed onset of major neurologic symptoms (confusion, seizures, or coma), or deterioration up to 24 hours after cessation of exercise and removal from heat. Where medical care and laboratory are available, measure serum sodium to diagnose hyponatremia and guide treatment.
- Hyponatremia can occur in conditions of strong prolonged exertion, likely due to replacement of fluids with excessive amounts of free water. Loss of sodium through sweat also contributes to hyponatremia. In the field setting, altered mental status with normal body temperature and a history of large volumes of water intake suggest hyponatremia. The vague and nonspecific symptoms are the same as those described for hyponatremia in other settings, including anorexia, nausea, vomiting, headache, muscle weakness, lethargy, confusion, and seizures.
- The misguided recommendation to force fluid intake during prolonged exercise and the attitude that "you can't drink too much" are major contributors to exertion-associated hyponatremia. Prevention includes drinking only enough to relieve thirst. During prolonged exercise (>12 hours) or heat exposure, supplemental sodium should be taken. Most sports-electrolyte drinks do not contain sufficient amounts of sodium to prevent hyponatremia; on the other hand, salt tablets often cause nausea and vomiting. For hikers, food is the most efficient vehicle for salt replacement. Trail snacks should include not just sweets, but salty foods such as trail mix, crackers, and pretzels.

Heat Stroke

- Heat stroke is an extreme medical emergency requiring aggressive cooling measures and hospitalization for support. Heat stroke is the only form of heat illness in which the mechanisms for thermal homeostasis have failed, and the body does not spontaneously restore the temperature to normal. As a result of uncontrolled fever and circulatory collapse, organ damage can occur in the brain, liver, kidneys, and heart. Damage is related to duration as well as peak elevation of body temperature.
- The onset of heat stroke may be acute or gradual. Acute (also known as exertional) heat stroke can affect healthy people exercising in the heat; it is characterized by collapse during exertion in the heat, usually with profuse sweating. By contrast, gradual or non-exertional (sometimes referred to as classic or epidemic) heat stroke occurs among chronically ill individuals experiencing passive exposure to heat. Sufferers of classic heat stroke tend not to perspire. Both types exhibit altered mental status and markedly elevated body temperature.
- Early symptoms are similar to those of heat exhaustion, with confusion or change in personality, loss of coordination, dizziness, headache, and nausea that progress to more severe symptoms. A presumptive diagnosis of heat stroke is made in the field when people have elevation of body temperature (hyperpyrexia) and marked alteration of mental status,

including delirium, convulsions, and coma. Body temperatures in excess of 106°F (41°C) can occur in heat stroke; even without a thermometer, people will feel hot to the touch. If a thermometer is available, a rectal temperature is the safest and most reliable way to check the temperature of someone who may have heat stroke; an axillary temperature may give a reasonable estimation. Signs and symptoms alone should guide this suspicion.

In the field, immediately institute cooling measures by these methods:

- Maintain the airway if victim is unconscious.
- Move to the shade or a cool place out of the sun.
- Use evaporative cooling: remove excess clothing to maximize skin exposure, spray tepid water on the skin, and maintain air movement over the body by fanning. Alternatively, place cool or cold wet towels over the body and fan to promote evaporation. Apply ice or cold packs to the neck, axillae, groin, and as much of the body as possible.
- If feasible, immerse the person in cool or cold water, such as a nearby pool or natural body of water or bath but an ice bath induces rapid cooling. Contact the CAL FIRE Medical Unit Leader (MEDL) who can likely arrange for ice to be delivered. Always attend and hold the person while in the water. This should be done prior to transfer to the hospital.
- Encourage rehydration for those able to take oral fluids.

- Heat stroke is life threatening, with many complications occurring in the first 24–48 hours, including liver or kidney damage and abnormal bleeding. Most victims have significant dehydration, and many require hospital intensive care management to replace fluid losses. If evacuation to a hospital is delayed, monitor closely for several hours for temperature swings.

WILDLAND FIREFIGHTERS ARE VERY PRONE TO HEAT INJURIES AND RHABDOMYOLYSIS. MAINTAIN A HIGH LEVEL OF SUSPICION FOR THESE AND TRANSFER TO THE LOCAL EMERGENCY DEPARTMENT AFTER PROVIDING INITIAL STABILIZING CARE IF THERE IS A CLINICAL CONCERN FOR HEAT STROKE OR RHABDOMYOLYSIS.

SECTION 6

RESPIRATORY CONDITIONS

For firefighters or personnel with any significant cutaneous burns, inhalational lung injury occurs in 1/5 of all burn victims and 2/3 if facial burns are present. Lung injury accounts for the majority of fire-related deaths, and mortality in burn cases increases from 4% to 30% if inhalational injury is present. Manifestations of lung injury may be delayed; therefore, ***all of these patients should be immediately sent to a tertiary care center with burn capabilities.***

For those personnel presenting to the base camp medical clinic with cough or nasal symptoms, a small study from Canada in 2008 showed that up to 65% of woodland firefighters will experience respiratory symptoms due to inhalation of particulate matter. This will result in hoarseness, irritant rhinitis, and/or large airway cough or wheezing symptoms due to the direct inflammatory effects of smoke on the respiratory mucosa.

Wildland firefighters are not likely to experience the extreme acute chemical exposures that structural firefighters may have. However, they are still chronically exposed to a multitude of contaminants that are products of combustion of natural materials, including carbon monoxides, sulfur dioxides, particulate matter of variable composition, aldehydes, and polyaromatic hydrocarbons (PAHs). They may also be exposed to substances such as lead or herbicides which may have been deposited on foliage. Ground dust and naturally occurring silica or asbestos may also be a hazard. Coupled with the effects of chemicals used as fire-retardants, gasoline and other fuels used for intentional burning, the range of exposure of wildland firefighters may be more diverse.

Studies of wildland firefighters noted significant cross-season increases in eye irritation and wheezing correlated with fire-fighting activities. Studies have also observed a decline in average FEV1 and FVC cross-seasonally. Self-contained breathing apparatuses used by structural firefighters have not been feasible in the wildland fire environment. Existing air-purifying respirators have been recommended for exposure control in combination with continuous CO monitoring that can activate an alarm when a threshold level is exceeded.

RHINITIS (IRRITANT AND ALLERGIC)

Rhinitis is inflammation and swelling of the mucous membrane of the nose, characterized by a runny nose and stuffiness and usually caused by the common cold or a seasonal allergy. Colds and allergies are the most common causes of rhinitis.

- Symptoms of rhinitis include a runny nose, sneezing, and stuffiness. However, increasingly evident is that smoke and particulate matter from wildfires is now a cause of similar symptoms resulting in:
  - Cough - dry and wet
  - Eye irritation
  - Sneezing
  - Sore throat

Treatment:
The management of allergic rhinitis symptoms is similar to irritant rhinitis except you may wish to add systemic antihistamines for allergic symptoms.

- Saline nasal sprays: over-the-counter nasal saline spray or homemade saltwater solution (with distilled water) to flush the nose of irritants and help thin the mucus and soothe the membranes in the nose.
- Corticosteroid nasal spray to prevent and treat inflammation associated with both allergic and some types of nonallergic rhinitis.

  Possible side effects include nasal dryness, nosebleeds, glaucoma, headaches, and throat dryness.

Decongestants. Side effects include high blood pressure, heart pounding (palpitations) and restlessness; therefore **should not** be used for fire-fighters due to an added risk for heat illness. Examples include pseudoephedrine-containing drugs.

Over-the-counter oral antihistamines such as diphenhydramine, cetirizine, and loratadine typically don't work as well for non-allergic rhinitis as they do for allergic rhinitis.

REACTIVE AIRWAYS: COUGH/WHEEZING

Cough, hoarseness, and wheezing are usually a manifestation of airway inflammation (infection or irritant exposure) and can result in bronchospasm and asthma exacerbation.

- Following exposure to the particulate matter in fire smoke, there is a resultant inflammatory cascade triggered in the airways as well as an elevation of inflammatory mediators in the bloodstream. This also leads to a burning sensation in the chest alleviated by inhaled steroids.
- Concomitant influenza or COVID diagnosis and management strategies will need to be considered.

Treatment:

For isolated hoarseness without respiratory difficulty:

- Use a nasal steroid 1-2 sprays each nostril and/or inhaled corticosteroid 1-2 puffs daily.

For mild cough and wheezing:

- Albuterol via MDI or breath actuation: 2 puffs via aero chamber/spacer q 4-6h as needed.
- May add an inhaled steroid or use combination Inhaled Corticosteroid/Long-Acting Beta2-Agonist (ICS/LABA)

For moderate symptoms:

- Inhaled corticosteroid (ICS): 1-2 puffs inhaled via spacer BID (rinse mouth following use) in addition to bronchodilator therapy as above.
- Combined ICS/LABA (long-acting bronchodilator) 1-2 puffs BID to TID (prn)
- If requiring these therapies and not a known asthmatic, need to consider demobilization from incident and discussion with MEDL and Dr. Rosen (CAL FIRE). Remember that a firefighter will continue to be exposed to smoke so these symptoms will likely persist.

For severe symptoms (i.e., difficulty completing a sentence):

- Nebulizer treatment with albuterol solution 2.5mg in 3 ml NS or duoneb
- Provide a steroid burst with prednisone 20-40mg and plan to remove the member from fire-response duties.

Prevention:

No respirator mask is fully protective and should be considered a *secondary* means of protection from airborne toxins.

- Disposable respirators are commonly used in health care.
    - These can filter particulate material. N=not oil proof, 95= 95% efficient at filtering particles w/diameter 0.3mc.
- It is important to understand fit, limitations, and proper care of the respirator.
    - Respirators can compromise vision, communication and motor skills. Increased resistance to breathing and increased dead space ventilation occurs. Respirators do decrease maximum workloads tolerable.

Viral URIs: i.e. INFLUENZA, COVID

If a member presents with flu-like symptoms (nasal congestion, myalgias, sore throat, cough), consider COVID-19 testing and if during flu season, offer arapid-flu test. You may sometimes choose to write a prescription for an antiviral drug at your discretion if they test positive. Symptom relief medications include Tylenol, lozenges, hydration, and decongestants. Please remind patient that cold/flu medications and heat increase risk for heat-related illnesses. Those with influenza or COVID-19 should be demobilized, and you should notify the CAL FIRE Medical Unit Leader (MEDL). Monitor for influenza activity at the camp and in the community.

BACTERIAL PNEUMONIA/BRONCHITIS-requires demobilization

- Cough (may or may not yield green, brown, or blood-tinged sputum), chills, pleuritic chest pain
- Fever, Resting HR > 90 bpm, RR > 18, nausea, headache and diminished appetite
- Start oxygen at 2 L/minute via nasal cannula. Increase to maintain SpO2 of > 92%, as necessary.
- Administer fever management medication.
- To relieve severe coughing or difficulty breathing, administer as needed:
    - Albuterol MDI 2 puffs q4h prn

Demobilize for any infectious respiratory illness or persistent wheezing not fully controlled by bronchodilators via MDI at standard intervals. Consider need for COVID-19 testing.

Other/Special Considerations

- Team members in close contact with influenza patients should be administered appropriate antiviral medication, if available.
- In the presence of a widespread outbreak of influenza, administer an appropriate antiviral medication as prophylaxis after consulting with local public health authority.
- If symptoms of sinusitis are present, particularly green or yellow nasal discharge, treat with antibiotics.

CARBON MONOXIDE POISONING

Carbon monoxide (CO) is an odorless, colorless gas produced by incomplete combustion of multiple energy sources such as petroleum and wood. In the U.S. there are annually 500 accidental deaths and 15,000 emergency room visits, excluding suicide attempts.

CO bonds avidly with hemoglobin 220 times more strongly than oxygen. This leads to severe hypoxia, the cause of illness and death. 40% of deaths are associated with the use of portable generators, followed by faulty home heating systems. Generators are ubiquitous at Fire Camps, as the local electricity supply is usually not adequate for the sudden influx of several thousand firefighters and other personnel. Everyone in a Fire Camp is exposed to CO to some extent. Many vehicles—including fire engines and large trucks—have diesel engines. CO can leak into cabins.

CO poisoning is a major cause of death of fire victims. 30 to 40% of deaths from CO poisoning occur before hospitalization. Although death is caused by hypoxia and ischemia, it should be noted that relatively low levels of carboxyhemoglobin, around 20%, have been associated with myocardial impairment and arrhythmias. 2% of hospitalized patients will die, and 10% will make only a partial recovery, up to half with neurological sequelae.

CLINICAL PRESENTATION

- Variable and nonspecific: headache, weakness, nausea, confusion, and altered level of consciousness. NOTE: Cherry red nail beds and mucous membranes are actually a *postmortem* finding.
- Hypotension in severe cases

DIAGNOSIS

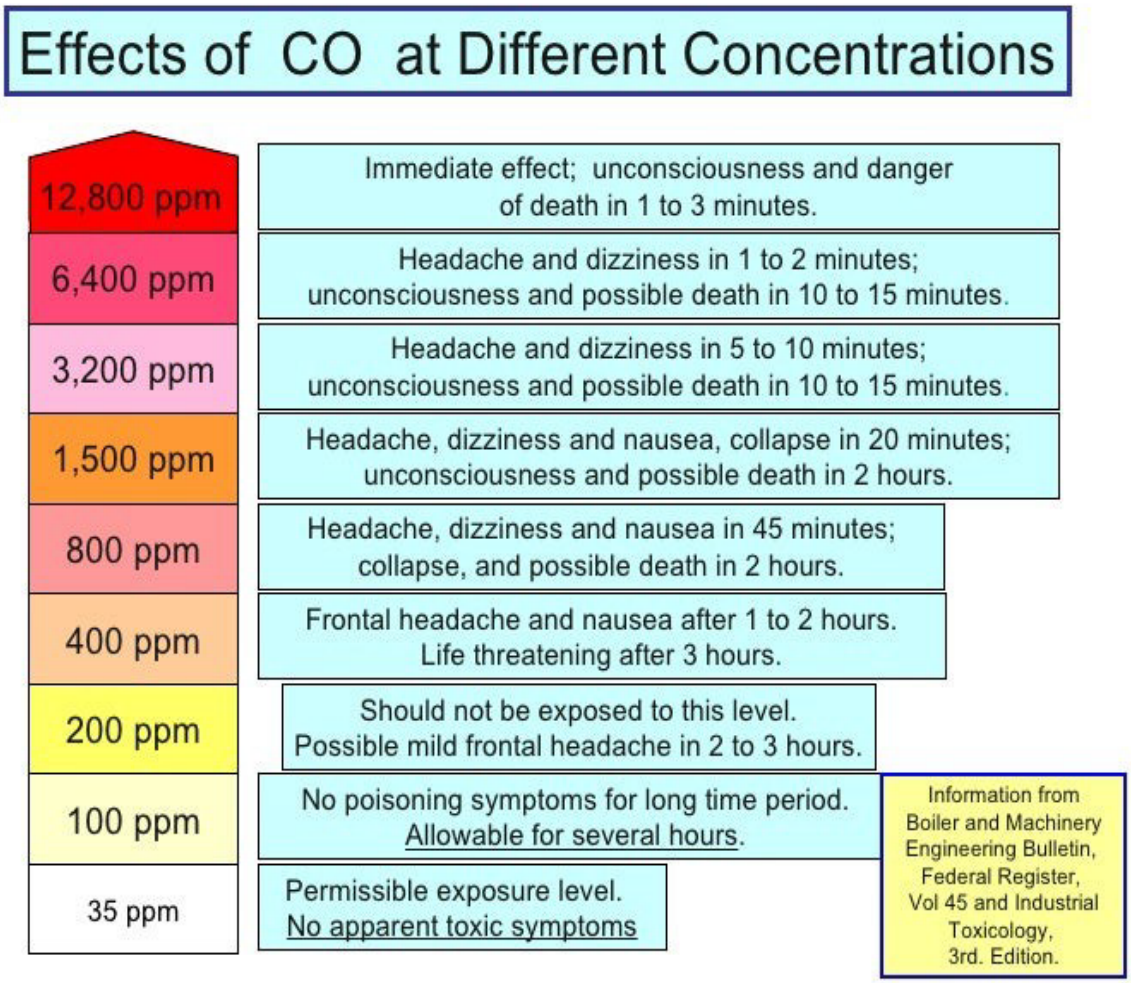
- Confirmed by an arterial blood gas with a measurement of carboxyhemoglobin
- Abnormal: 3-4% in non-smokers (over 10% in smokers)
- Clinically significant: over 20% in adults (over 15% in children)

TREATMENT

Oxygen should be administered immediately, but on suspicion of CO poisoning, transfer to a higher level of care should be expedited. Patients with significant CO poisoning with altered level of consciousness, arrhythmias, or hypotension should be urgently evaluated for hyperbaric chamber treatment. NOTE: symptoms do not always correlate with carboxyhemoglobin levels.

PREVENTION

- If a suspected CO case or concern about the presence of CO in the CalMAT treatment tent, advise the AREP,. Who will raise this concern to the CalFire MEDL


Effects of CO at Different Concentrations
12,800 ppm
Immediate effect; unconsciousness and danger of death in 1 to 3 minutes.
6,400 ppm
Headache and dizziness in 1 to 2 minutes; unconsciousness and possible death in 10 to 15 minutes.
3,200 ppm
Headache and dizziness in 5 to 10 minutes; unconsciousness and possible death in 10 to 15 minutes.
1,500 ppm
Headache, dizziness and nausea, collapse in 20 minutes; unconsciousness and possible death in 2 hours.
800 ppm
Headache, dizziness and nausea in 45 minutes; collapse, and possible death in 2 hours.
400 ppm
Frontal headache and nausea after 1 to 2 hours. Life threatening after 3 hours.
200 ppm
Should not be exposed to this level. Possible mild frontal headache in 2 to 3 hours.
100 ppm
No poisoning symptoms for long time period. Allowable for several hours.
35 ppm
Permissible exposure level. No apparent toxic symptoms
Information from Boiler and Machinery Engineering Bulletin, Federal Register, Vol 45 and Industrial Toxicology, 3rd. Edition.

SECTION 7

Gastrointestinal Conditions

VIRAL GASTROENTERITIS

Note: Norovirus and other intestinal viruses are highly infectious and easily spread through contact with common objects. These patients should use separate facilities and be removed from a camp as soon as possible.

Burden of disease

Norovirus is the most common viral cause of epidemic gastroenteritis worldwide, but recommendations below will apply to all viral gastroenteritis. Norovirus affects persons of all age groups.

Seasonality

- Norovirus infection can be acquired at any time of year, with perhaps a peak noted in winter.

Transmission

- Person-to-person transmission of norovirus occurs via the fecal-oral route. Spread of norovirus infection can also occur via airborne droplets of vomitus containing viral particles, fomite contamination, or consumption of contaminated food and water. Norovirus transmission occurs more frequently among symptomatic patients than asymptomatic shedders, and nosocomial transmission is common. Asmall inoculum (<100 viral particles) is required for transmission.
- Norovirus shedding in stool is maximal over the first 24 to 48 hours after onset of illness; the mean duration of viral shedding is four weeks after onset of illness.
- Foods commonly linked to outbreaks include leafy greens, fresh fruits, and shellfish, including oysters.

Infection Control

- COVID-19 can present with nausea & diarrhea in addition to respiratory symptoms.
- Hand washing stations should be outside all entry and exit points. Bathrooms should be separated, when possible, for each isolation tent/location use and should not be used by general population or staff.

Symptomatic infection: Incubation period and duration

- The incubation period is generally 24 to 48 hours (range 12 to 72 hours).
- Onset of symptoms is typically abrupt, and typically last for 48 to 72 hours with rapid recovery.

Typical clinical features

- Nausea and vomiting (non-bloody, non-bilious). Vomiting is often more prominent than diarrhea.
- Watery diarrhea (non-bloody). If diarrhea is present, it is generally moderate (approximately four to eight stools over a period of 24 hours). Stools lack mucous and fecal leukocytes are usually absent.
- Abdominal pain.
- Generalized myalgias, malaise, and headache are prominent. In general, patients are uncomfortable but usually do not appear severely ill, although severe dehydration can occur.
- Fever occurs in approximately half of cases.

Clinical suspicion and presumptive diagnosis

- The possibility of norovirus infection should be suspected in all patients with acute onset of vomiting and/or watery diarrhea
- The diagnosis of norovirus is usually presumptive in such patients; the likelihood of norovirus is higher in the setting of an outbreak or during the winter months in temperate regions.
- Confirming the diagnosis with stool testing is generally not necessary.
- Identifying the etiology may be helpful for public health purposes during outbreaks of gastroenteritis. Multi-pathogen molecular tests for gastrointestinal pathogens are becoming more widely available and norovirus can be identified on these tests. However, because of the frequency of asymptomatic norovirus shedding, molecular diagnosis of norovirus does not necessarily confirm that the symptoms are due to norovirus.

Prevention and control: Contact precautions, hand hygiene, and environmental cleaning

- In congregate settings, use of contact precautions is warranted for patients with vomiting and/or diarrhea.
- Norovirus is not killed by alcohol; therefore, hand hygiene for caretakers of patients with gastroenteritis should consist of washing hands with soap and water rather than use of alcohol-based hand disinfection.
- Norovirus is not eliminated by disinfection with standard cleaning agents. Contaminated surfaces should be disinfected with bleach (5 to 25 tablespoons of household bleach per gallon of water) or other disinfectant approved by the EPA.
- Individuals who clean clinical care areas that are heavily contaminated with stool or vomitus should wear protective equipment (mask, gloves, and gown).
- Healthcare workers who have symptoms consistent with norovirus should be excluded from work until 48 to 72 hours after symptom resolution.
- Individuals with norovirus infection should not prepare food for others until at least two days after resolution of symptoms.

Treatment: Fluid maintenance and repletion

- For adults presenting with acute viral gastroenteritis without signs of volume depletion, adequate volume can be maintained with sports drinks and broths.
- Soft drinks and fruit juices that are high in sugar content should be avoided but can be diluted if oral hydration solution is unavailable.
- For adults presenting with mild to moderate volume depletion oral rehydration solutions may be superior to sports drinks in maintaining electrolyte balance along with hydration.

For patients with severe hypovolemia, or an inability to tolerate oral rehydration, repletion with intravenous normal saline or Ringer's lactate is required**.**

Diet:

- In adults with acute viral gastroenteritis, patients should be encouraged to eat as tolerated. Smaller meals may be less likely to induce vomiting than larger ones. Bland, low-residue foods may also be better tolerated than others. For healthy adults with acute viral gastroenteritis without signs of dehydration, sport drinks, diluted fruit juices, and other flavored soft drinks augmented with saltine crackers and broths or soups can meet the fluid and salt needs in almost all cases. Boiled starches/cereals (potatoes, noodles, rice, wheat, and oat) with some salt are excellent foods to consider. In addition, crackers, bananas, yogurt, soups, and boiled vegetables can also be consumed. Cow's milk can exacerbate diarrhea and should be used with caution.

Pharmacotherapy

- In general, viral gastroenteritis is an acute and self-limited disease that does not require pharmacologic therapy. Adequate fluid repletion is the mainstay of treatment of acute viral gastroenteritis. When indicated for viral gastroenteritis, an antimotility agent may be added to decrease fluid losses; however, these agents may mask the amount of fluid lost, since fluid may pool in the intestine.

Antiemetics

For patients who cannot tolerate oral rehydration due to excessive vomiting, treat with an antiemetic.

- Ondansetron: Oral, IV, IM antiemetic: 4 mg as a single dose q 8h prn (can give 8mg PO) as needed for one to two days to facilitate oral fluid repletion. Ondansetron has a good safety profile & causes minimal sedation.

Antibiotics

- In adults who clearly have acute viral gastroenteritis (e.g., outbreak with known etiology), empiric use of antibiotics is not recommended.

Disposition

Most individuals with acute viral gastroenteritis can be managed in the outpatient setting; however, in Fire Camp, demobilization will likely occur. Inform the CAL FIRE Medical Unit Leader (MEDL) immediately. Potential indications for transfer to a hospital include:

- Volume depletion/dehydration
- Intractable vomiting and/or severe abdominal pain
- Excessive bloody stool or rectal bleeding
- Age 65 or older with signs of hypovolemia
- Comorbidities (e.g., diabetes mellitus, immunocompromised)
- Pregnancy

CONSTIPATION

Constipation is a common issue during deployment due to failure to maintain adequate hydration.

Prevention

It is encouraged that personnel with constipation utilize daily stool softeners during the mission.

- Colace 100mg Stool softener administered with the meal prior to sleep and dose adjustment to achieve a daily bowel movement after awakening

Treatment

- For acute constipation, use a stimulant laxative as needed
- Miralax:
  - Adults and children ages 17 and older should take 17 grams of powder. Use the MiraLAX® bottle top to measure 17g by filling to the indicated line in the cap. Mix and dissolve into 4-8 ounces of any beverage (hot, cold or room temperature).
- Dulcolax
  - Usual Adult Dose for Constipation:
    - 5 to 15 mg (1 to 3 tablets) orally once a day as needed or
    - 10 mg (1 suppository) rectally once a day as needed or
    - 10 mg rectal liquid once a day as needed.

Patient Instructions

To use the rectal suppository:

- Remove the wrapper from the suppository. Avoid handling the suppository too long or it will melt in your hands. If the suppository is soft, you may hold it under cool running water or refrigerate it for a few minutes.
- Lie on your left side with your right knee up toward your chest. Gently insert the suppository into your rectum about 1 inch, pointed tip first.
- Stay lying down for a few minutes. The suppository will melt quickly, and you should feel little or no discomfort while holding it in.
- Do not use more than one rectal suppository per day.

SECTION 8

Orthopedic & Wound Management

FINGERS/HAND

Several common hand disorders that may be encountered in the field are paronychia, felon, and herpetic whitlow.

- Paronychia is an inflammation of the skin surrounding the eponychium, or tissue fold, of the nail plate.
    - Symptoms: Erythema and swelling (typically on the side margins of the nailfold). Pain and tenderness. Yellowish, pus-filled blister, with surrounding inflammation (advanced cases). Purulent drainage, if paronychia opens spontaneously.

- Felon is an inflammation of the distal fat pad, located on the volar (or palmar) aspect of the digits.
    - Symptoms: Pain, tenderness, and mild swelling of the distal fat pad; may form into an abscess (pus-filled blister)
- Herpetic whitlow (digital herpes simplex, herpes of the finger or hand) is a contagious herpes simplex virus infection.
    - Symptoms: Pain and tenderness, localized erythema and itching (pruritus), fluid or pus-filled blisters, usually occurring in groups or clusters. May occur anywhere on the digit, not limited to nail fold area.

Management	Paronychia	Felon	Herpetic Whitlow
	Soak in warm water for 20 minutes, 4-5 times a day. Elevate extremity for pain or swelling, as needed. If well-formed, swollen and fluctuant: gently separate and lift nailfold from nail plate. In advanced cases, lifting the nailfold will allow the evacuation of pus. The procedure may need to be performed under digital nerve block anesthesia. After drainage, continue warm water soaks for 20 minutes, 4-5 times a day. Cover affected areas with dry, sterile dressing or bandages. -Cover affected areas with dry, sterile dressing or bandages. If abscessed: Gently “un-roof” pus-filled blister, or make small	Same as Paronychia If patient presents with felon-like lesion and had been working with a high-pressure line (e.g., grease gun, grease line, hydraulic line) suspect injection of substance into digit. May cause widespread injection of substance into digit and hand. This is a surgical emergency that needs debridement and open irrigation in an operating room. Priority evacuation is required.	This condition is usually self-limiting, resolving in 1-3 weeks. It is often recurrent; first occurrence is usually the worst. Avoid touching or scratching, as it is highly contagious to self and others. It easily spreads to other parts of the fingers, hand, eyes and body. Cover lesions or affected areas with dry, sterile dressing or bandages. Wash hands thoroughly after touching any lesions or affected areas. A secondary bacterial infection may develop. Demobilization depends on degree of incapacitation.

	incision through the epidermis, and evacuate the pus. Avoid other incisions, unless otherwise instructed by on-line medical direction. Consider antibiotics. May require demobilization if pain or if incision & drainage required.		

Hand Injuries

When examining any hand injury, always examine uninjured hand/digit and compare findings with injured hand or digit. Immediately remove rings if swelling proximal or distal to ring with lubricant/soap.

Management

Perform focused exam, including neurosensory, motor and vascular functions on all hand injuries, and then splint according to injury. Prepare to demobilize patient or transfer to higher level of care. Consult with CAL FIRE Medical Unit Leader (MEDL).

Mallet Finger (avulsion of the extensor digitorum communis tendon of the distal phalanx, caused by blunt trauma)

- Splint with distal phalanx (DP) in extension, applied from just distal to proximal interphalangeal joint (PIPJ).
- Evacuation is usually not required for uncomplicated mallet finger, but the patient will need to be demobilized.

Collateral Ligament Injury (usually caused by hyperextension of the thumb)

- Focused exam:
    - Thumb:
        - Exam with thumb completely flexed. Look for increased laxity of joint on injured side
        - Have patient push against your hand with thumb flexed. Look for increased pain on injured side
    - Digit: Have patient push against hand with injured digit. Look for increased pain and laxity of joint on injured side.
- Splint thumb in a spica cast where thumb is immobilized by a splint running the length of the forearm.

Tendon Laceration

- Splint extensor injuries in extension.
    - Finger: Splint all fingers and wrist in extension.
    - Thumb: Splint thumb in extension and wrist neutral.
- Splint flexor injuries in flexion.
    - Finger: Splint all fingers in flexion.
    - Thumb: Splint thumb in flexion and wrist neutral.
- Administer pain management medication.

Muscle Tears and Lacerations

Administer antibiotics for open wounds depending on contamination and level of infection risk. Refer to higher level of care.

FOOT CARE

Ingrown Toenails

Definition: the lateral margin of a nail, nearly always the great toe, digs into the skin causing erythema, pain, and swelling.

Cause: usually from tight shoes and walking, causing the nail to be compressed against the skin. Incorrect trimming of the nail contributes. Some genetic nail formations predispose to this. Trauma to the toe can be a factor.

Management

For mild conditions with some erythema and swelling, place cotton under the edge of the toenail that is digging in the skin or use dental floss to lift it up. This will not work if you cannot see the free distal corner of the nail. Have the patient soak in warm water with/without Epson salts for 10-20 minutes three times a day. Topical antibiotics such as bacitracin or mupirocin (Bactroban) might may be helpful for secondary infections. A recent study of 54 patients showed that oral antibiotics were no more effective than topical. Have the patient use shoes with a wide toe area or sandals.

Another option instead of cotton or dental floss is to make a gutter splint using iv tubing and splitting it lengthwise and putting it under the nail. The splint is then taped in place.

Once significant swelling has occurred, it is usually impossible to resolve the inflammation without removing the offending edge of the nail.

Another option instead of cotton or dental floss is to make a gutter splint

1. Perform a digital block with 1% lidocaine without epinephrine. Even if one side of the nail is involved, it is best to numb the entire toe.
2. Use a straight or curved mosquito clamp to get under the edge of nail and lever the entire length of the lateral one fourth of the nail from under the cuticle.
3. Use scissors to remove one fourth to one third of the nail, including the proximal nail from under the eponychium.
4. Apply a non-stick gauze dressing.
5. Advise warm soaks as above.
6. Patient instructions include keeping the lateral cuticle pushed back as the nail grows back and making sure the corner is trimmed without a point. Regrowth will take at least 6 weeks.

7. The inflammation and swelling will resolve quickly and the patient may be able to resume activity within 1-2 days.

TRAUMA: GENERAL AND FRACTURES

Management of a major trauma requires the rescuer to consider many factors at once. Initial response and patient assessment are as follows:

Scene Safety

- Ensure safety of rescuers, non-injured members, and casualties.
- Assess scene for potential hazards (e.g., avalanches, falling rocks, dangerous animals)
- DO NOT let sense of urgency create an unsafe environment.

Triage (ACLS protocol)

- Airway: If patient is unresponsive, initiate ACLS-determine if patient is breathing by looking, listening, and feeling for air movement near mouth
- Breathing: If patient is not breathing, initiate ventilation through bag valve mask (BVM), Oropharyngeal Airway (OPA), or advanced airway if skillset present. Administer supplemental oxygen, as needed.
- All open and/or sucking chest wounds should be treated by immediately applying an occlusive dressing to cover the defect.
    - Monitor for development of tension pneumothorax. Treat as needed.
    - In a patient with progressive respiratory distress after chest trauma:
        - Release the dressing in an open and/or sucking chest wound.
        - Decompress with needle thoracostomy.
        - Suspect needle clotting, if air is not expelled under pressure.
        - Be prepared to perform multiple needle decompression to resolve tension pneumothorax.

- Circulation: Check for pulse and control all sources of hemorrhage.
    - Administer initial fluid bolus 0.9% Normal Saline or LR 250 ml IV/IO, up to a maximum total infusion of 2,000 ml. Titrate to maintain Systolic BP > 90 mm Hg.

Cervical Spinal Motion Restriction

- Suspect C-spine injury if the mechanism of injury exerts a great force on the body or if there is soft-tissue damage to the head, neck, or face area due to trauma. Patient should be placed in a C-collar and spinal motion restricted.

Comprehensive patient survey while awaiting transport to Trauma Center

- Perform a GCS (Glasgow Coma Score) evaluation. Assess for neurologic abnormalities.
- Palpate scalp very closely for tenderness, depressions, and lacerations.
- Thoroughly evaluate the body. Maintain spinal precautions during exam.
    - Palpate entire body, assessing for injury.
    - Check skin color, sweating, and perfusion.
    - Examine respiratory efforts.
    - Obtain vital signs and pulse oximetry.
    - Measure core body temperature.

Hypothermia Prevention after Traumatic Injury

- Hypothermia often complicates the management of a patient with a traumatic injury, leading to decreased survival rates. Aggressive hypothermia prevention should be performed when any of the following conditions exist:
    - A patient suffers a traumatic injury
    - Ambient temperature is cold
    - Any time air evacuation is used
- Prevention Measures
    - Control bleeding as soon as possible.
    - Minimize exposure to the elements.
    - Keep clothes and gear on or with patient, if possible.
        - Only remove clothes and protective gear from patient when necessary and for a minimal amount of time.
        - Replace wet clothing with dry as soon as possible.
    - Keep the patient warm.
        - Actively and often dry any fluids from patient (e.g., blood, IV fluid, sweat, rain).
        - Wrap patient in rescue blanket, if available.
        - If core body temperature drops below the patient's normal body temperature, initiate active re-warming measures.
        - Wrap patient in multiple blankets with heat sources placed at the neck, armpits, groin, and at the palms of the hands. Always have clothing or material between the heat source and the skin, as hypothermic skin burns easily at low temperatures

Ankle Injury

How to Tape an Injured Ankle

1. Gather materials:

You will need 1 1/2" cloth tape, two 2" x 2" non-adhesive pads (to prevent blistering), and COBAN-type self-adherent wrap.

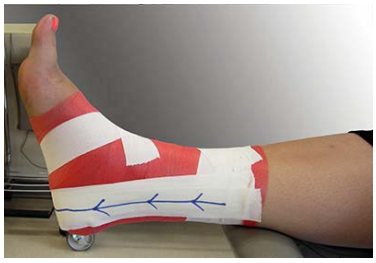
2. Prepare and pre-wrap the ankle.

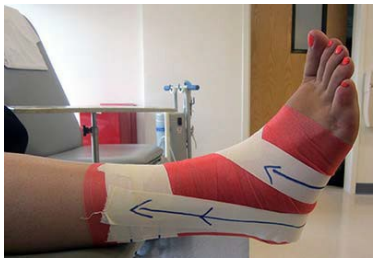
Place one pad over the front of the ankle and the other over the back of the ankle. These pads will help prevent blisters. Then cover the foot and ankle with COBAN, starting from the arch of the foot and going up to the bottom of the calf muscle.

3. Place two anchors of cloth tape at either end of the COBAN.

4. Add "stirrups" of cloth tape.

Create one stirrup that starts on the inside of the ankle, goes under the heel, and attaches to the other side of the anchor of cloth tape. Add two more stirrups of cloth tape over the same area so you have 3 total.





5. Close up all areas of COBAN.

6. Create a figure 8 with the tape.

Starting on the inside, wrap the tape around the lower leg, then cross over the top of the ankle and continue to wrap under the arch.

7. Tape around the heel for a "heel lock."

You can alternate either inside or outside, but make sure to do two "heel locks" for each side.

8. Complete another figure 8.

9. Close up any open areas of tape.

Patient should follow up with a foot and ankle orthopedic surgeon.

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DISLOCATIONS

FINGER

Three different joints of each finger or toe can become dislocated. The most commonly dislocated is the Proximal Interphalangeal Joint (PIP), followed by the Distal Interphalangeal Joint (DIP), followed by the Metacarpophalangeal Joint (MCP). Most of these injuries are dorsal dislocations. If deformed finger, attempt reduction, but first carefully document the direction of the deformity to guide further treatment.

Anatomy and Physiology

- A dislocated digit joint is usually obvious and easy to diagnose.
- The finger appears crooked and often bends at an abnormal angle.
- Specifically, the distal bone of the joint will be moved dorsal to its normal position

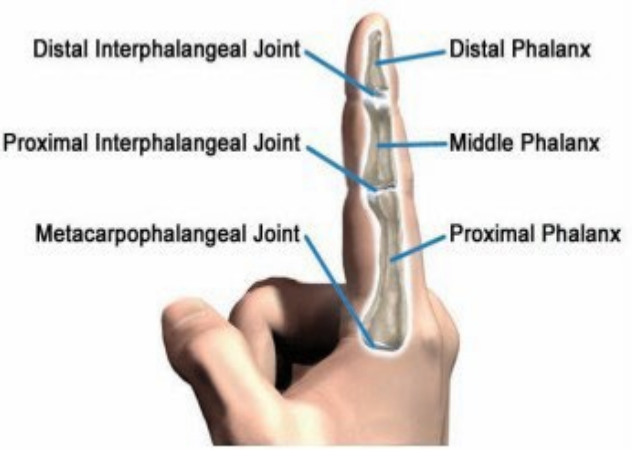
Signs and Symptoms

- Severe pain
- Unwillingness to move affected joint

- Significant swelling around the affected joint
- Crooked, deformity

Procedure

- Administer pain management medication.
- All joints proximal to the injured joint should be flexed, including the wrist.
- Grip the distal bone of the affected joint firmly.
- First the distal bone should be hyperextended.
- Then the base of the distal bone is pushed into flexion, maintaining contact with the proximal bone head.
- The joint usually reduces easily with a palpable and audible click.



Post-procedural Care

- For PIP and DIP dislocations, tape the injured finger to an adjacent finger ("buddy taping") to prevent hyperextension. Early motion is allowed.
- For MCP dislocations, apply a dorsal-volar splint, holding the joint at 90 degrees of flexion.

Extended Care

- Maintain splinting or taping until definitive medical care is reached.

PATELLA

A dislocated patella (kneecap) is often due to a twisting injury or a fall. When dislocated, the patella is abnormally shifted to the lateral aspect of the knee.

Physical Exam

- If no other major knee deformity, assess for knee dislocation.
- Check and record distal pulses and sensation, as neurovascular injury is possible.

Symptoms

- Rapid swelling
- Difficulty with knee flexion
- Acute anterior knee pain

SHOULDER

PROCEDURE:

- Document neurovascular status pre- and post-reduction.
- If a neurovascular injury is suspected:
    - DO NOT reduce without on-line medical direction.
    - Splint and evacuate the patient to higher level of care.
- Administer pain medication.
- The key to reduction is a slow and steady application of the technique with adequate pain medication and muscle relaxation. There are many techniques to reduce an anterior shoulder dislocation; this is the most common technique:
    - The patient should be lying on his/her back.
    - Wrap a towel or blanket around the patient's chest; have an assistant use it to apply counter traction.
    - Pull the arm, bent to a right angle at the elbow, steadily out to the side.
    - Apply axial traction to the arm. This may take 5-15 minutes.
    - Gently rotate the arm internally and externally while applying traction (baseball throwing position).
- With a successful reduction, the patient should experience an immediate decrease in pain.
- Have the patient touch the uninjured shoulder to confirm reduction.
- Apply a swath and sling.
- If unable to reduce the dislocation, apply a swath and sling, maintain pain control, and evacuate.

- The simplest method is to have the patient supine and try to get him or her to relax as much as possible. The shoulder should then be externally rotated maximally with the elbow at the side and flexed at 90 degrees. Pressure can then be applied anteriorly to the humeral head, until reduction is achieved.

Post-procedural Care

- Document the patient's neurovascular status, as the axillary nerve is commonly injured.
- Maintain sling and swath until definitive care is reached.

HM: Aug 2020: Content excerpted from: Homeland Security Austere Emergency Medical Support (AEMS) Field Guide

WOUND CARE

Wound Prep and Irrigation

The most common complication in wound management is infection. Contamination of the wound with foreign material or pathogenic bacteria from the patient's own skin greatly increases the risk of infection. Retained foreign bodies, such as glass fragments, small chips of rock or wood fragments on the surfaces of tissues, also increase the risk of complications. Prepping and irrigation of the wound significantly decrease these risks.

Indications

- If no life-threatening injury or condition requiring rapid evacuation exists, all wounds encountered in an austere environment should be prepped and irrigated.
    - This is critical for dirty or grossly contaminated wounds and all wounds incurred in a river, lake, or marine environment.
- For superficial wounds wound prep may be performed carefully without local anesthesia.
- Any significant laceration that may have dirt or foreign body will need local anesthesia for adequate cleansing.
- If the wound is to be sutured or stapled by an ALS provider, wound prep and irrigation should be performed after the administration of local anesthesia.

Procedure

Wound Prep - Prepare the skin with dilute povidone-iodine solution, soap and water, or other disinfectant.

- If normal saline, sterile water or clean tap water is not available the water should be disinfected with iodine or chlorine, or water brought to a boil. Allow the water to cool before using.
- DO NOT use alcohol, hydrogen peroxide, or other disinfecting agents, as they will further injure the exposed tissues.
- Scrub the skin immediately surrounding the wound, working outward several inches.
- DO NOT SCRUB THE EXPOSED TISSUE OF THE WOUND ITSELF, as this will further damage the injured tissues and any exposed vessels.

Rinse away all traces of disinfectant with normal saline or water. If wound is being prepared for closure with sutures or staples:

- Prepare the skin with povidone-iodine solution, soap and water, or other disinfectant.
- Provide local anesthesia prior to performing wound prep and irrigation.

Wound Irrigation

- Wound irrigation is best performed utilizing pressure.
    - Due to the potential risk of dislodging a blood clot and resulting hemorrhage, DO NOT IRRIGATE NECK WOUNDS. Gently wash away surgical scrub or soap with normal saline or disinfected water without pressure.
    - Irrigate skin and subcutaneous tissue ONLY. Be especially alert if the wound extends into the muscle layer.
- Use a 30 ml syringe with a 16 or 18 g catheter and splash shield
    - A 16 or 18 g needle may also be used but be sure to securely attach it to the syringe, so it does not dislodge when irrigation begins.
- Draw the irrigation solution into the syringe. Normal saline is the preferred solution.
- Hold the syringe a couple of inches away from the wound, at approximately a 45 degree angle, and flush the wound with the solution.
- Apply enough pressure to the syringe that the irrigation fluid comes out in a vigorous stream.
- Be sure to lay gauze sponges, towels, or other absorbent material around the area (but not near the wound) to catch the runoff.

- Forceps or hemostats may be used to further expose the wound for irrigation. Remove any easily- removed foreign bodies in superficial tissues. Defer deep soft tissue foreign body removal to a higher level of care for assessment of underlying structure damage or vascular involvement.
- The wound should be prepped and irrigated until clean.
    - For clean wounds, a minimum of 100 ml of irrigation solution should be used.
    - For contaminated wounds, a minimum of 250 ml of irrigation solution should be used.
    - Continue irrigation until all foreign bodies, clotted blood, and loose tissue fragments have been removed.
- If wound is being prepared for closure with sutures or staples
    - Prepare the skin with povidone-iodine solution, soap and water, or other disinfectant.
    - Provide local anesthesia prior to performing wound prep and irrigation.

Laceration Closure

Indications

- Wound closure is specifically indicated in the following circumstances:
    - A delay to definitive treatment of more than 6 hours
    - Wound is relatively clean and edges can be approximated without significant tension.
    - Important structures (e.g., tendons, joints, bones) are exposed and need skin coverage
    - To control bleeding
- Field closure of other appropriate wounds is advised for field operations lasting 6 hours or longer

<u>Procedure</u>

- Evaluate and document neurosensory, motor, and vascular functions.
- Ascertain tetanus immunization status.
    - Administer anti-tetanus prophylaxis (Tdap), if indicated and available.
- Administer prophylactic antibiotics if indicated.
- Inform patient of needed procedure.
- Prepare the skin with povidone-iodine solution, soap and water, or other disinfectant.
- Provide local anesthesia.
- Perform wound prep and irrigation.
- Repeat motor function exam, assessing for ROM and strength.
    - If tendons are visible in the hand or foot
        - Have patient demonstrate the position of the hand or foot at the time of injury.
    - Repeat irrigation in this position
    - Observe the tendon while moving through ROM.
    - Look for laceration or other injury not obvious upon examination
    - Disturbing or manipulating the tendon is not necessary.
- Repeat irrigation.
- Identify tissue structures, skin alignment, and lines of tension.
- Place holding sutures for a large wound.
    - The suture holds skin in loose approximation.
    - It may be removed, if needed, as repair reaches one of the holding sutures.
- Begin the closure of wound with sutures.
- Approximate tissues as closely as possible to original position, using as few evenly spaced sutures as possible.

    - Wound should not be closed so tightly that it cannot drain.
    - DO NOT leave big gaps of exposed tissue between sutures.
- Clean the wound with normal saline.
- Apply topical neomycin-free antibiotic ointment.
- Dress with non-adherent, light petrolatum-based dressing.
- Cover with dry, sterile dressing.
    - Bandage further for anatomic location, as needed.
    - Facial and scalp wounds do not generally require a bandage, unless
        - Significant swelling is present or likely to occur (apply pressure dressing).
        - Significant bleeding was present.
        - Needed to prevent environmental contamination
- Re-assess neurosensory, motor, and vascular functions.

<u>Wound closure using staples</u> (see graphics next page):

Staple placement

- Approximate the adjacent skin margins with eversion of the skin edges using Adson forceps (forceps with teeth) or the thumb and forefinger. Eversion is necessary to avoid the tendency of the stapler to invert the edges of the wound, which can cause a less aesthetically pleasing scar. Eversion of the wound edges by an assistant may permit more accurate staple positioning.
- Place the stapler firmly on the skin surface but without indenting the skin.
- Align the center mark on the stapler with the center of the wound margin.
- Gently squeeze the stapler handle to eject the staple into the skin.
- If the stapler does not automatically release, then release the staple from the stapler by pulling the stapler back. When properly placed, the crossbar of the staple is elevated a few millimeters above the skin surface.
- Place staples about 0.5 to 1 cm apart.
- Place enough staples to allow for proper apposition of the wound edges.

Dress as for any wound closure

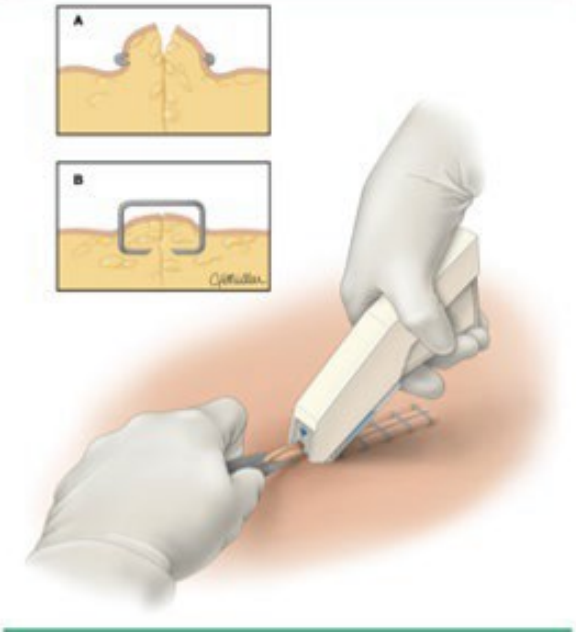
The interval between application and removal of the staple is the same as that for standard suture placement and removal, although healing is more rapid.

●Scalp – 7 to 14 days
●Trunk and upper extremities – 7 to 10 days
●Lower extremities – 10 to 14 days

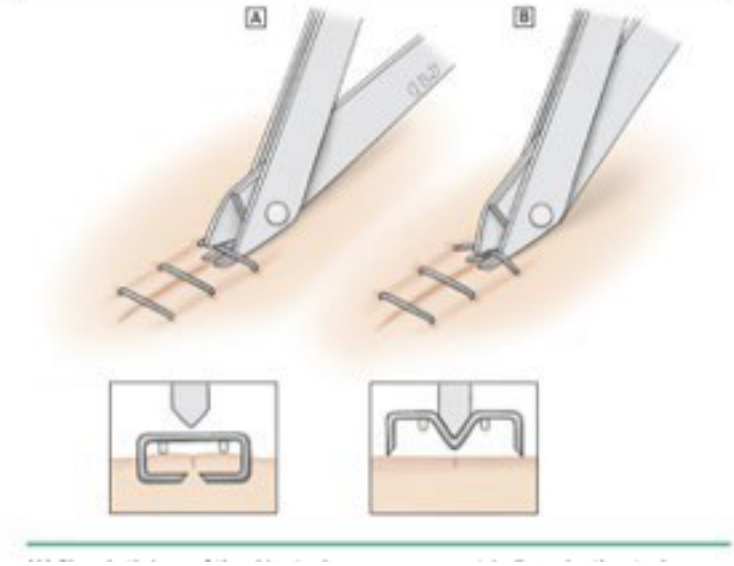
Staple removal — The procedure for staple removal is as follows:

●Position both prongs of the staple remover under the staple.
●Depress the handle of the staple remover so that the staple is bent outward in the midline, easing it out of the skin.

Placement of skin staples



Skin staple removal



Guidelines for Suturing Lacerations

Wound Location	Type of Suture	Suture Material	Suture Size	Needle Size
Scalp	Simple Loop	Polypropylene or Nylon	4-0 or 3-0	PS-2 or equivalent
Face and Neck	Simple Loop	Polypropylene or Nylon	6-0 or 5-0	P-3 or equivalent
Lips	Simple Loop	Polypropylene, Nylon, or Silk	6-0 or 5-0	P-3 or equivalent
Intraoral	Simple Loop	Plain Gut or Silk	5-0 or 4-0	P-3 or equivalent
Hand (Palmar)	Simple Loop	Polypropylene or Nylon	5-0	P-3 or equivalent
Hand (Dorsal)	Simple Loop	Polypropylene or Nylon	5-0	PS-2 or equivalent
Torso	Vertical Mattress	Polypropylene or Nylon	4-0 or 3-0	PS-2 or equivalent
Lower Extremity	Vertical Mattress	Polypropylene or Nylon	4-0 or 3-0	PS-2 or equivalent

Evacuation

Urgent	Patients with life-threatening underlying or concomitant injury, or significant loss of blood Patients that becomes septic or condition rapidly deteriorates for any reason
Priority	Patients with wounds closed to control bleeding or with significant vascular compromise
Routine	Patients with an open fracture, joint injury, tendon injury or grossly contaminated wound, decreased ROM or sensation; or if signs of infection develop in follow-up
Convenience	Other patients with extensive muscle involvement
Not required	Minor wounds without evidence of sensory, motor or vascular compromise

Extended Care

- Advise the patient to keep the wound clean and dry for 48 hours.
    - The patient may shower daily after 48 hours.
    - NO swimming or water activities until 24 hours after suture removal.
- Re-assess neurosensory, motor and vascular functions for any changes in digital and extremity wounds.
- Reconfirm the absence of other injuries.

Management of Complications

- DO NOT close wounds that cannot be rendered clean by prep and irrigation.
    - Dress with lightly saline-soaked or dry, sterile dressing.
    - Conduct priority evacuation.
- Infection is most common (e.g., cellulitis, purulent drainage, lymphangitis, fever).
    - Administer antibiotics according to local protocol.
    - Conduct routine evacuation.
- Loss of motor function or sensation
    - Apply a splint, if not previously done.
    - Conduct routine evacuation.

- Depending on the location of the laceration, demobilization may be necessary depending on their job function.

Other/Special Considerations:

Puncture, gunshot, and stab wounds

- 9 -1-1 or ALS unit on site for evacuation
- DO NOT close these wounds.
- Open fractures, joint space involvement, and bone, cartilage, or tendon lacerations
    - Apply a splint, if not previously done.
    - Administer antibiotics according to local protocol.

Animal bites

- DO NOT close primate and human bites unless on face or gaping open. Canine and feline bites may be closed if <8 hours old and are irrigated well. Antibiotics must be prescribed for feline bites and consider for dog bites if deep and required closure.
- Administer antibiotics according to local protocol. Crush injuries, puncture wounds and hand wounds are more likely to become infected than scratches or tears.
    - First choice is often Augmentin 875mg BID
- Consider need for rabies prophylaxis (contact local county public health department).

Follow-up

- Perform wound check and dressing change 12-24 hours after procedure and then again in 24-48 hours, unless bleeding or foul-smelling drainage appears.
- The patient should follow-up with a personal physician or return immediately if signs and symptoms of infection develop (e.g., redness, swelling, pus, red streaks, fever and/or general malaise), if there is loss of sensation or movement, or a cold, pale digit/extremity.
- Have patient seek suture removal, as follows:
    - Face and neck: 5 days
    - Other wounds not under tension: 7-10 days
    - Wounds under tension (over joints): 10-14 days
    - Suture removal can be performed in field during prolonged operations.
- For best healing and cosmetic results, advise patient to:
    - Avoid exposing wound to sunlight for the next 6 months
    - Keep the wound taped for 2 weeks
        - Not practical for hair-bearing wounds (e.g., scalp)

HM: Aug 2020: Content excerpted from: AEMS Field Guide

SECTION 9

Environmental Conditions

ENVENOMATION

Arthropods

- The most significant envenomation is from a black widow spider. Only the female is dangerous, identified by the red spot (usually hourglass-shaped) on its abdomen.
- The desert recluse spider is found in Southern California.
- Minor envenomation is from bees, wasps, hornets, and scorpions. The only poisonous scorpion species is the Bark Scorpion, indigenous to Arizona. Antivenin is only used for severe envenomation.

Black Widow Spider

- Mild prick sensation followed by severe muscle cramps and pain
- Pain progresses to chest, back, abdomen, and extremities
- Occasionally decreased blood pressure, respiratory distress, paralysis, and seizures
- Rarely fatal

Desert Recluse Spider

- Initial bite is inconspicuous
- Symptoms occur 2-6 hours after envenomation: blistering, severe pain, chills, fever, nausea, tissue necrosis

MANAGEMENT

- Wash wound
- Elevate
- Apply ice/cold packs
- Tissue necrosis or severe pain out of proportion to exam warrants urgent surgical evaluation

Scorpions

- Significant localized pain and edema
- Little to no systemic effects
- May cause anaphylaxis or milder allergic reactions

MANAGEMENT:

- Administer pain management medications.
- Apply ice/cold packs.
- Monitor for development of systemic symptoms and/or anaphylaxis.

Bees and Wasps

- Familiar injury, localized pain, erythema and swelling (may be severe)
- May develop malaise, nausea, vomiting, fever
- May cause anaphylaxis or milder allergic reactions

MANAGEMENT:

- Scrape away stinger.
- Apply ice/cold packs.
- Consider oral antihistamines for systemic symptoms.
- Epinephrine if suspected anaphylaxis (do not delay or utilize other medications first)

Evacuation (transfer to a higher level of care)

- Urgent evacuation is required for envenomation's exhibiting systemic symptoms or tissue necrosis.
- Evacuation is not required for envenomation limited to localized symptoms that respond to treatment. Maintain supportive and symptom-based treatment.
- Monitor wound site for tissue necrosis and advancing infection.

Reptiles

- Snake bites can cause damage to body tissue at the location of the bite and, if venomous, can cause both local tissue injury and systemic reactions. A snakebite, whether from a venomous or non-venomous snake, may cause severe fright reactions (e.g., nausea, tachycardia, diaphoresis), which may be difficult to distinguish from systemic manifestations of envenomation.
- Non-venomous snakebites cause only local injury, usually pain and 2-4 rows of scratches from the snake's upper jaw at the bite site (horseshoe-shaped tooth marks).
- Venomous snakebites cause local tissue damage and possible systemic injury. 20-30% of venomous snakebites result in no envenomation (dry bite). It is important for austere medical providers to be familiar with the identification, range, and habits of indigenous venomous reptiles.
- Gila "Monster" Lizards are also known for bites with a vise-like grip that delivers poison through its saliva. It is the only venomous lizard species found in the United States (southwestern) and is rarely found in California.

Signs and Symptoms

- Characteristic fang marks often present; may be in association with other teeth marks; may appear as single puncture.
    - "U" or horseshoe-shaped bite pattern may suggest non-venomous snake bite
- Pain, tenderness, redness, swelling rapidly develop at site and may worsen progressively
- Venom may be neurotoxin, hemotoxin or both.
    - Neurologic symptoms suggest systemic neurotoxin absorption
    - Coagulopathies indicate probable hemotoxin absorption and may be indicated by persistent bleeding from fang marks, venipuncture sites, gingival tissue, or gastrointestinal tract

Crotalid Envenomation (Rattlesnakes)

- Pain, tenderness, redness, swelling rapidly develop at site and progressing up the extremity within the next several hours
- Neurotoxic and hemotoxic
    - Systemic reaction possible
    - Bleeding and ecchymosis may occur at sites distant from bite, indicating coagulopathy from hemotoxins

Heloderma Envenomation (Gila "Monster" Lizards)

- Neurotoxic
- Pain, tenderness (can last for weeks), redness, swelling rapidly develop at site and may worsen progressively
- Dizziness and generalized weakness
- Rarely fatal

Degree of Envenomation

- None – Fang marks, no local or systemic reaction
- Minimal – Fang marks, local swelling and pain, no systemic reaction
- Moderate – Fang marks, swelling beyond bite site, systemic symptoms present (e.g. nausea, vomiting, parasthesias, hypotension)
- Severe – Fang marks, marked swelling of entire extremity, subcutaneous ecchymosis, severe systemic symptoms, coagulopathy

Management

General

→ DO NOT make incisions.
→ DO NOT use suction by mouth or device.
→ DO NOT use constricting bands or tourniquets.
→ DO NOT apply electrical shocks.
→ DO NOT use cold or ice.
→ DO NOT use alcohol or aspirin.

The best first aid tool for symptomatic envenomation is to transport to the nearest emergency department.

- Field use of antivenin is NOT currently recommended.
- Rapid evacuation is the key to successful treatment.
- Assess ABCs, provide cardiopulmonary support as needed per ACLS.
- Obtain description or identification of snake or lizard or photograph the snake or lizard using a mobile phone or camera, if possible.
- Note patient's blood type on patient's chart, if known.
- Swab bite site with moistened gauze sponges or irrigate with normal saline (or clean water) to remove any venom on skin.
- Remove any retained teeth, fangs with forceps.
- DO NOT apply compression bandage for Crotalid or Heloderma species bites.
- Splint extremity bites and keep the extremity in a neutral position, level with the heart.
- It is better to have the victim slowly walk out to a road if that will be faster than summoning a helicopter.
- If the patient is in respiratory distress from venom-induced paralysis, administer atropine 0.5-1.0 mg IV/IO.
    - If patient improves within 3-10 minutes, continue atropine 0.5 – 1.0 mg IV/IO q2-3h
- Administer antibiotics ONLY for extended scene care of a necrotic snakebite wound according to local protocol.

VECTOR-BORNE ILLNESSES

This protocol concerns common vector-borne illnesses that occur in the United States.
Key Issues:

- Tick removal
- Any febrile illness with rash – isolate and evacuate
- Identification of Lyme rash or symptoms
- Use of effective insect repellants for mosquitos and ticks

Lyme Disease

Lyme Disease is a multi-stage illness. The tick may have to be attached ≥ 24 hours before transmitting infection. The longer the tick is attached, the greater the chance of infection. Onset of symptoms: Average 7-10 days after exposure (range 3-32 days).
Signs and Symptoms:

STAGE 1

- Erythema migrans (bulls-eye rash) (20-50% of patients)
- Many variations to pattern, including multiple rings
- Average Size: 6" in diameter (15 cm)
- Fades 28 days without treatment (range 1-14 weeks) or within a few days with antibiotic treatment

Other Symptoms (usually mild)

- Headache
- Fever
- Chills
- Regional lymphadenopathy
- Fatigue, malaise
- Neck stiffness
- Arthralgia, myalgia

STAGE 2 (Onset a few days or weeks after bite)

- Multiple smaller annular lesions may develop (20-50% of patients)
    - May occur anywhere EXCEPT palms or soles
    - Less common: Malar rash
    - Rare: Urticaria
- Low grade, intermittent fever
- Tender regional adenopathy associated with erythema migrans
- Generalized adenopathy
- Splenomegaly (LUQ of ABD)

Other symptoms

- Meningeal irritation: Stiff neck with decreased flexion (difficulty touching chin to chest)
- Mild encephalopathy (e.g., drowsiness, insomnia, memory disturbances, mood swings, dizziness,
- decreased balance and clumsiness)

- Dysesthesia of the scalp
- Musculoskeletal (e.g., arthralgia; migratory pain in tendons, bursae and bones; generalized stiffness; severe cramping pain, particularly in the calves, thighs and back)
- Hepatitis-like symptoms with diffuse abdominal pain
- Conjunctivitis (10-15% of patients)
- Neurologic (e.g., headache, facial nerve palsy, stiff neck, one-sided paralysis)
- Cardiac: AV block, complete heart block (4-10% of patients)
- Arthritis (60% of untreated patients)

Other symptoms

- Abdominal pain, nausea, vomiting, diarrhea
- Confusion/disorientation, altered mental status, coma
- Conjunctivitis
- Peripheral edema
- Seizures possible during initial phase, rarely persist
- Cough, chest pain, dyspnea, URI-like symptoms

  - In most fulminant form, vascular collapse and death may occur within 3-6 days of onset

MANAGEMENT:

- Remove the tick by grasping closely to the skin surface with tweezers, forceps or hemostat and pull out with steady, gentle pressure.
- Do not use petroleum jelly, fingernail polish, a hot match, heat, gasoline, oil, alcohol etc. as this may force the tick to regurgitate pathogens and/or toxins into wound.
- If the tick's head is still embedded in the skin, remove it with a needle, as you would a splinter.
- Watch the bite site with soap and water.
- Administer antibiotics according to local protocol.
- Consider prophylaxis following tick bite: Doxycycline 200 mg PO x1 dose, following removal of the tick.

Colorado Tick Fever

- Onset of symptoms: Average 3-6 days after exposure (range 0-14 days)
- Abrupt onset fever
  - Fever typically biphasic or "saddleback" (50% of patients)
  - 2-3 days of fever, followed by 1-2 days of remission, then an additional 2-3 days of fever
- Rash (frequently absent; macular or maculopapular rash in 5-12% of patients)

Other symptoms

- Abdominal pain, nausea, vomiting, diarrhea
- Anorexia
- Ocular pain or photophobia

Tick Paralysis

- This condition is the only tick-borne illness that is not caused by a pathogenic organism.
- Onset of symptoms: Average 5-6 days, after female tick attaches to human host
- Diagnosis confirmed if the patient rapidly improves after tick removal.

(Rare in humans and usually occurs in children under the age of 10, mostly girls)

- Restlessness, Irritability, Neurological (progressive symptoms)
- Loss of coordination, ataxia
- Hand and feet paralysis
- Ascending, symmetrical and flaccid paralysis (24-48 hours, after symptom onset)
- Loss of deep tendon reflexes (DTR)
- May be followed by general weakness, with bulbar and respiratory paralysis
- Facial paralysis (associated with ticks found behind the ear

Management (Ticks):

- Remove the tick by grasping closely to the skin surface with tweezers, forceps or hemostat and pull out with steady, gentle pressure.
- Do not use petroleum jelly, fingernail polish, a hot match, heat, gasoline, oil, alcohol, etc., as this may force the tick to regurgitate pathogens and/or toxins into wound.
- If the tick's head is still embedded in the skin, remove it with a needle, as you would a splinter.
- Wash the bite site with soap and water.
- No specific treatment available. Provide supportive, symptom-based treatment.
- Administer antibiotics according to local protocol.

Giardia

In the United States, this condition is most commonly transmitted to humans via contaminated water sources.

- Onset of symptoms: Average 1-3 weeks after exposure; typical onset is sub-acute, slow and subtle, although an abrupt onset is also possible.
- Symptoms may wax and wane over course of illness.

Symptoms:

- Fever
- Nausea and vomiting infrequent EXCEPT during initial onset
- Early satiety
- Stools become mushy and malodorous
- No blood or pus in stools
- Watery diarrhea, alternating with soft stools and even constipation
- Middle and upper ABD cramping, intense acid indigestion, sulfurous belching, malodorous flatus, bowel distention
- May develop into a chronic condition with malabsorption and resulting weight loss
- Abrupt onset form is associated with explosive, watery diarrhea, abdominal cramps, malodorous flatus, vomiting, fever and malaise for 3-4 days, then transitions to more common, sub-acute syndrome.

West Nile Virus

- Onset of symptoms: Average 3-6 days after exposure (range 0-14 days). Symptoms are typically mild and persist for a few days to several weeks. WNV should always be considered in persons with unexplained encephalitis and meningitis, particularly if patient age is > 45 years. (80% of patients are asymptomatic)
- Fever, headache, body aches (flu-like)
- Nausea, vomiting
- Lymphadenopathy

- Rash
    - May be maculopapular or morbilliform, involving the neck, trunk, arms, or legs
- Severe neuroinvasive WNV (develops in 0.5% of patients, with a median age of > 45) (Symptoms may last for weeks, and neurologic effects may be permanent.)
- High fever
- Headache
- Neck stiffness, muscle weakness, ataxia
- Confusion/disorientation, altered mental status, coma
- Convulsions
- Numbness, paralysis, tremors
- Vision loss, diplopia

Management

- No specific treatment is available
- Provide supportive, symptom-based treatment.
- Conduct priority evacuation required for patients with neurologic symptoms and/or suspected encephalitis.
- Conduct routine evacuation for West Nile Virus in patients > 45 years.
- Conduct convenience evacuation for patients with Giardia, Lyme Disease, RMSF, and Colorado Tick Fever.
- Demobilization is advised for mild cases of West Nile Virus or Tick Paralysis that resolve with treatment.

Extended Care

- Continue antibiotics as directed.
- Monitor for worsening symptoms.

Follow-up

- All patients who are not evacuated should see their team or personal physician upon return from an austere environment.

Mosquitoes (bite prevention)

- Clothing
    - Long shirts, pants, and socks; tuck pants in socks or boots.
    - Tightly woven fabrics are best (e.g., nylon)
    - Looser fitting clothing makes it difficult for mosquitoes to bite through the clothing to the skin
    - Meshed screen hats (covers face and neck) and gloves are useful in areas with significant mosquito populations.
    - Exposed skin should be protected by insect repellent.
        - DEET is the primary insect repellent used in the United States.
        - Concentrations vary from 5-35%.
        - 20% DEET is generally effective for most areas.
        - Use 30-35% DEET for adults in areas with malaria risk.
        - For children, use a concentration of 10% or less.
        - Avoid DEET-containing repellents for infants < 6 months.

        - DO NOT use sunscreens containing DEET.
            - Sunscreens need to be applied more frequently than DEET.
            - When using both a sunscreen and DEET, first apply the sunscreen, then wait 30 minutes before applying DEET.
        - Other repellents for use on exposed skin may be effective in repelling mosquitoes, but do not afford a similar duration of protection
    - Permethrin is a natural compound with insect repellent properties that may last for weeks with proper application. It is used to treat clothing, bedding, and mosquito netting. It has NOT been approved for direct use on skin.

Chiggers (Eutrombicula alfreddugesi)

- Although they do not carry vector-borne disease, chigger bites may be extensive in number and induce an allergic reaction.
    - Symptoms include:
        - Pruritus, often highly intense
        - Small, hemorrhagic petechiae, usually accompanied by intense erythema, within 24 hours after onset
        - May develop blisters, purplish skin discoloration, swelling of feet and ankles
    - Treatment is symptom-based.
        - Topical antipruritic agents, such as 1% phenol in calamine lotion
        - Topical corticosteroid cream (hydrocortisone 1%)
        - Oral antihistamines
- Evacuation is usually not required.

SECTION 10

Base Camp Isolation Tent Operations

The isolation tent is for people who need to be removed from the site for medical reasons and are awaiting a ride/disposition.

The isolation tent is a place to examine patients and to hold them for a short period (less than 24 hours) to get test results or to send them out for testing and/or demobilize if an infectious disease is suspected.

The isolation tent needs to have ALL the supplies to examine the patient as you do not want to leave the tent until after your exam is done.

Items needed in the tent:

- PPE – gowns, masks, gloves, face shields, trash can, and hand sanitizer. This is all usually placed right outside the entrance to the tent.
- Exam equipment – stethoscope, flashlight, tongue blades, pulse oximeter, BP cuff, thermometer, clipboard, patient exam forms, and pens. None of these items should leave the tent as they are considered contaminated once inside.
- Patient equipment – Cot, blankets, bottled water, gastroenteritis snacks (applesauce, crackers, bananas, etc.) emesis basin, overhead light, electrical extension to plug in phone.

Testing items should be kept outside the tent and brought in one at a time for each patient so that they do not get contaminated. If the testing is sent out, you will need a cooler and some ice.

A handwashing station and a bathroom (porta-potty) need to be identified for the isolation patient. Caution tape or warning signage should be placed around them so that no one else uses them.

APPENDIX 1

CAL-MAT Code of Conduct

TO:	CAL-MAT Members
FROM:	Tim Reed DMS Division Chief
DATE:	5/14/25
Revision/Version: Revised 5/14/25	Replaces: 09/09/20

SUBJECT: California Medical Assistance Team (CAL-MAT) Code of Conduct

PURPOSE: Establish parameters of conduct for members when deployed.

Summary and New information
Describes acceptable and unacceptable behavior of CAL-MAT members when deployed, in uniform, or otherwise representing the CAL-MAT Program or the State of California.

Background:

Serving on CAL-MAT carries great responsibility and demands professionalism at all times. This Code of Conduct sets forth the minimum expectations of behavior for CAL-MAT members.

Policy/Procedure

1. When activated by EMSA to deploy to a mission supported by CAL-MAT, you are a temporary State employee hired under at-will status subject to applicable state collective bargaining agreements.
2. As a CAL-MAT member, you represent the State of California.
   a. Appropriate behavior, on and off shift, is expected of all members.
3. If activated, notify your Unit Leader.
4. While deployed, wearing of the CAL-MAT uniform is required. The uniform includes:
   a. ID badge. CAL-MAT T-shirt (tucked in)
   b. Khaki 5.11 pants
   c. Black or khaki belt
   d. Black or tan boots (steel or composite toe are preferred) – Not supplied; this is an individual purchase item
   e. Sports-type shoes may be authorized for certain missions, as deemed appropriate by EMSA leadership
   f. EMSA cap (optional, depending on assignment and supply levels)
   g. Exceptions will be granted when uniforms (or uniform items) are not available for distribution. We request khaki-colored pants and navy tee shirt with black or tan boots
5. No disclosure of deployment location or mission specifics is allowed without EMSA approval. Immediate family members should be provided with general contact information.

6. No social media posts related to your deployment are allowed unless approved by the onsite EMSA AREP .
7. No photos may be released unless approved by the on-site AREP.
8. If taking photos of yourself NO patients are allowed to appear in the photos ensure pictures are tasteful and represent you and CAL-MAT favorably.
9. All questions from the media or requests for interviews should be referred to the AREP.
10. If this is your first deployment, let your Team Leader know.
11. Follow the Chain of Command while deployed; know the organizational structure of your particular deployment. CAL-MAT utilizes the Incident Command System (ICS); members should be familiar with ICS 100, 200, and 700.
12. Do not take a clinical assignment outside of the scope of practice allowed by your license or certification.
13. Professional license standards apply, but specific waivers and emergency orders may allow modified scope of practice or regulatory exemptions.
14. Treat all members on the mission with professionalism and respect. Report any difficulties with other personnel to your team leader and EMSA AREP .
15. State and legal standards apply for workplace discrimination and harassment based on protected characteristics such as race, ethnicity, and sexual orientation.
16. All members work as a collaborative team to provide the best possible medical care given the situation and resources available.
17. Inappropriate, offensive, or profane language is not allowed.
18. Members must be honest and not cheat or steal under any circumstances. These situations will not be tolerated and will lead to immediate demobilization.
19. CAL-MAT members may be asked to perform tasks not directly related to their mission assignment, such as:
    a. Assisting with the set-up and tear down of the CAL-MAT Base of Operations (bring work gloves).
20. If you become injured or ill, report it immediately to the site Team Leader and EMSA AREP - DO NOT work if you are sick or injured. Notify your Team Leader as soon as practicably possible.
21. Know and use the Buddy System at all times. Contact the Safety Officer if you are unsure.
22. Do not leave the Base of Operations (BoO) unless granted permission by the EMSA AREP .
23. Deployed staff shall not leave the worksite without EMSA AREP approval. When leaving, let your Team Leader, or designee, know where you are going, when you will be back, and who authorized your departure.
24. Have self-awareness of your surroundings. Do not go into restricted areas unless specifically approved to do so by the appropriate authorities and Team Leader.
25. Prescription medications or any other substances that alter judgment or ability to function while working are prohibited at all times.
26. The use of State vehicles shall provide for the transportation needs required by employees in the performance of their duties. The use of a State vehicle for other than State business is prohibited. An employee shall not operate a State vehicle except as authorized by EMSA and in compliance with the California Code of Regulations, Title 2, Section 599.800.
27. Smoking and vaping shall occur only in areas designated by Incident Safety Officer.
28. Alcohol:

a. Alcohol consumption is prohibited within 12 hours of a scheduled shift.
b. Alcohol purchase and consumption are prohibited while in uniform and/or in a marked vehicle.
c. Driving a state-owned or state rented vehicle after having consumed any amount of alcohol is cause for demobilization and removal from the program.
d. Arriving on shift with evidence of alcohol consumption warrants disciplinary action, potential demobilization, and removal from the program.
e. Alcohol consumption is not permitted on Fire Base Camp missions or other deployments requiring members to reside at the CAL-MAT Base of Operations.

29. Off Duty: It is the expectation that members will get enough rest and sleep during their time off to perform their duties and responsibilities safely while on shift. To ensure effective shift turnover and operations, day staff should not be at the Base of Operations (BoO) during the hours of 10 PM to 5 AM. Respectively, it is the expectation night shift should not be at the BoO from 10 AM to 5 PM. Exceptions may be made for specific circumstances and mission requirements.
30. Staff shall adhere to all EMSA leadership approved incident-specific policies and directives as determined by the EMSA AREP Director or Team Leader.

_____
Printed Name

_____ _____
Signature Date

APPENDIX 2

Fire Camp Deployment: Expectations and Responsibilities for Medical Staff

TO	CAL-MAT Personnel Deployed to Cal-FIRE Base Camp
FROM	Hernando Garzon, CAL-MAT Medical Director
SUBJECT	Fire Medical Camp Orientation
DATE	Revision 05/13/2025 (Replaces 10/03/2021)

Thank you for volunteering to be part of a team to support firefighters who are working in a very dangerous environment. Most providers find the experience very rewarding. The challenges are both personal and professional. You will be living and working in an austere environment that is very different from your usual life and medical practice. Fire Camps are often located in a large park or fairground located in a forest setting or small town.

This document will answer most questions. **Please read carefully and save electronically to bring with you.**

If you have questions concerning this deployment or general questions about CAL-MAT, please contact EMSA at cal.mat@emsa.ca.gov.

MD, NP, PA's who have questions about the medical aspects of the mission, contact Dr. Hernando Garzon, Mobile phone 916.704.7130.

Before you get the call to deploy

- Pack your go-bag (this is the term for the suitcase/large duffel bag that will contain the items you need for the next 1-2 weeks). Start with the packing list below as a guide and modify it based on your own needs. See list at end of this document.
- Prepare a day bag (backpack to carry essentials you will use during travel and during your assigned shift)
- **Print emergency information on an index card and kept on your person at all times in the right front cargo pant pocket or other pocket:**
  - Your name
  - Your date of birth
  - Emergency contact information
  - Allergies
  - Major medical problems
  - Current medications
- Do not pack any drones or flying devices. All airspace at the incident is restricted. They are also a danger to firefighting aircraft operations.
- Do not pack anything flammable. All incendiary devices are prohibited at the Incident Base.
- Do not bring any alcohol or illegal drugs to the incident Base.

Possession of any of these may result in your removal from the incident. Refer to the CAL-MAT Code of Conduct (Appendix 1) for expectations of all CAL-MAT personnel.

Training

CAL-MAT members are expected to be familiar with ICS. Our Memorandum of Understanding (MOU) with CAL FIRE requires all personnel deployed to Fire Camp to have taken and passed ICS 100, 200, 700, 800. There are also video and print versions available which can aid you in your preparation.

If you access the SharePoint folder prior to deployment, you can review some of the current treatment protocols.

When you get the call to deploy, you might have only a few hours to prepare, or you might have until the next day.

The EMSA Travel Coordinator will call you to make arrangements to get you to Fire Base Camp. If it is fairly close, you might travel by private vehicle, or a car might be rented for you. If you are in California and need to travel by air, EMSA will purchase your ticket and send it to you via email. In either case, please answer all the phone calls you receive during this time period, because it might be the travel coordinator asking when you can be ready, how far you are from an airport, etc. Generally, leaving your car in a lot at the airport is not preferred due to cost reimbursement. Please ask the EMSA travel coordinator for direction.

Each Fire Camp deployment is different. You might drive directly to the base camp. You might fly to Sacramento and either rent a car to drive to the EMSA Response Station (Sacramento area) or be picked up and driven there to await your fellow team members. Being flexible is key.

If needed for your employer, you will be provided with a copy of your deployment orders and California Labor Protection Letter (CLPL).

The day of deployment

Wear your CAL-MAT uniform during travel to and from deployment. (See Appendix 1 for details) If you do not have a uniform yet, please wear a navy-blue shirt and khaki pants.

You may be directed to EMSA headquarters or Response Stations (Station 1 or 4) in the Sacramento area to meet other members of your team and then caravan to Fire Camp together.

You may fill out EMSA paperwork there, have a photo taken, receive a CAL-MAT ID, and uniforms. This ID badge is to be worn at all times when you are in uniform. You might be asked to help load medical supplies into the trailer.

When more than one Fire Incident Base Camp is active, sometimes personnel from one Incident Base Camp are sent to work with another team at a different location. Just because your initial deployment order notes that you will be part of a team at one Incident Base Camp does not necessarily mean that is where you will end up.

Arrival and Set-Up at Fire Camp

Note: Your experience will be different if you are replacing a staff member at an existing medical unit.

Once at Incident Base, the EMSA AREP will interface with the CAL FIRE Medical Unit Leader (MEDL) on scene to determine the location of the medical aid station and specifics about the fire and medical needs of the camp.

The CAL-MAT caravan will go to the chosen site to set up. Many times, the California Conservation Corps members will have already set up the large tents used for the Medical Aid Station and sleeping dorms for the CAL-MAT. Sometimes these tents are not in the optimal location and orientation; any request to move these tents is made through the CAL FIRE Medical Unit Leader (MEDL).

Once the Medical Aid Station tent is in the designated location, our team will unload the supplies from the trailer. For most Incident Base Camps, we use the same setup inside the Medical Aid Station, which

has been proven to work well for patient flow and treatment and make it easier for redeployed staff to rapidly acclimate mid-mission to a new base camp. Please refer to Appendix 7 for the layout of supplies, equipment, and treatment areas inside the tent. This has been standardized to minimize additional orientation required for CAL-MAT personnel assigned to the mission. When the tent is set up, CAL-MAT is fully operational and will begin seeing anyone who presents for medical care or supplies. In the early stages of the incident there may not be a full team present, but care should attempt to be provided whenever possible.

There are areas at the Incident Base Camp that are off- limits and may be roped off. Examples of this include inmate sleeping areas, CCC areas, and communications areas. Do not roam in these areas without explicit permission.

CAL-MAT members are expected to be in uniform except when going to and from the showers, exercising, and downtime/sleeping in your tent. CAL-MAT members should always wear their ID badge when moving about camp and working.

Sleeping Arrangements

Some CAL-MAT deployments may house you in a hotel room, but this is not usually the case in a fire Incident Base camp. You may be housed in a trailer, but often, it will be a large, shared tent with little privacy. Due to the fluid nature of Incident Base camp and equipment available, this also means that specific sleeping arrangements noted in your deployment orders might not be available. Both trailers and tents have ventilation systems with heating and usually air-conditioning.

Bring your own sleeping bag, pillow, and pad to use on a cot (or the ground for a night or two, since the final sleeping arrangements may not be ready upon your arrival to a new camp). You may bring a personal tent, if available or preferred, but coordinate the set-up location with the EMSA AREP .

Sleeping situations will usually be co-ed, whether they are large group tents with canvas cots or sleeping trailers with berths. For this reason, sleeping attire should be modest, such as shorts and a t-shirt. Since quarters are shared, you should also bring a sleep mask and earplugs. Personal flashlight or headlamp is recommended for nighttime movements.

When you leave the sleeping area for your shift, please bring your day pack with all items you will need so that you do not need to return to the sleeping area and disturb the off-going shift team members.

Fire Camps should be safe environments, but we suggest that CAL-MAT members use the buddy system when leaving the Medical Aid Station at night. In addition, please let the team leader on duty know where you are going. Consult your Safety Officer on the Buddy System if you are not sure.

Meals

Hot breakfast and dinner may served from a large kitchen trailer in a common area. The dining area is often under large tarps set up with tables and chairs. CAL-MAT members must be in uniform in dining areas, even off shift.

The cook staff is often Department of Corrections and Rehabilitation (CDCR) inmates. If this is the case, there will be Correctional Officers present when inmates are present. It is acceptable to exchange courteous greetings with the inmates but do not engage them in conversation. They have been instructed not to do so and this will get them in trouble. Do not engage in any “favors” if asked by the CDCR inmates. Please notify a CDCR officer if this occurs. Also note that inmates are almost never treated by CAL-MAT, but if they are, they should ALWAYS be accompanied by a Corrections

Officer. An unaccompanied inmate should be reported to the EMSA A-Rep and MEDL immediately.

The EMSA AREP will usually arrange for bagged lunches to be delivered to the Medical Aid Station or picked up at a central station by a team member. There is usually a choice of meat or vegetarian lunches.

Dietary preferences other than vegetarian may not be possible. Let us know before deployment if you have any serious food allergies or dietary restrictions and notify your EMSA AREP when deployed to see what accommodations may be able to be made.

Showers

Fire Camp usually provides large trailers (gender specific) with private hot showers. Extra-large paper towels and soap are provided, but you should bring shower sandals, your own towel, soap and shampoo. The EMSA AREP will inform you of the hours of operations.

There will also be trailers with mirrors and sinks for shaving, fixing hair, and brushing teeth.

Laundry

Laundry services are provided at each base camp. Bring a laundry bag for transporting laundry to and from the laundry trailer. Laundry should be dropped off before or after your shift and are available that evening or the next day. The EMSA AREP will inform you of the hours of operation for laundry services.

Going off Site

Most fire base camps are far from local conveniences such as stores, gas stations and restaurants. If you are missing essential items, please notify the EMSA AREP and they can make arraignments to secure those items. Leaving the base camp requires permission of the EMSA AREP .

Operations

EMSA will assign a medical team lead (MD, NP or PA). The medical team lead may not be the highest-level medical provider.

The team will be broken up into day and night shifts. When deployed, all team members work 7 days a week, at least 12 hours per shift. There will usually be some overlap of shifts for report/handoff and training.

CalMAT physicians can be placed in an “on-call” status for the night shift at the discretion of the EMSA AREP .

Even though a team member is on “off duty” status, there is a chance that they will be called to “on duty” status for unusual circumstances like a large surge in patients or urgent event. Therefore, all CAL-MAT members must always remain fit for duty.

The logistics team member will have a new sign in sheet on the logistics desk each day. Make sure you sign in and out each day and keep track of your hours worked. Your timecard data must match the sign-in sheets. Additional hours need to be approved by the EMSA Lead.

The logistics team members are responsible for many things, including inventory management and ordering of needed supplies. Communication of dwindling supplies or missing supplies should be communicated to facilitate reorder. By policy, the formulary is not be changed on mission. Any

suggestions as to items that might be considered for the future should be referred to Dr. Hernando Garzon.

Work Expectations for all team members:

- Help with the unloading and loading of equipment and supplies.
- Be able to lift up to 35 lbs. during daily operations.
- Know how to operate all available equipment in your scope of practice.
- Know the contents of all equipment packs in Medical Aid Station.
- Know the supplies available for treatment and dispensing.
- Know specifics of medical paperwork required for each fire group.
- Know the circumstances that require notification of the CAL FIRE Medical Unit Leader (MEDL) and who should reach out to contact.
- Perform duties related to inventory control (i.e., keep track of supplies issued, completing required forms, notify logistics of supplies needed or running low).
- Perform data entry related to supply cache.
- Complete Patient Care Records (PCR) with all required data entered.
- Keep the Medical Aid Station and equipment clean (cleaning of the tent and equipment throughout the day and after each patient encounter).

The consumption, possession or purchase of alcohol and or recreational drugs is not permitted on or off duty at Fire Incident Base Camp.

Work Hours and On-call Providers

CAL-MAT team members are paid “door to door” for your deployment, with your start time as the time you leave your house on the first day; you are paid by shift, not for 24 hours/day.

A CAL-MAT work shift is generally 12-13 hours. The busiest times are mornings and evenings when firefighters are in the camp, with slow periods during the day. If there are patients during the evening, you may be asked to work additional hours.

Document all hours worked. Emergency Hires are limited to 60 days per year of CAL-MAT deployment as a temporary state employee unless there is an emergency exemption.

Nights are usually covered by an RN and a Paramedic or EMT. Nights are usually very slow. Depending on staffing, we may arrange a remote physician, so that the physician or provider that covered the day can sleep at night. The remote telemedicine physician will answer questions and do telemedicine consultations; however, if a patient needs to be examined, the RN will notify the onsite physician. If a physician or other staff member is asked to come in off shift for patient care, they will be compensated. Appropriate compensation is being determined by Department Human Resources and California Human Resources. Please adhere to time reporting directions provided at time of deployment.

Medical Care in the Fire Camp

If you are comfortable with acute care, you will be comfortable providing care in the Fire Camp. The volume is low and generally, the acuity is low. Each medical professional brings their clinical expertise to the mission. You are working in a team whose skills will complement one another.

Physicians should not hesitate to consult with other members of your team or with the CAL-MAT or CAL FIRE medical directors (contact information below).

Fire Camp personnel may present to the Medical Aid Station for 2 reasons:

1) To receive medical evaluation and treatment

2) To request self-care supplies (e.g., sunscreen, moleskin, ibuprofen, antifungal meds, body glide, Gold Bond powder, antihistamines, body wipes, anti-itch meds, poison oak pre- or post-treatment)

Common complaints include blisters, skin rashes, lacerations, sprains, foreign bodies, pulled muscles, poison oak exposure, dehydration, and symptoms related to smoke exposure. More serious injuries or illness may occur, including allergic reactions, rhabdomyolysis, syncope, serious heat illness, pulmonary, cardiac or neurological problems.

Most of the severe injuries and medical conditions that occur on the fire line will be evacuated by medics or helicopter and will go directly to a hospital. In the case that medics cannot reach the patient or weather conditions prevent helicopter arrival, patients with more severe complaints will be brought to the Medical Aid Station.

Serious problems will usually require transfer from the medical camp by ground or air EMS to an appropriate emergency department. This should be coordinated through CAL FIRE Medical Unit Leader (MEDL).

There is an isolation tent for infectious patients, but it should only be considered an observation unit for short stays under 24 hours.

The physician on-site provides any required oversight to mid-level providers (NP, PA).

The medical and pharmaceutical cache is designed to treat common problems as well as provide emergency care. Let the logistics position know of replacement items needed. Let your EMSA AREP know of any additional items you think the cache should contain. Resupply occurs periodically from EMSA warehouse, and all efforts are made to avoid shortages. However, please note that there may times when a supply run is delayed or otherwise not possible. Suggestions to the CAL-MAT Medical Director for additions or deletions from the medical cache are appreciated.

Operational Structure

CAL-MAT staffs and operates medical stations in Fire Camps under a Memorandum of Understanding (MOU) between CAL FIRE and EMSA. CAL FIRE has authority over the fire base camp operation and determines when a medical camp is needed and when it will demobilize. EMSA is responsible for the CAL-MAT program, CAL-MAT volunteers, and for the care provided in the medical unit.

The CAL-MAT operation includes a logistics position. Their role is to handle the logistical and operational aspects of the medical station and to support the medical team (equipment, supplies, etc.). This position coordinates with the EMSA Department Operations Center (DOC).

The medical team lead and the EMSA AREP coordinate on issues related to operation of the clinic. The medical team lead will usually be the most experienced CAL-MAT person with some medical background. The medical team lead will be the main connection to the CAL FIRE Medical Unit Leader (MEDL). Both the medical lead and EMSA AREP are responsible to the MEDL for issues within camp and treatment plans, as well as to EMSA for internal medical site operation and medical care.

Care Coordination and Problems

The CAL FIRE Medical Unit Leader (MEDL) is the CAL-MAT contact for all medical issues requiring disposition and for all burns (not how to provide specific medical care).

The EMSA A-Rep and medical team lead will consult with the CAL FIRE Medical Unit Leader (MEDL) to determine how often he/she wants to be notified for an injury, or complaint of a CAL FIRE employee. There can be variation between the MEDLs on how and for what they will want to interface with our medical unit.

The MEDL needs to be notified of any personnel receiving an evaluation from CAL-MAT who cannot return to work at 100% of their prior ability. Examples may include patients that are issued any medications that may cause drowsiness, need for splint/crutches, and illnesses that require isolation.

All burns of any severity (even a minor burn) [SUNBURN TOO?] that occurs to any staff from any agency must be reported to the MEDL while the patient is still in the medical aid station.

Some burns may need to be evaluated at the burn center per CAL FIRE policy even if they are minor. The evaluation can sometimes be arranged at the burn center as an outpatient with an appointment the next day as an option. Your opinion on this will be highly considered when the MEDL discusses this with the incident commander.

Initial contact with the local Health Department will be made by the Base Incident Commander (IC) or designee. All local Health Department contact should be coordinated with the IC or their designee.

Inform the EMSA A-Rep of any issues with on-site incident personnel, including the MEDL, or with general policies/procedures of care provided. They will work with the EMSA A-Rep to resolve these issues with the management team from CAL FIRE. The medical team lead should notify the CAL-MAT Program Medical Director. If there are any issues regarding appropriate care of a patient, please contact either Medical Director below.

CAL-MAT Program Medical Director, Dr. Hernando Garzon, Mobile phone 916-704-7130

or

CAL FIRE EMS Medical Director: Brett Rosen, MD

Brett.rosen@fire.ca.gov; Mobile phone (916) 215-8751

Teamwork and Communication

We are at Fire Camp to help support the response to the disaster. We represent CAL-MAT and EMSA, as well as CAL FIRE. They have high expectations and standards which we meet with the utmost professionalism.

Good communication, respect for other team members, flexibility, and teamwork are imperative to the successful completion of the CAL-MAT mission. Sharing the workload and the ability to problem-solve are elements of a highly functioning team.

Sharing knowledge with each other not only enhances our ability to maintain excellence in care but is a very good team-bonding activity. The EMSA AREP or medical lead should arrange an agreeable time during each day for team members to teach topics that relate to medical care in the austere setting. The first training session should be on equipment operation, supply location and team coordination for patient resuscitation scenarios prior to arrival of ALS transport.

Paperwork

Note the date and time you leave your house for deployment and return home.

Sign in and out for each shift you work at Fire Camp.

Enter the hours you work each day on your timecard, which should also have information specific to your job code and Fire Camp. Your logistics person can provide instruction on how to complete your timecard. (See Work Hours above)

A patient care report (PCR) must be completed for each patient presenting for evaluation and treatment. Fire agency, branch, division and resource number are key bits of information needed for patient follow up as well as reimbursement. The reverse side of the PCR is used to document nursing care & supplies and meds used/dispensed.

Records are now paper, but CAL-MAT is working to develop an EMR.

Each Fire Camp staff member who receives supplies or treatment items must have a supply form completed for EMSA to get reimbursed. The patient or strike team leader must sign the bottom of this form to acknowledge receipt, completing the top portion of the form to indicate agency, resource number, and how many firefighters are using the supplies provided.

Any supplies used for treatment, even minor items, must be accounted for. If we do not record all supplies used, we are not reimbursed by CAL FIRE. EMSA does not have a separate budget for providing this care.

Demobilization

Let the EMSA AREP know your demobilization date if it is prior to the demobilization of the medical aid station. This allows time to secure a replacement for your position. If any personal emergencies arise, please inform the EMSA AREP. They will coordinate with the DOC and travel to make appropriate arraignment.

The travel coordinator will arrange transportation home.

CAL FIRE will give the order to demobilize the entire Medical Aid Station at a specific date and time.

If on-site when the camp is demobilized, each team member is required to help pack up supplies and put them in the EMSA trailer under direction from the assigned EMSA AREP

You will be asked to send a text to the team leader to answer some demobilization questions.

On the last day of your deployment, you will log “door to door” hours on your time sheet. When you have returned home, send a text to your Unit Leader to identify the clock out time for your timecard and confirm that you arrived home safely.

APPENDIX 3

Fire Camp Mission Check List

Pre-Deployment

- Pack a "go-bag" (suitcase/large duffle bag that will contain all items needed for 2 weeks)
  - At least one set of civilian clothing
  - Enough non-perishable food/water to sustain for 72 hours
  - Pack like you are camping – i.e., sleeping bag, towels, etc.
    - Fire Camps are in austere conditions, you will not be in a hotel.
- Pack a "day-bag" (backpack to carry essentials needed for travel and assigned shifts)
  - DO NOT pack Leatherman type tool or scissors/trauma sheers, etc. in carry-on luggage if traveling by air. It must go in checked baggage.
  - Ensure to always have work gloves.
- Personal tent
  - CAL FIRE provides a large tent for co-ed sleeping arrangements. However in rare situations the tents might be delayed.
  - You may bring a small personal tent if you choose; clear set up and location with the EMSA AREP.
- Laminate (or place in a baggie) an index card to be kept in your the right front cargo pant pocket or other pocket with:
  - Name
  - Date of Birth
  - Emergency contact number
  - Allergies
  - Major medical problems
  - Current medications

Activated to Deploy to a Fire Camp Mission

- EMSA RPU coordinates the assembly of all personnel be deployed to a CAL-MAT mission and assigns the Clinical Team Leader.
- EMSA Travel Coordinator will contact you to make travel arrangements
  - Answer any calls coming from the (916) area code
- Notify your employer regarding your activation and that you will be deployed for up to 2 weeks (or scheduled length of deployment)
  - You will receive an activation letter/order which you will email to your employer.
    - You are covered under the California Labor Code when activated by the State as an Emergency Rescue Personnel (see Appendix 2) which provides return to work protections;
    - You will be paid by the State of CA while deployed;
    - The State provides Workers Compensation and professional liability and malpractice coverage.

Day of Deployment

- Be flexible. Sometimes things change rapidly
- Always travel in CAL-MAT uniform: [THOUGHT THIS WAS DISCOURAGED IN PUBLIC?]
  - black or tan boots, CAL-MAT tee shirt, khaki pants, black or tan belt, CAL-MAT ID card
- If you have not been issued a uniform or ID, you will receive these during the onboarding process
  - If no uniform, travel in navy blue shirt, khaki pants and boots (it is easier to wear boots than pack them)

Arrival and Set Up of Fire Camp

- The EMSA AREP and the CAL-MAT Clinical Team Lead will interface with CAL FIRE leaders on scene to determine location of the medical aid station and specifics about the fire and medical needs of the camp.

- The CAL FIRE Medical Unit Leader (MEDL) is the CAL-MAT contact for all things medical.
  - The EMSA AREP is the operational liaison for CAL-MAT. No other team members should contact the MEDL on their own;
  - The Provider will interface with the MEDL for important clinical consideration.
- Everyone helps unload the supplies from the trailer and set up the medical aid station (tent).
  - Must wear work gloves
- Take direction from experienced team members and EMSA AREP regard to location of supplies and equipment inside the tent. A standardized layout of the medical tent has been developed and is shown in Appendix 7.
  - There is a proven standardized plan for setting up the treatment tent (See Appendix 7).

Operations

- Team Leader will conduct at least one briefing daily.
  - The Team Lead will report out on medical operations on the scheduled Department Operations Center (DOC) calls. There will be 24/7 coverage for the medical aid tent
    - Team members will work 12 hour shifts for the duration of the deployment
    - Even if a team member is "off duty" there is a chance they will be called to "on duty" status for unusual circumstances like a large influx of patients or an urgent event.
- CAL-MAT uses the "buddy" system.
  - If you are not assigned a buddy, let the EMSA AREP know so one can be assigned to you.
  - If your buddy demobilizes, let the EMSA AREP know and one will be assigned to you.
  - Your buddy will know where you are at all times and vice versa.
  - No CAL-MAT member should walk around camp alone unless it is to use the bathroom facilities, but your buddy will know that. [OR DO WE MEAN, "LET YOUR BUDDY KNOW THAT"?]

Sleeping Arrangements

- Sleeping situations will be co-ed and could be either:
  - Large group tents on canvas cots
  - Sleeping trailers with individual berths
    - Both will have ventilation systems with heating and cooling.
  - In some situations you may be able to erect your own individual tent, but don't count on it. Remember that you will have no ventilation systems.
- Dress accordingly for sleeping arrangements described above. You may have to make a trek to the outhouse (port-o-pottie), so ensure you have a headlamp.
  - When you leave your sleeping quarters for your shift, take everything with you that you will need for the day. The day/night shift will be sleeping in that area.

Showers, Laundry Service and Meals

- Fire Camps will provide large trailers with hot showers.
  - These may not arrive right away so ensure you have brought hygiene wipes for wipe down showers.
  - There may be large paper towels available, but don't count on it.
  - Check with logistics for hours of operation and try to schedule your time to give priority to the fire crews returning to camp to take their much-needed showers.
  - Trailers are outfitted with water (sometimes hot). Mirrors and sinks are available.
- Laundry services are available at most Fire Camps.
  - Remember to bring a mesh laundry bag with your name.
  - Label all your clothing (initials with sharpie on tags).
  - Drop off laundry in a mesh bag in am and return in pm or next day to pick up.

- Meals are provided at the camp. It has been said, “If you leave Fire Camp hungry, you did something wrong.”
    - Hot breakfast and dinner are served from a large kitchen trailer in a common area.
    - The cooks will be wearing orange jumpsuits. They are inmates for the Department of Corrections.
        - Multiple prison guards accompany them.
        - Do not engage in conservation with the inmates – it is forbidden for them to do so.
        - You may exchange courteous greetings.
    - Bagged lunches are available.
        - There is usually a choice of meat or vegetarian.
    - Don’t always count on the Fire Camp having “special dietary needs” capability.
        - You can usually get vegetarian items but not much plant-based protein, so plan for that.

<u>Paperwork</u>

- Enter the hours you work each day on your timecard.
- Ensure you have been instructed on how to fill the timecard out, if you haven’t, contact the EMSA AREP.
- Sign in and out for each shift you work.
- A Patient Care Record (PCR) must be completed for each person presenting for evaluation and treatment.
    - Be vigilant in completing all sections of this form, including fire agency, branch, division and resource number
- The reverse side of the PCR is used to document nursing care, supplies and meds used/dispensed.
- ALL supplies used for medical treatment or self-care must be accounted for. Everything has a charge, including the disposable bedsheet/pillowcase:
- Worker’s comp forms must be completed on patients working for certain agencies (e.g., CAL FIRE).

<u>Demobilization</u>

- Advise your Team Leader of your planned demobilization date. They will advise the logistics team leader or EMSA AREP.
- CAL FIRE will give the date and time the Medical Aid Station is to be demobilized.
- Teamwork is essential to pack all supplies into the EMSA trailer.
    - Take direction from the logistics team leader or EMSA AREP on how to pack and where supplies go in the trailer.
    - You must wear work gloves.
- When your travel orders have been arranged, you will receive direction via email.

APPENDIX 4

Preparing to Deploy, Self-Care During & After Deployment

CAL-MAT PACKING LIST

Since we vary in disciplines, what may be essential to one group may not necessarily apply to the other.

Please keep in mind that you should not pack more than you can physically carry, as we will not always have the luxury of using wheels.

Essential Items: Recommended for a two-week deployment

__Cal-Mat Trousers x2 __Cal-Mat T-Shirt x3 __Socks x7 __Underwear x7 __Bra __Wool Cap x1 __Rain Gear x1 __T-Shirt/Tank Top x4 __Sweat Suit with Hoodie x1 __Jeans x1 __Shorts x1 __Long Sleeve Shirt x1 __Gloves Work (Leather) __MRE x3	__Multi-Purpose Soap __Detergent __Fabric Softener x1pkg __Towel x2 __Wash Cloth/Loofah x2 __Lotion x1 __Baby Wipes __Deodorant __Sunscreen x1 __Lip Balm __Mosquito Repellent x1 __Foot Powder x1 __Toilet Paper x1 __Trash Bags Lg/Sm __Duct Tape	__Personal First Aid Kit x1 __Life Straw x1 __All Weather Lantern x1 __Flashlight x1 __Multi Plug Extension Cord __Multi Tool __Batteries for Devices __Rope __Tile GPS Tracking Device __Sleeping Bag x1 __Protective Eyewear x1 __Flask for Water x1 __Padlock

Optional Items:

__Sleeping Pad x1 __Inflatable Pillow x1 __Pajamas x1 __Extra Belt x1 __Duct Tape x1 __Water Proof Inner Bags __Fire Blanket x1 __Ziploc Bags __Rubber Bands __Personal Survival Kit __Twist Ties __Bungee Cords	__Shampoo and Conditioner __She Wee (F) __Urinal (M) __Head Bands __Dry Shampoo __Hair Products __Hand Sanitizer __Hand and Foot Warmers __Safety Pins __Tent	Medical Personnel: __Mini Med Kit __Pulse Oximeter __Loupes __Trauma Shears __B/P Cuff __Otoscope __N95 __Hemostat __Stethoscope

Essential Items: Recommend for initial travel to destination via airline

__Cal-Mat T-Shirt x1 __Underwear x1 __Socks x1 __Shorts x1 __T-Shirt x1 __Sleeping Mask x1 __Gloves x1pr __Poncho x1 __Toiletries x1 Bag __Cal-Mat Jacket or Hoodie __Patches for Uniform __Flip Flops x1	__Cal-Mat ID __Driver's License __Copies of Medical License __Medication Card __Emergency Contact Info __Reusable Utensils __Note Pad __Pen/Pencil __Snacks/Protein Bars	__Head Lamp __USB Cables 15ft/3ft __Device Chargers __Portable Solar Charger __Tracker __Sunglasses __Extra Glasses __Ear Plugs __Kleenex __Sewing Kit __Hand Towel __Sharpie

Optional Items: Medical Personnel

__Nitrile Gloves __Nasacort __Electrolyte Tablets __OTC Pain Relief __Pen Light	__Medical Tape __Antihistamine Cream __Steroid Cream __OTC Antihistamine	__Bacitracin __Alcohol Swabs __Bandages __Saline Eye Drops	

Disclaimer: Please note all items noted in this document are recommendations only as CAL-MAT does not endorse any specific product.

Provider Go-Bag/Backpack Suggestions (approximately 30lbs) in order to have medical supplies and the capability to respond if separated from your luggage:

Uniform w/ 2 shirts, 2 pairs of socks and undergarments

Sunglasses, Eyeglasses, and Sunscreen

Insect Repellent

Small sized toiletries

Pillow roll and small blanket

iPad, laptop and/or E-reader, solar lantern, chargers

Wipes/sanitizer/washcloth

Snacks, money, baggies

Umbrella and/or rain poncho

Work gloves

Medical Supplies:
Facts & Formulas/Sanford Guide/Pocket Pharmacopeia
Copy of Medical license, DEA, Rx, ID, and NPI#
Flashlight +extra batteries, Trauma shears
Mini first aid kit
Antibiotics: Doxy, Flagyl, amoxicillin
Allergy meds
Life-Straw, probiotics, powder drinks
Your meds

HOW TO COPE WITH STRESS & BUILD RESILIENCE

Providing care to others during a disaster can lead to stress, anxiety, fear, and other strong emotions. How you cope with these emotions can affect your well-being, the care you give to others while doing your job, and the well-being of the people you care about outside of work. It is critical that you recognize what stress looks like, take steps to build your resilience and cope with stress, and know where to go if you need help. In almost all cases, CAL-MAT Behavioral Health resources will be assigned to your mission. The EMSA Rep should provide this information as part of your briefing.

Recognize the symptoms of stress:

- Feeling irritation, anger, or denial
- Feeling uncertain, nervous, or anxious
- Feeling helpless or powerless
- Lacking motivation
- Feeling tired, overwhelmed, or burned out
- Feeling sad or depressed
- Having trouble sleeping
- Having trouble concentrating

Know about stress-related disorders, compassion fatigue, and burnout:

Experiencing or witnessing life threatening or traumatic events impacts everyone differently. In some circumstances, the distress can be managed successfully to reduce associated negative health and behavioral outcomes. In other cases, some people may experience clinically significant distress or impairment, such as acute stress disorder, post-traumatic stress disorder (PTSD), or secondary

traumatic stress (also known as vicarious traumatization). Compassion fatigue and burnout may also result from chronic workplace stress and exposure to traumatic events.

Tips to cope and enhance your resilience:

- Communicate with your coworkers, team leader, and employees about job stress.
  - Talk openly about how the traumatic stress is affecting your work.
  - Identify factors that cause stress and work together to identify solutions.
  - Ask about how to access mental health resources in your workplace.
- Remind yourself that everyone is in an unusual situation with limited resources.
- Identify and accept those things which you do not have control over.
- Recognize that you are performing a crucial role and that you are doing the best you can with the resources available.
- Increase your sense of control by keeping a consistent daily routine when possible — ideally one that is similar to your usual schedule.
  - Try to get adequate sleep.
  - Make time to eat healthy meals.
  - Take breaks during your shift to rest, stretch, or check in with supportive colleagues, coworkers, friends and family.
- When away from work, get exercise when you can. Spend time outdoors either being physically activity or relaxing. Do things you enjoy during non-work hours.
- If you feel you may be misusing alcohol or other drugs (including prescriptions), ask for help.
- Engage in mindfulness techniques, such as breathing exercises and meditation.
- If you are being treated for a mental health condition, continue with your treatment and talk to your provider if you experience new or worsening symptoms.

If you're concerned that you or someone in your household may harm themselves or someone else:

- National Suicide Prevention Lifeline
  - Toll-free number to call or text is 988 or online chat at 988lifeline.org
  - Lifeline.org is free and confidential. You'll be connected to a skilled, trained counselor in your area.
  -
- National Domestic Violence Hotline
  - Call 1-800-799-7233 and TTY 1-800-787-3224

If you feel overwhelmed with emotions like sadness, depression, or anxiety:

- Disaster Distress Helpline
  - Call 1-800-985-5990 or text TalkWithUs to 66746

Treatment If you want more information on coping with stress and building resilience:

- NIOSH Safety and Health Information for Healthcare Workers
- Substance Abuse and Mental Health Services Administration (SAMHSA) Disaster Preparedness

APPENDIX 5

SUBJECT: On-call providers for medical site in CAL FIRE Base Camp

PURPOSE: Policy and protocol for on-call providers to support clinical field sites (*See full policy/procedure dated 9/15/20)*

Background

EMSA uses CAL-MAT staff to provide clinical care for Fire Camps under contract with CAL FIRE. The current contract allows for a provide to cover a site remotely that is staffed with medics, RNs and potentially a mid-level. Section A2 "…If a Medical Doctor is not on-site, then one will be available by phone for the on-site advanced practitioner…."

Policy/Procedure

- A remote physician may be used to support a CAL-MAT medical station within a CAL FIRE base camp.
- The decision to use a remote physician provider will be based on the clinical needs at the site and the staff available for the site.
- A remote physician may support a team led by another physician who is working 12 hours or more and needs back-up coverage at night, or to support a mid-level or an RN.
- The remote physician may be working nights at another site or taking call from home.
- Remote coverage to cover nights for another on-site provider can be done via telephone.
- If there is no on-site provider, back-up is best provided by a remote physician.
- Telehealth must meet minimal requirements for privacy and security
- On-call is at the discretion of the Emergency Medical Services Authority Disaster Medical Services Chief and in alignment with Human Resources rules and contractual requirements of various employee groups.

Protocol

The EMSA DMS Chief, CAL-MAT Personnel Chief or the CAL-MAT Medical Director may determine the need for an on-call provider.

If a physician is not available on-site, an on-call schedule will be set up by CAL-MAT personnel in collaboration with the on-site EMSA AREP.

A physician or mid-level provider at a site may request an on-call provider for the overnight hours through their EMSA AREP, if desired.

The on-call doctor would be consulted if the RN and/or paramedic covering the night shift simply wanted advice or wanted to confirm a management plan for a patient.

The provider on-site would be awakened to see any patient who presented to the medical site and, at the discretion of the RN or paramedic staffing the tent at night, needed an evaluation and examination by the provider.

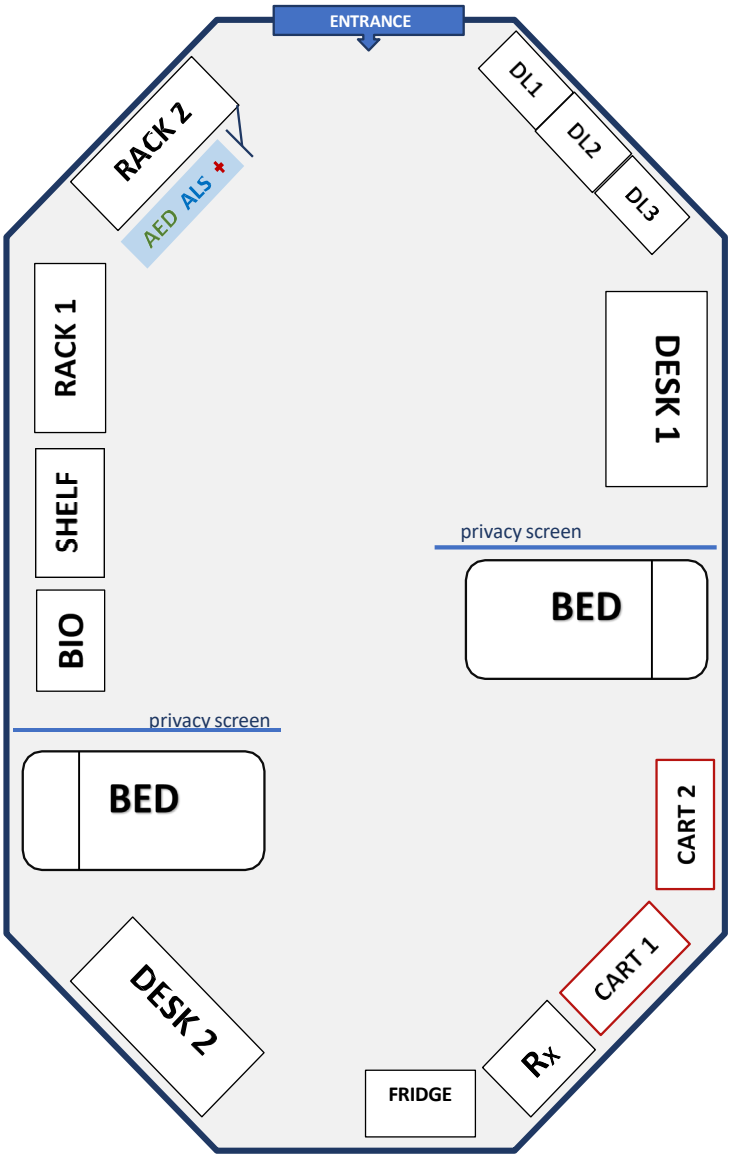
According to HR and contractual rules:

Physicians are not paid overtime.

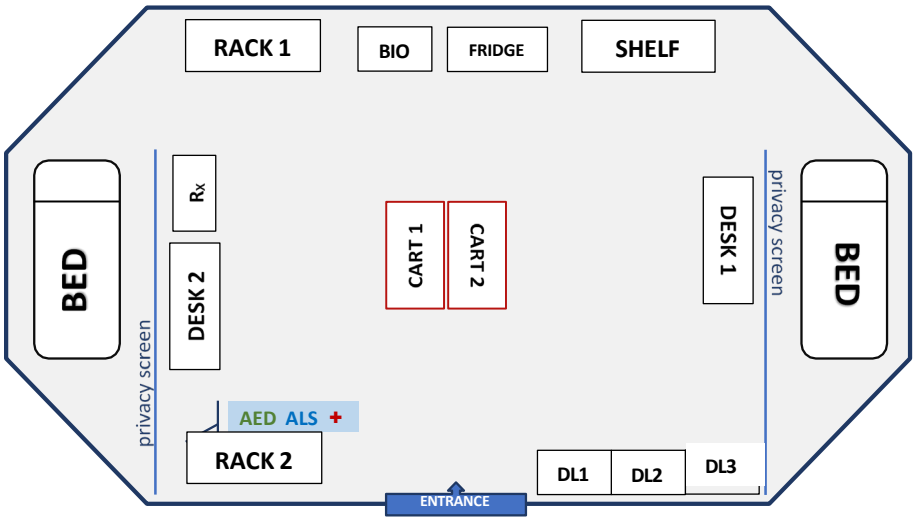
A provider who is working the night shift at a CAL-MAT site would be paid for their regular night hours worked and would not receive additional compensation for taking call from another site.

A provider at a site or on-call will be compensated. This is currently being determined by Human Resources and the California Hurman Resources. At this time, members should follow the time reporting direction provided at the time of deployment.

APPENDIX 6 - CAL-MAT Fire Program - **CACHE LAYOUT**



	DESCRIPTION	*CONTENTS*
DL (1-3)	Rolling aluminum dollies	High-use dispensary items (sunscreen, powders, etc..)
RACK 1	Rolling metal rack	Bandaging, irrigation, bedding, ALS Paramedic Bag top rack
RACK 2	Rolling metal rack	Lower-use dispensary items; AED, ALS, GoBag (+) top rack
CART 1	Red tool cart	Primary & secondary diagnostic tools
CART 2	Red tool cart	Injection and procedural supplies
DESK 1	Folding table	Logistics computers; Wi-Fi router; printer
DESK 2	Folding table	Writing tools, PCRs, clipboards, (on-site clinician preference)
BEDS	Metal cots	*n/a*
SHELF	Disassembling plastic shelving	8 blue supply tubs, non-medical mission support supplies
BIO-MED	Rolling metal cart (black)	Bio-medical equipment
FRIDGE	Mini-fridge	Cold-storage medications
Rx CART	Rolling metal cart	Pharmaceuticals



CAL-MAT – Fire Program

BURN TREATMENT AND TRANSPORT PROCEDURE 7243-5

OVERVIEW

This procedure is compliant with American Burn Association (ABA) treatment and transport recommendations.

DEFINITION(S)

Cool Running Water: A continuous steady flow of cool water. Examples can include a faucet or hose. Does not include standing water.

PERSON / PROGRAM AND ACTIONS

TREATMENT

Step	Person / Program	Actions
1	**Field Personnel**	Remove the patient from the source of the heat and immediately assess for signs of airway compromise and burns. Continue to monitor airway, breathing, and circulation. Burned clothing should be cut away, but do not remove any clothing adhered to burned skin. All jewelry near the injured area should be removed.
2	**Field Personnel**	Assess patient for any additional injuries. Treatment of immediate life threats, which include traumatic injuries, shall take treatment priority over burns.
3	**Field Personnel**	**When operationally feasible and resources are available, the following shall be conducted.** **If not feasible and/or resources are not available, proceed to Step 4.** **Burns less than or equal to ≤ 30% Total Body Surface Area (TBSA)** • Cool running water should be applied over the burned area for 20 minutes within the first three (3) hours of burn injury. (The goal is **cumulative application** of cool running water for 20

Step	Person / Program	Actions
		minutes in the first three (3) hours, **do not delay transport).** **Burns more than > 30% TBSA** • Cool running water should be applied over the burned area up to 5 minutes to stop the burning process. (Do not use ice packs to avoid increasing cellular damage to burn injury site and risk of hypothermia).
4	**Field Personnel**	The burned area should be covered with a clean, sterile dressing, moistened with clean water followed by a second application of dry gauze. Burns should be kept moist. Burns covering large areas of the body should be wrapped with a clean sheet followed by a plastic sheet. The patient should be placed inside a burn blanket. Continue to monitor until patient transfer to higher level medical care. Patient extraction should be performed as quickly as possible.

TRANSPORT

Step	Person / Program	Actions
1	**Field Personnel**	Follow LEMSA protocols and procedures in the transportation and destination of burn patients. The patient may be transported to a local emergency department or directly to a burn center based on local protocol and resources availability. Reference the EMS Handbook Exhibit E7243-4, Burn Center Consultation and Referral Criteria for types of burn injuries that should have a consultation with an ABA verified Burn Center. If the local emergency department is receiving, and a secondary transport to a Burn Center is deemed necessary by the attending physician, the mode of transportation will be determined by the treating/sending physician in collaboration with the receiving Burn Center.

Step	Person / Program	Actions
		All burn injuries that do not meet the Burn Center Consultation and Referral Criteria must be assessed by a physician within 24 hours to determine a treatment plan.

RELATED FORM(S) / LINK(S)

20 Minutes of Cool Running Water (20CRW)
American Burn Association

SUBJECT MATTER EXPERT(S)

EMS Program

REVISION DATE

Revision Date: November 2023
Last Reviewed: November 2023

BURN CENTER CONSULTATION AND REFERRAL CRITERIA

The criteria below identify what types of burn injuries requires immediate consultation with the consideration for transfer to an American Burn Association (ABA) Verified Burn Center:

- Full thickness burns
- Partial thickness ≥10% total body surface area (TBSA)
- Any deep partial or full thickness burns involving the face, hands, genitalia, feet, perineum, or over any joints
- Patients with burns and other comorbidities
- Patients with concomitant (concurrent) traumatic injuries
- Poorly controlled pain
- All patients with suspected inhalation injury
- All chemical injuries.
- All high voltage (≥1,000V) electrical injuries
- Lightning injury

The criteria below identify what types of burn injuries a consultation with an American Burn Association (ABA) Verified Burn Center is recommended:

- Partial thickness burns less than 10% TBSA
- All potentially deep burns of any size
- Patients with signs of potential inhalation such as facial flash burns, singed facial hairs, or smoke exposure
- Low voltage (<1,000V) electrical injuries should receive consultation and consideration for follow-up in a burn center to screen for delayed symptom onset and vision problems.

If a burn injury occurs on an incident or at an Incident Base, and the patient is otherwise stable, an on-site physician may be utilized to assess and treat the burn injury if available. If burn center consultation and referral criteria are met, the on-scene physician in consultation with a burn center determines transport destination.

If the patient is transported to a hospital that is not an ABA verified Burn Center, referral to a verified Burn Center shall be determined by the attending physician treating the patient. There is a possibility the attending physician may decide in consultation with a burn center that the patient may be evaluated at a burn center in their outpatient clinic at a later time.

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BURN SEVERITY DETERMINATION

Burn severity is categorized as follows:

Superficial: Dry, red, easily blanching, sometimes painful (example: sunburn). These are **NOT** counted in calculations of Total Burn Surface Area (TBSA).

Superficial Partial Thickness: Moist, red, blanching, blisters, very painful. Counted in calculations of TBSA.

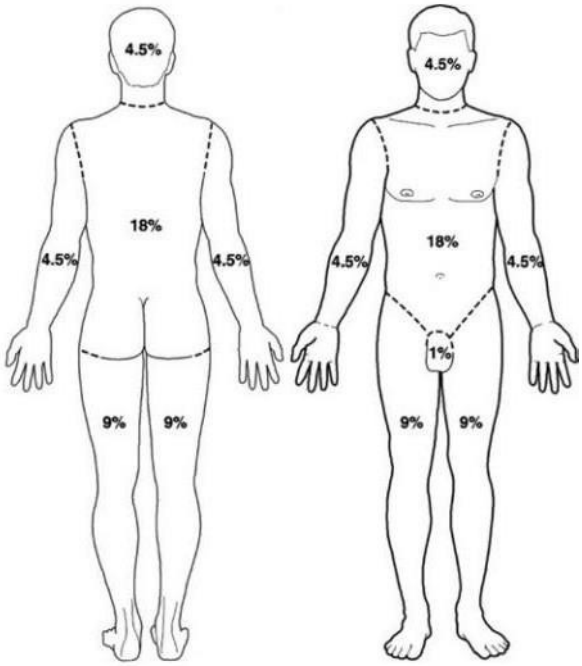
Deep Partial Thickness: Drier, more pale, less blanching, less pain. Counted in calculations of TBSA.

Full Thickness: Dry, leathery texture, variable color (white, brown, black), loss of pin prick sensation. Counted in calculations of TBSA.

Estimating the Percentage of Body Surface Burned

In addition to estimating the depth of the burn, it is necessary to estimate the amount of skin surface area involved, specifically the extent of all burns that are not categorized as superficial to determine the TBSA. The Wallace Rule of Nines provides a quick method of estimating the percentage of skin which has been burned. The Palmar Method is another quick and simple method for field use on small burn areas.

WALLACE RULE OF NINES



PALMARMETHOD

REVISION DATE

Revision Date: November 2023
Last Reviewed: November 2023

ANNEX #10
Incident Caches Medications – ALPHA

Medication Name	Location	Quantity	Category
A&D Ointment	D-4	4 tubes	Derm
Acetaminophen Tablets 325 mg tab	D-2	400 tabs	Analgesics
Adenosine (Adenocard) 3mg/ml, 12mg/4ml	ALS Box	4 syringes	ALS
Albuterol HFA Inh	D-2	12 boxes	Respiratory
Albuterol HFA Inh	KD3	1	Respiratory
Albuterol Inh., 0.83%, 2.5mg / 3mL	ALS Box	6 pks	ALS
Albuterol Inhalation Solution 0.83%, 2.5mg/3mL	D-2	30 vials	Respiratory
Amiodarone HCL Inj., 900MG/18ML, 50MG/ML	ALS Box	1 vial	ALS
Amlodipine 5mg tab	D-2	50 tabs	Cardiac
Amoxicillin/Clavulanic Acid 875/125mg	D-2	100 tabs	Antibiotics
ASPIRIN 325 MG tab	D-2	500 tabs	Analgesics
ASPIRIN 81 MG Chewable	ALS Box	36 tabs	ALS
ASPIRIN 81 MG Chewable	KD3	36 tabs	Cardiac
Atropine Sulfate, 1mg / 10mL, Syringe	ALS Box	3 syringes	ALS
Atropine Sulfate, 1mg / 10mL, Syringe	KD3	1 Syringe	Cardiac
Azithromycin 250mg tab	D-2	60 tabs	Antibiotics
Bacitracin Ointment 0.9g/pk	D-4	432 pk	Derm
Bactroban (Mupirocin) 2% ointment	D-4	4 tubes	Derm
Bag Zip Clear, 2x3	D-4	200	Misc
Benzoin Tincture	D-1	20	Derm
Betadine Sol Swabsticks 3ml	D-3	20 bottles	Antiseptics
BISACODYL Suppository 10 MG tab	D-2	100 Sup	Gastrointestinal
CALCIUM CARBONATE 500MG tab	D-3	500 tabs	Gastrointestinal
Carbamide Peroxide (Debrox) Otic Soluti 6.5%	D-1	3 bottles	ENT
Ceftriaxone (Rocephin) Injection 1gm	D-1	4 vials	Antibiotics
Cephalexin 500mg	D-2	100 tabs	Antibiotics
Cetirizine (Zyrtec) 10mg	D-2	100 tabs	Gastrointestinal
Clobetasol Propionate Oint 0.05%	D-4	12 tubes	Derm
Cold & Flu Relief, Multi-symptom (DayQuil)	D-3	504 tabs	Respiratory
Contact Lens Solution, 8ml	D-1	4 bottles	ENT

Cortisporin-TC OTIC (Neomycin, Polymyxin Hydrocortisone Otic)	D-1	5 bottles	Antibiotics
Cough Drops	BOX	40 bags	Respiratory
Cough Syrup, Tussin DM, 120mL	D-3	6 bottles	Respiratory
FLOWFLEX PLUS CVD19 FLU A/B TEST	D-4	10 kits	Misc
D25 (Dextrose 25%) 2.5g 250mg/ml Syringe	ALS Box	2 syringes	ALS
Dexamethasone 2 mg tab	D-2	100 tabs	Steroids
Dexamethasone Inj 4mg/ml	D-1	4 vials	Steroids
Dextrose 5% (D5W), 250ml, for Injection	BOX	12 bags	IV_Fluids
Dextrose 50% 25gm, 50ml syringe	ALS Box	2 syringes	ALS
Dextrose 50% 25gm, 50ml syringe	KD3	1 Syringe	Endocrine
Diltiazem Hcl inj 25 mg/5ml	ALS Box	5 vials	ALS
Diphenhydramine & Zinc Anti-itch Cream	D-4	20 Tubes	Derm
Diphenhydramine Capsules 25mg	D-2	200 Cap	Anti-histamine_Allergy
Diphenhydramine Inj., 50mg/1ml	ALS Box	3 vials	ALS
Diphenhydramine Inj., 50mg/1ml	D-1	10 vials	Anti-histamine_Allergy
Diphenhydramine Inj., 50mg/1ml	KD3	4 vials	Anti-histamine_Allergy
Dopamine, 400mg, 40mg / mL, 10 ml Vial	ALS Box	2 vials	ALS
Doxycycline Hyclate 100mg CAP/TAB	D-2	50 cap	Antibiotics
Duoneb (ipratropium/albuterol)	D-3	30 vials	Respiratory
Enoxaparin (Lovenox) 40 mg prefilled syringes	ALS Box	2 vials	ALS
Epinephrine INJ Auto-Inj 0.15mg (Epi-Pen Pediatric)	ALS Box	2 boxes	ALS
Epinephrine INJ Auto-Inj 0.3mg (Epi-Pen)	ALS Box	2 boxes	ALS
Epinephrine, 1:1000, Inj. 1mg / mL, 30mL Vial	ALS Box	2 vials	ALS
Epinephrine, 1:1000, Inj. 1mg / mL, 30mL Vial	KD3	1 vials	Cardiac
Epinephrine, 1:10000, 0.1mg / mL, 1mg / 10mL Syringe	ALS Box	6 syriges	ALS
Epinephrine, 1:10000, 0.1mg / mL, 1mg / 10mL Syringe	KD3	1 Syringe	Anti-histamine_Allergy
Famotidine 40mg tablet	D-2	100 tabs	Gastrointestinal
Fexofenadine 60mg	D-2	200 tabs	Gastrointestinal

Fluconazole (Diflucan) Tablets, 100mg	D-2	100 tabs	Antifungal
Fluorescein Sodium Ophth. Strips, 1mg, "FUL-GLO"	D-1	100 strips	ENT
FLUTICASONE NS 50mcg/spray	D-3	6 bottles	Anti-histamine_Allergy
GENTAMICIN 0.3% OPH SOL	D-1	3 bottles	ENT
Glucagon Inj., 1mg w/ 1mL Syringe	ALS Box	2 kits	ALS
Glucagon Inj., 1mg w/ 1mL Syringe	D-1	2 Syringe	Endocrine
Glucagon Inj., 1mg w/ 1mL Syringe	KD3	1 Syringe	Endocrine
Glucose Paste, 24gm/15gm	ALS Box	2 tubes	ALS
Glucose Paste, 24gm/15gm	D-1	3 tubes	Endocrine
Glucose Paste, 24gm/15gm	KD3	1 tubes	Endocrine
Glucose Tablets Fast Acting 4gm/tab	D-2	30 tabs	Endocrine
hydroxyzine 25mg tablet	D-2	50 tabs	Anti-histamine_Allergy
I.V. Administration Set	ALS Box	2 kits	ALS
IBUPROFEN 200 MG tab	D-2	700 tabs	Analgesics
IBUPROFEN 400 MG tab	D-2	400 tabs	Analgesics
Inhalation Chamber Spacer for MDI	D-3	24 Spacer	Respiratory
Insulin (Humulin), NPH U-100, inj	REF	2 vials	Endocrine
Insulin (Humulin), Regular U-100, inj	REF	2 vials	Endocrine
Ketamine Inj, 50mg/ml 10ml vl 500mg	Locker box	20 vails	Analgesics
KETOROLAC 30mg/ml INJ	D-1	25 vials	Analgesics
Label, Prescription Bottle, Blank	D-4	1	Misc
Lactated Ringers Inj., 1000mL	ALS Box	1 bag	ALS
Lactulose 20 gm Sol	D-4	300 ml	Gastrointestinal
Lidocaine (Xylocaine) 1% w/ Epinephrine Inj; 20ml	D-3	10 vials	Anesthetics
Lidocaine 1% Injection; 20mL MDV	D-3	10 vials	Anesthetics
Lidocaine 2%, 20mg / mL, 100mg / 5mL Syringe	ALS Box	2 syringes	ALS
Lidocaine Gel (LMX4 4% CRM 15 GM)	ALS Box	25 tubes	ALS
Lidocaine Viscous Oral Topical Solution 2%	D-3	5 vials	Anesthetics
Loperamide 2mg	D-2	100 tabs	Gastrointestinal
Loratadine (Claritin), 10mg	D-2	300 tabs	Anti-histamine_Allergy
Lubricating Jelly (Surgilube)	ALS Box	4 pks	ALS
MAGNESIUM-DEXTROSE 1 GM-5% BAG 24X100 ML	ALS Box	10 bags	ALS

Meclizine 25mg tablet	D-2	50 tabs	Anti-emetic_Anti-vertigo
Methylprednisolone, Solu-Medrol 1gm AOV 8mL	D-1	4 tabs	Steroids
Metoprolol (Lopressor), 100mg tablet	D-2	50 tabs	Cardiac
Metoprolol tartrate 5mg SDV 10X5 ML	ALS Box	5 vials	ALS
Miconazole-3 Vaginal Cream 4%	D-3	6 tubes	Antifungal
Midazolam (Versed), 10mg/2ml	Locker 2	60 vails	Analgesics
Mylanta	D-3	4 bottles	Gastrointestinal
NALOXONE 0.4mg/ml INJ	ALS Box	4 vials	ALS
NALOXONE 0.4mg/ml INJ	KD3	3 vials	Misc
NARCAN (naloxone) Nasal Spray 4mg	D3	10 Nasal spray	Misc
NARCAN NASAL 4MG, 0.1ml	ALS Box	2 boxes	ALS
Nitro Paste (transdermal)	ALS Box	2 pks	ALS
NITROGLYCERIN 0.4mg SL tab (NITROSTAT)	ALS Box	25 ea	ALS
Nitroglycerine Spray 400mcg per spray	KD3	1 bottle	Cardiac
Ofloxacin opthalmic drops 0.3% 5ml	D-1	8 bottles	ENT
Ondansetron Inj 4mg/2ml	ALS Box	3 vials	ALS
Ondansetron Inj 4mg/2ml	D-1	10 vials	Anti-emetic_Anti-vertigo
Ondansetron ODT 4mg Tabs	D-2	50 tabs	Anti-emetic_Anti-vertigo
Oral Anesthetic, Eugenol/Anbesol	D-1	3 bottles	Anesthetics
Oral Rehydration Salts	D-3	50 package	Gastrointestinal
oxymetazoline 0.05% Nasal decongestant spray	D-3	12 bottle	Anti-histamine_Allergy
PEG 3350 (MIRALX/HEALTHYLAX)	D-3	42	Gastrointestinal
Pepcid Complete 10mg tablet	D-3	100 tabs	Gastrointestinal
Permethrin 1% Lice Shampoo	D-3	4 bottles	Anti-parasitic
Pill Counter	D-4	1	Misc
Prednisone 10 MG	D-2	400 tabs	Steroids
Prednisone Tablets 20mg	D-2	800 tabs	Steroids
Pregnancy Test	D-3	2 kits	Misc
Preparation H	D-4	4 Tubes	Gastrointestinal
PROCAINAMIDE HCL 1000MG PFS 5X10ML	ALS Box	1 vial	ALS
Pulimicort FlexHaler 90 mcg	D-3	4 boxes	Respiratory
Racemic Epinephrine, HCl 2.25%	ALS Box	4 pks	ALS

Saine Lock 3"	ALS Box	2	ALS
Senna Laxative 8.6 mg tab	D-3	100 tabs	Gastrointestinal
Silver Nitrate Sticks	D-1	1	Derm
Silver Sulfadiazine (Silvadene) Cream 1%	D-1	4 tubes	Derm
Simethicone 80 mg tab	D-3	100 tabs	Gastrointestinal
Sodium Bicarbonate, 50mEq, 1mEq / mL, 50mL Syringe	ALS Box	2 syringes	ALS
SODIUM CHLORIDE 0.9% BACTERIOSTATIC INJ	D-3	10 vials	IV_Fluids
Sodium Chloride 0.9% Flush	ALS Box	5 syringes	ALS
Sodium Chloride 0.9% for Irrigation 1000ml	BOX	10 vails	Irrigation_Fluids
Sodium Chloride Inj., 0.9%, 1000mL	Box	24 bags	IV_Fluids
Sodium Chloride Inj., 0.9%, 250mL	ALS Box	5 bags	ALS
Sodium Chloride Inj., 0.9%, 500mL	ALS Box	5 bags	ALS
Labetalo HCL injection 5 mg/mL,	ALS Box	5 vails	ALS
Sterile Water for Irrigation 1000ml	BOX	10 bags	Irrigation_Fluids
Sterile Water For Irrigation 500mL	BOX	5 bags	Irrigation_Fluids
Sterile Water Inj., 10mL Vial	ALS Box	3 vials	ALS
Sterile Water, Inj 20mL	D-1	10 vails	IV_Fluids
Strep A Test	D-3	50 vials	Misc
Sulfamethoxazole & Trimethoprim 800mg/160mg	D-2	100 tabs	Antibiotics
Sumatriptan inj 6mg/0.5ml	D-1	5 ea	Analgesics
Symbicort (budesonide/formoterol)	D-3	10 boxes	Respiratory
TDAP - Tetanus,Diphtheria, Pertussis - Adacel	REF	20 vails	Vaccines
Tetracaine 0.5% Ophth Soln; 4ml	D-1	5 bottles	ENT
Throat Lozenges	BOX	504 tabs	Respiratory
Tranexamic Acid (TXA) 1000MG/10ML	ALS Box	1 vial	ALS
Triamcinolone 200mg/5ml or 400mg/10ml	D-1	5 vials	Derm
Triamcinolone Acetonide Cream , 0.5%, 15g	D-4	24 tubes	Misc
Urine Dipstick(Microstix/Rapid Response)	D-3	100 cups	Misc
Vial, for pills/tablets	BOX	50	Misc

ANNEX #11
Incident Cache Medications – Category

Medication Name	Location	Quantity	Category
Adenosine (Adenocard) 3mg/ml, 12mg/4ml	ALS Box	4 syringes	ALS
Albuterol Inh., 0.83%, 2.5mg / 3mL	ALS Box	6 pks	ALS
Amiodarone HCL Inj., 900MG/18ML, 50MG/ML	ALS Box	1 vial	ALS
ASPIRIN 81 MG Chewable	ALS Box	36 tabs	ALS
Atropine Sulfate, 1mg / 10mL, Syringe	ALS Box	3 syringes	ALS
D25 (Dextrose 25%) 2.5g 250mg/ml Syringe	ALS Box	2 syringes	ALS
Dextrose 50% 25gm, 50ml syringe	ALS Box	2 syringes	ALS
Diltiazem Hcl inj 25 mg/5ml	ALS Box	5 vials	ALS
Diphenhydramine Inj., 50mg/1ml	ALS Box	3 vials	ALS
Dopamine, 400mg, 40mg / mL, 10 ml Vial	ALS Box	2 vials	ALS
Enoxaparin (Lovenox) 40 mg prefilled syringes	ALS Box	2 vials	ALS
Epinephrine INJ Auto-Inj 0.15mg (Epi-Pen Pediatric)	ALS Box	2 boxes	ALS
Epinephrine INJ Auto-Inj 0.3mg (Epi-Pen)	ALS Box	2 boxes	ALS
Epinephrine, 1:1000, Inj. 1mg / mL, 30mL Vial	ALS Box	2 vials	ALS
Epinephrine, 1:10000, 0.1mg / mL, 1mg / 10mL Syringe	ALS Box	6 syriges	ALS
Glucagon Inj., 1mg w/ 1mL Syringe	ALS Box	2 kits	ALS
Glucose Paste, 24gm/15gm	ALS Box	2 tubes	ALS
I.V. Administration Set	ALS Box	2 kits	ALS
Lactated Ringers Inj., 1000mL	ALS Box	1 bag	ALS
Lidocaine 2%, 20mg / mL, 100mg / 5mL Syringe	ALS Box	2 syringes	ALS
Lidocaine Gel (LMX4 4% CRM 15 GM)	ALS Box	25 tubes	ALS
Lubricating Jelly (Surgilube)	ALS Box	4 pks	ALS
MAGNESIUM-DEXTROSE 1 GM-5% BAG 24X100 ML	ALS Box	10 bags	ALS
Metoprolol tartrate 5mg SDV 10X5 ML	ALS Box	5 vials	ALS
NALOXONE 0.4mg/ml INJ	ALS Box	4 vials	ALS
NARCAN NASAL 4MG, 0.1ml	ALS Box	2 boxes	ALS

Nitro Paste (transdermal)	ALS Box	2 pks	ALS
NITROGLYCERIN 0.4mg SL tab (NITROSTAT)	ALS Box	25 ea	ALS
Ondansetron Inj 4mg/2ml	ALS Box	3 vials	ALS
PROCAINAMIDE HCL 1000MG PFS 5X10ML	ALS Box	1 vial	ALS
Racemic Epinephrine, HCl 2.25%	ALS Box	4 pks	ALS
Saine Lock 3"	ALS Box	2	ALS
Sodium Bicarbonate, 50mEq, 1mEq / mL, 50mL Syringe	ALS Box	2 syringes	ALS
Sodium Chloride 0.9% Flush	ALS Box	5 syringes	ALS
Sodium Chloride Inj., 0.9%, 250mL	ALS Box	5 bags	ALS
Sodium Chloride Inj., 0.9%, 500mL	ALS Box	5 bags	ALS
Labetalo HCL injection 5 mg/mL,	ALS Box	5 vails	ALS
Sterile Water Inj., 10mL Vial	ALS Box	3 vials	ALS
Tranexamic Acid (TXA) 1000MG/10ML	ALS Box	1 vial	ALS
Acetaminophen Tablets 325 mg tab	D-2	400 tabs	Analgesics
ASPIRIN 325 MG tab	D-2	500 tabs	Analgesics
IBUPROFEN 200 MG tab	D-2	700 tabs	Analgesics
IBUPROFEN 400 MG tab	D-2	400 tabs	Analgesics
Ketamine Inj, 50mg/ml 10ml vl 500mg	Locker box	20 vails	Analgesics
KETOROLAC 30mg/ml INJ	D-1	25 vials	Analgesics
Midazolam (Versed), 10mg/2ml	Locker 2	60 vails	Analgesics
Sumatriptan inj 6mg/0.5ml	D-1	5 ea	Analgesics
Lidocaine (Xylocaine) 1% w/ Epinephrine Inj; 20ml	D-3	10 vials	Anesthetics
Lidocaine 1% Injection; 20mL MDV	D-3	10 vials	Anesthetics
Lidocaine Viscous Oral Topical Solution 2%	D-3	5 vials	Anesthetics
Oral Anesthetic, Eugenol/Anbesol	D-1	3 bottles	Anesthetics
Amoxicillin/Clavulanic Acid 875/125mg	D-2	100 tabs	Antibiotics
Azithromycin 250mg tab	D-2	60 tabs	Antibiotics
Ceftriaxone (Rocephin) Injection 1gm	D-1	4 vials	Antibiotics

Cephalexin 500mg	D-2	100 tabs	Antibiotics
Cortisporin-TC OTIC (Neomycin, Polymyxin Hydrocortisone Otic)	D-1	5 bottles	Antibiotics
Doxycycline Hyclate 100mg CAP/TAB	D-2	50 cap	Antibiotics
Sulfamethoxazole & Trimethoprim 800mg/160mg	D-2	100 tabs	Antibiotics
Meclizine 25mg tablet	D-2	50 tabs	Anti-emetic_Anti-vertigo
Ondansetron Inj 4mg/2ml	D-1	10 vials	Anti-emetic_Anti-vertigo
Ondansetron ODT 4mg Tabs	D-2	50 tabs	Anti-emetic_Anti-vertigo
Fluconazole (Diflucan) Tablets, 100mg	D-2	100 tabs	Antifungal
Miconazole-3 Vaginal Cream 4%	D-3	6 tubes	Antifungal
Diphenhydramine Capsules 25mg	D-2	200 Cap	Anti-histamine_Allergy
Diphenhydramine Inj., 50mg/1ml	D-1	10 vials	Anti-histamine_Allergy
Diphenhydramine Inj., 50mg/1ml	KD3	4 vials	Anti-histamine_Allergy
Epinephrine, 1:10000, 0.1mg / mL, 1mg / 10mL Syringe	KD3	1 Syringe	Anti-histamine_Allergy
FLUTICASONE NS 50mcg/spray	D-3	6 bottles	Anti-histamine_Allergy
hydroxyzine 25mg tablet	D-2	50 tabs	Anti-histamine_Allergy
Loratadine (Claritin), 10mg	D-2	300 tabs	Anti-histamine_Allergy
oxymetazoline 0.05% Nasal decongestant spray	D-3	12 bottle	Anti-histamine_Allergy
Permethrin 1% Lice Shampoo	D-3	4 bottles	Anti-parasitic
Betadine Sol Swabsticks 3ml	D-3	20 bottles	Antiseptics
Amlodipine 5mg tab	D-2	50 tabs	Cardiac
ASPIRIN 81 MG Chewable	KD3	36 tabs	Cardiac
Atropine Sulfate, 1mg / 10mL, Syringe	KD3	1 Syringe	Cardiac
Epinephrine, 1:1000, Inj. 1mg / mL, 30mL Vial	KD3	1 vials	Cardiac
Metoprolol (Lopressor), 100mg tablet	D-2	50 tabs	Cardiac
Nitroglycerine Spray 400mcg per spray	KD3	1 bottle	Cardiac
A&D Ointment	D-4	4 tubes	Derm
Bacitracin Ointment 0.9g/pk	D-4	432 pk	Derm

Bactroban (Mupirocin) 2% ointment	D-4	4 tubes	Derm
Benzoin Tincture	D-1	20	Derm
Clobetasol Propionate Oint 0.05%	D-4	12 tubes	Derm
Diphenhydramine & Zinc Anti-itch Cream	D-4	20 Tubes	Derm
Silver Nitrate Sticks	D-1	1	Derm
Silver Sulfadiazine (Silvadene) Cream 1%	D-1	4 tubes	Derm
Triamcinolone 200mg/5ml or 400mg/10ml	D-1	5 vials	Derm
Dextrose 50% 25gm, 50ml syringe	KD3	1 Syringe	Endocrine
Glucagon Inj., 1mg w/ 1mL Syringe	D-1	2 Syringe	Endocrine
Glucagon Inj., 1mg w/ 1mL Syringe	KD3	1 Syringe	Endocrine
Glucose Paste, 24gm/15gm	D-1	3 tubes	Endocrine
Glucose Paste, 24gm/15gm	KD3	1 tubes	Endocrine
Glucose Tablets Fast Acting 4gm/tab	D-2	30 tabs	Endocrine
Insulin (Humulin), NPH U-100, inj	REF	2 vials	Endocrine
Insulin (Humulin), Regular U-100, inj	REF	2 vials	Endocrine
Carbamide Peroxide (Debrox) Otic Soluti 6.5%	D-1	3 bottles	ENT
Contact Lens Solution, 8ml	D-1	4 bottles	ENT
Fluorescein Sodium Ophth. Strips, 1mg, "FUL-GLO"	D-1	100 strips	ENT
GENTAMICIN 0.3% OPH SOL	D-1	3 bottles	ENT
Ofloxacin opthalmic drops 0.3% 5ml	D-1	8 bottles	ENT
Tetracaine 0.5% Ophth Soln; 4ml	D-1	5 bottles	ENT
BISACODYL Suppository 10 MG tab	D-2	100 Sup	Gastrointestinal
CALCIUM CARBONATE 500MG tab	D-3	500 tabs	Gastrointestinal
Cetirizine (Zyrtec) 10mg	D-2	100 tabs	Gastrointestinal
Famotidine 40mg tablet	D-2	100 tabs	Gastrointestinal
Fexofenadine 60mg	D-2	200 tabs	Gastrointestinal
Lactulose 20 gm Sol	D-4	300 ml	Gastrointestinal
Loperamide 2mg	D-2	100 tabs	Gastrointestinal
Mylanta	D-3	4 bottles	Gastrointestinal

Oral Rehydration Salts	D-3	50 pakage	Gastrointestinal
PEG 3350 (MIRALX/HEALTHYLAX)	D-3	42	Gastrointestinal
Pepcid Complete 10mg tablet	D-3	100 tabs	Gastrointestinal
Preparation H	D-4	4 Tubes	Gastrointestinal
Senna Laxative 8.6 mg tab	D-3	100 tabs	Gastrointestinal
Simethicone 80 mg tab	D-3	100 tabs	Gastrointestinal
Sodium Chloride 0.9% for Irrigation 1000ml	BOX	10 vails	Irrigation_Fluids
Sterile Water for Irrigation 1000ml	BOX	10 bags	Irrigation_Fluids
Sterile Water For Irrigation 500mL	BOX	5 bags	Irrigation_Fluids
Dextrose 5% (D5W), 250ml, for Injection	BOX	12 bags	IV_Fluids
SODIUM CHLORIDE 0.9% BACTERIOSTATIC INJ	D-3	10 vials	IV_Fluids
Sodium Chloride Inj., 0.9%, 1000mL	Box	24 bags	IV_Fluids
Sterile Water, Inj 20mL	D-1	10 vails	IV_Fluids
Bag Zip Clear, 2x3	D-4	200	Misc
FLOWFLEX PLUS CVD19 FLU A/B TEST	D-4	10 kits	Misc
Label, Prescription Bottle, Blank	D-4	1	Misc
NALOXONE 0.4mg/ml INJ	KD3	3 vials	Misc
NARCAN (naloxone) Nasal Spray 4mg	D3	10 Nasal spray	Misc
Pill Counter	D-4	1	Misc
Pregnancy Test	D-3	2 kits	Misc
Strep A Test	D-3	50 vials	Misc
Triamcinolone Acetonide Cream , 0.5%, 15g	D-4	24 tubes	Misc
Urine Dipstick(Microstix/Rapid Response)	D-3	100 cups	Misc
Vial, for pills/tablets	BOX	50	Misc
Albuterol HFA Inh	D-2	12 boxes	Respiratory
Albuterol HFA Inh	KD3	1	Respiratory
Albuterol Inhalation Solution 0.83%, 2.5mg/3mL	D-2	30 vials	Respiratory
Cold & Flu Relief, Multi-symptom (Dayquil)	D-3	504 tabs	Respiratory
Cough Drops	BOX	40 bags	Respiratory
Cough Syrup, Tussin DM, 120mL	D-3	6 bottles	Respiratory
Duoneb (ipratropium/albuterol)	D-3	30 vials	Respiratory

Inhalation Chamber Spacer for MDI	D-3	24 Spacer	Respiratory
Pulimicort FlexHaler 90 mcg	D-3	4 boxes	Respiratory
Symbicort (budesonide/formoterol)	D-3	10 boxes	Respiratory
Throat Lozenges	BOX	504 tabs	Respiratory
Dexamethasone 2 mg tab	D-2	100 tabs	Steroids
Dexamethasone Inj 4mg/ml	D-1	4 vials	Steroids
Methylprednisolone, Solu-Medrol 1gm AOV 8mL	D-1	4 tabs	Steroids
Prednisone 10 MG	D-2	400 tabs	Steroids
Prednisone Tablets 20mg	D-2	800 tabs	Steroids
TDAP - Tetanus,Diphtheria, Pertussis - Adacel	REF	20 vails	Vaccines