Burn Centre Consultation Guidelines

These guidelines are meant to facilitate consultations with, and/or transfer to, a Burn Centre.

These guidelines are not definitive care recommendations and should be applied using clinical judgement.

The final decision to transfer remains at the discretion of the referring and receiving physicians. The decision to transfer should be made within ONE hour.

ALL CONSULTATIONS SHOULD BE COORDINATED THROUGH CRITICALL ONTARIO AT 1-800-668-4357

Immediate Consultation with Consideration for Transfer

Thermal Burn

- Full thickness burns
- Partial thickness burns ≥ 10% TBSA
- Deep partial or full thickness burns involving the face, hands, genitalia, feet, perineum, or over any joints
- Patients with high-risk considerations below

Inhalation Injury

- Inhalation injury and partial and/or full thickness burns ≥5% TBSA

Electrical Injury

- All high voltage (≥ 1000 V) electrical injuries
- Lightning injury

Chemical Injury

- All chemical injuries

Paediatric (≤14 years age or <30 kg weight)

- All pediatric burns may benefit from burn center referral

High Risk Considerations

- ≥ 50 years of age
- Anticoagulation
- Immunosuppression
- Pregnancy
- Diabetes
- Patients with burns requiring special social, emotional, or rehabilitation care
- Patients requiring more care than can be provided at the referring centre based on the assessment of the ED Physician
- Other significant medical problems

Burn with Traumatic Injury

- A major burn injury with traumatic mechanism should be transferred to the closest Burn Centre (also a regional Lead Trauma Hospital)

Consultation Recommended

Thermal Burn*

- All potentially deep burns of any size
- Poorly controlled pain

Inhalation Injury*

- Inhalation injury without burn: consult critical care

Electrical Injury*

- Low voltage (<1000 V) electrical injuries should receive consultation and consideration for follow up in a burn centre to screen for delayed symptom onset and vision problems

Outpatient Referral Recommended*

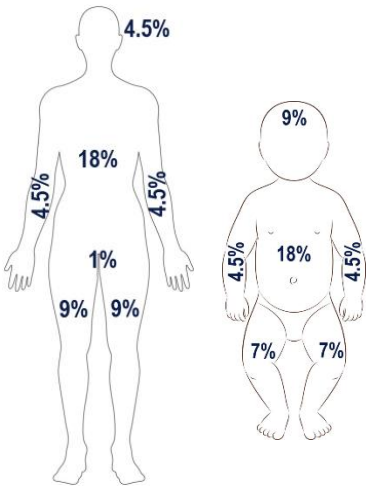
Thermal Burn*

- Partial thickness non-functional burns <10% TBSA

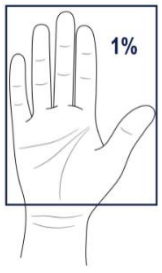
***Please refer to the Burn Management Checklists →** Scan/Click

Total Body Surface Area (TBSA)

Rule of Nines



Palmar Method



Patient's entire palmar surface is approximately 1%

Developed by Critical Care Services Ontario in consultation with Ontario Burns Committee.
Adapted from American Burn Association Referral Guidelines.

CCSO Critical Care Services Ontario

Checklist: Outpatient Burn Management

For more information, please refer to the Burn Centre Consultation Guidelines. This checklist has been developed to aid in clinical decision making at Referring Hospitals caring for patients with burn injuries. This is not a replacement of the burn consultation and should only be used at the care team's discretion. Burn Centre should be consulted as deemed necessary.

For Burn Consultation, please call CritiCall Ontario at 1-800-668-4357

Burn Consultation Guidelines
Scan/Click

This Checklist is ONLY meant for patients who will be discharged home after consultation at your hospital.

- ☐ Review referral criteria; contact burn centre for advice if necessary
- ☐ Update tetanus if required
- ☐ Remove jewellery
- ☐ Administer analgesia to facilitate cleansing and dressing of wound
  - Acetaminophen, ibuprofen, +/- Gabapentin or Pregabalin (Neuropathic pain management) +/- hydromorphone
- ☐ Debride any large blisters and/or exfoliating (loose) skin
- ☐ Apply greasy gauze to wound, followed by saline soaked gauze and dry gauze
  - Wrap fingers and toes individually (gloves to be used instead of mittens)
  - Greasy gauze: Jelonet, Adaptic
  - For burns on extremities: secure with tensor bandage wrapped taut but not tight
- ☐ Complete Home and Community Care Support Services (HCCSS) referral for wound care
  - Jelonet, normal saline wet to dry, change daily
- ☐ Counsel patient to wash burn wound daily at time of dressing change with soap (plain, mild, and unscented) and clean, running water
- ☐ Counsel patient to elevate burned extremities on pillows above heart level
- ☐ No antibiotics necessary unless:
  - There are signs of infection (very rare unless delayed presentation)
  - Patient immersed the burnt area in lake water (need to cover for aeromonas species)
  - Foot burn in patients with Diabetes Mellitus (DM), as these are high risk for infection
- ☐ Counsel patient on analgesia: standing acetaminophen and ibuprofen (4x daily) unless contraindicated, consider neuropathic pain agents (gabapentin or pregabalin) and may require opioid prescription. Suggest that patient take pain medication 30 minutes prior to dressing changes
- ☐ No activity restrictions are necessary; encourage patient to move affected area through full range of motion

Useful Resource
Scan/Click

Outpatient Consultation Information

Hamilton Health Sciences: BurnClinicReferrals@hhsc.ca
Sunnybrook Health: BurnClinic@sunnybrook.ca **or** Fax 416-480-6844
The Hospital for Sick Children: Sandy.Davies@sickkids.ca

Immediate Consultation with Consideration for Transfer to a Burn Centre

Thermal Burns
- Full thickness burns
- Partial thickness burns ≥ 10% TBSA
- Deep partial or full thickness burns involving the face, hands, genitalia, feet, perineum, or over any joints
- Patients with burn and comorbidities

Inhalation Injury
- Inhalation injury and partial and/or full thickness burns ≥5% TBSA

Paediatrics (≤14 years or <30 kg)
- All paediatric burns may benefit from burn centre referral due to pain, dressing, rehabilitation, patient/caregiver needs, or non-accidental trauma

Chemical Injuries
- All chemical injuries

Electrical Injuries
- All high voltage (≥1000V) injuries
- Lightning injury

High-Risk Considerations
- ≥ 50 years of age
- Anticoagulation
- Immunosuppression
- Pregnancy
- Diabetes
- Patients with burns requiring special social, emotional, or rehabilitation care
- Patients requiring more care based on the assessment of the ED Physician
- Significant medical problems

Consultation Recommendation

Thermal Burns
- All potentially deep burns of any size
- Poorly controlled pain
- Advice for non-urgent or non-emergent burns at hospital with qualified personnel and equipment for burn care and scar management
- Outpatient referral for Partial thickness non-functional burns < 10%

Inhalation Injury
- Inhalation injury with burn
- Inhalation injury without burn, consult critical care

Electrical Injuries
- Low voltage (<1000 V) electrical injuries should receive consultation and consideration for follow up in a burn centre to screen for delayed symptom onset and vision problems

Developed by Dr. Stephanie Mason, Interim Associate Medical Director, Sunnybrook Health Sciences Centre in consultation with Ontario Burn Committee, Subject Matter Experts, and Critical Care Services Ontario using the current recommendations from American Burn Association.

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Checklist: Isolated Inhalation Injury Management

For more information, please refer to the Burn Centre Consultation Guidelines. This checklist has been developed to aid in clinical decision making at Referring Hospitals caring for patients with burn injuries. This is not a replacement of the burn consultation and should only be used at the care team's discretion. Burn Centre should be consulted as deemed necessary.

For Burn Consultation, please call CritiCall Ontario at 1-800-668-4357

Burn Consultation Guidelines

Scan/Click

▶ Inhalation Injury without Burn

- ☐ Patient can be managed safely outside of the Burn Centre

▶ Patients without Respiratory Distress

- ☐ Patient must be monitored for 4-6 hours prior to discharge home

▶ Patients Requiring Intubation and Mechanical Ventilation

- ☐ Use 100% Oxygen (O2) until Carboxyhemoglobin (COHb) level reaches the normal range.
- ☐ Cyanokit can be considered for patients who are hemodynamically unstable or have low Glasgow Coma Scale (GCS). Consult Burn Centre prior to administration of Cyanokit.
- ☐ Perform diagnostic bronchoscopy.
- ☐ Administer Heparin 5000u/0.5mL nebulized every 4 hour (q4h) x 7 days or until extubation, whichever comes first.
- ☐ Administer Acetylcysteine 600mg/3mL nebulized every 4 hour (q4h) x 7 days or until extubation, whichever comes first.
- ☐ Administer Salbutamol 100mcg/inhalation, 8 puffs via Endotracheal Tube (ETT), every 4 hour (q4H) as needed (PRN).

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Checklist: Electrical Injury Management

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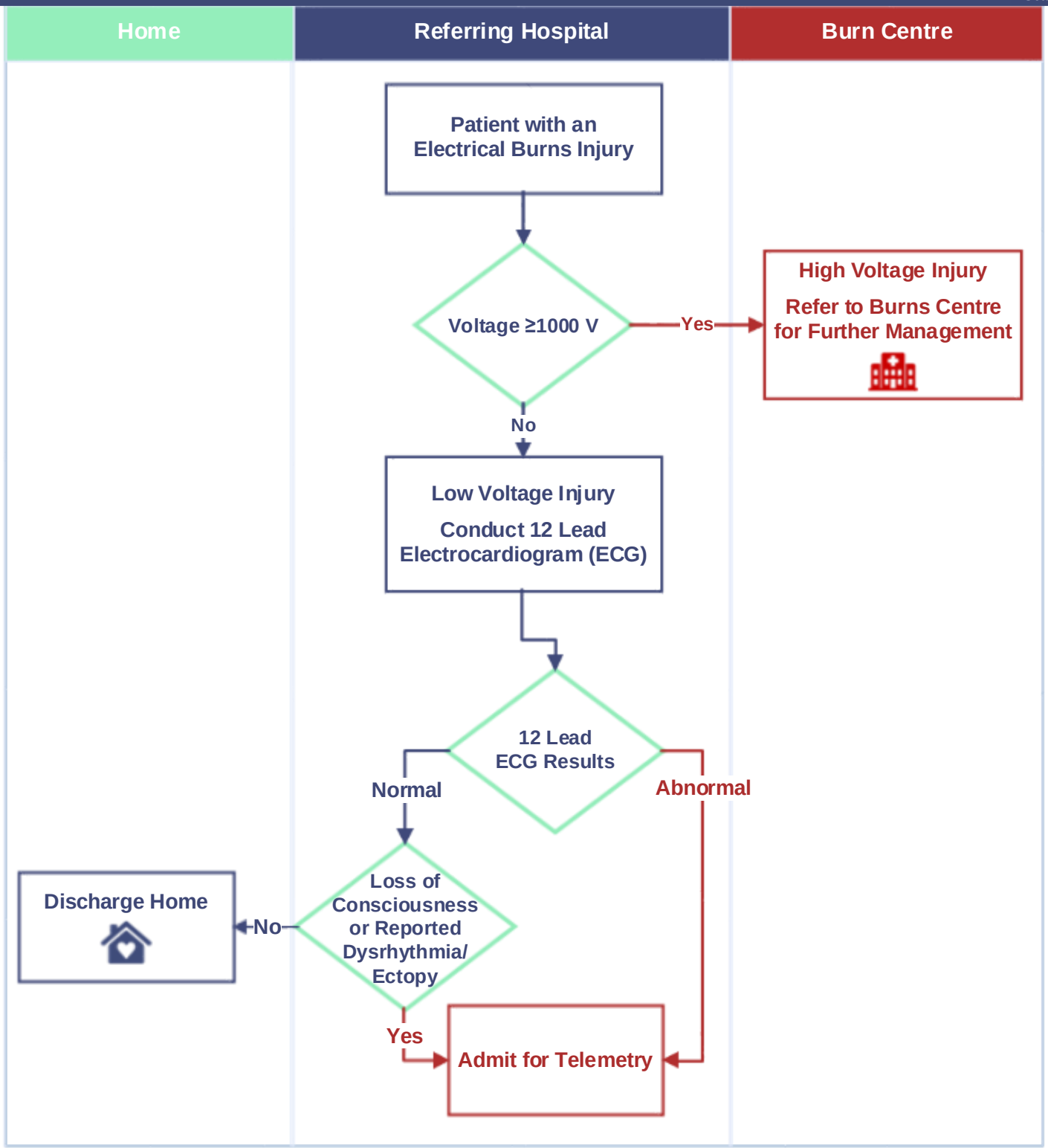
Burn Consultation Guidelines
Scan/Click



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Checklist: Burn Resuscitation Management

For more information, please refer to the Burn Centre Consultation Guidelines. This checklist has been developed to aid in clinical decision making at Referring Hospitals caring for patients with burn injuries. This is not a replacement of the burn consultation and should only be used at the care team's discretion. Burn Centre should be consulted as deemed necessary.

For Burn Consultation, please call CritiCall Ontario at 1-800-668-4357

Burn Consultation Guidelines

Scan/Click

BURN RESUSCITATION SHOULD ONLY BE PERFORMED IN CONSULTATION WITH A BURN CENTRE

Patients requiring burn resuscitation should be transferred to a burn centre. The information below is intended as a guide for management of fluid resuscitation prior to, and during, transfer to a burn centre.

Goals of Resuscitation

- ☐ Urine output of 0.5 cc/kg/hr or 30-50 cc/hr
- ☐ Normalizing lactate
- ☐ Normalizing hemoglobin and hematocrit (hemoconcentration is common and normalizes with resuscitation)
- ☐ Normotensive, HR 110-120

☐ Fluid resuscitation should be initiated for all patients with ≥20% Total Body Surface Area (TBSA) burn injury, or considered for burn >15% for those with associated trauma, delayed presentation, alcohol/ drug intoxication with signs of dehydration.

INITIAL FLUID RATE – DOES NOT REQUIRE TBSA ESTIMATE

Adults (>16 years)	Children (6 - 16 years)	Children (2 - 5 years)
500 cc/hr	250 cc/hr	125 cc/hr

For infants (<2 years), please consult burn centre via CritiCall Ontario at 1-800-668-4357

☐ Two large bore peripheral IVs should be placed – to be placed through burn if needed.

☐ Consider Intraosseous (IO) if cannot obtain peripheral intravenous (PIV).

☐ **Ringer's lactate is recommended resuscitation fluid**.

☐ Boluses should be avoided unless patient is hypotensive.

☐ Once patient has been assessed and stabilized, the TBSA should be estimated and the patient's weight in kilograms determined.

ADJUSTED RATE (ADULTS)
(2x TBSA * weight) / 2
= first 8 hours volume / 8
= starting hourly rate

ADJUSTED RATE (PAEDIATRICS)
(3x TBSA * weight) / 2
= first 8 hours volume / 8
= starting hourly rate

→

Every hour
- assess urine output
- assess hemodynamics
- consider new bloodwork

↔

Titrate fluid infusion *up* or *down* by 10-20%

☐ A foley catheter should be placed to monitor urine output, and baseline bloodwork including hemoglobin (Hgb), creatinine and lactate should be sent.

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