Clinical Practice Guidelines: Trauma/Electric shock

Disclaimer and copyright
©2016 Queensland Government

All rights reserved. Without limiting the reservation of copyright, no person shall reproduce, store in a retrieval system or transmit in any form, or by any means, part or the whole of the Queensland Ambulance Service (‘QAS’) Clinical practice manual (‘CPM’) without the prior written permission of the Commissioner.

The QAS accepts no responsibility for any modification, redistribution or use of the CPM or any part thereof. The CPM is expressly intended for use by QAS paramedics when performing duties and delivering ambulance services for, and on behalf of, the QAS.

Under no circumstances will the QAS, its employees or agents, be liable for any loss, injury, claim, liability or damages of any kind resulting from the unauthorised use of, or reliance upon the CPM or its contents.

While effort has been made to contact all copyright owners this has not always been possible. The QAS would welcome notification from any copyright holder who has been omitted or incorrectly acknowledged.

All feedback and suggestions are welcome, please forward to:
Clinical.Guidelines@ambulance.qld.gov.au

<table>
<thead>
<tr>
<th>Date</th>
<th>February, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>To ensure a consistent approach to the management of a patient with Electric shock.</td>
</tr>
<tr>
<td>Scope</td>
<td>Applies to all QAS clinical staff.</td>
</tr>
<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
</tr>
<tr>
<td>Review date</td>
<td>February, 2017</td>
</tr>
</tbody>
</table>

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/4.0/.
Electric shock

All electric shocks (including lightning strike) should be managed as per this CPG.

The extent of injury following electric shock depends on (i) the amount of current that passes through the body, (ii) the duration of the current, and (iii) the tissues traversed by the current.[1]

Visible injury is not an indicator of severity. There may be serious internal injury to nerves and vessels as they offer little resistance to electrical energy.[2]

Clinical features

Electric shock can result in the following:[3]
- Neurological injury:
  - ALOC
  - seizures
  - amnesia
  - dysphasia
  - motor dysfunction
  - spinal cord damage
- Respiratory arrest or dysfunction
- Cardiac arrest or dysfunction:
  - dysrhythmia
  - palpitations
  - myocardial damage
- Pain (including chest pain or tightness)
- Vascular damage
- Renal failure

Clinical features (cont.)

- Trauma:
  - burns
  - fractures
  - entry and exit wounds
  - secondary injuries due to falls
  - compartment syndrome

Risk assessment

- Safety is paramount.[1]
- The patient must be not be approached until the scene is declared safe by appropriate agency/organisation or personnel.

Additional information

- Lightning strikes may cause respiratory and cardiac arrest (usually asystole) with fixed dilated pupils. Despite this, resuscitation should be initiated, as it is often successful.
- Lightning strike has a mortality rate of 40%.[4]
Consider:
- C-spine injuries
- IV access
- Analgesia
- 12-Lead ECG
- IV fluid
- Dysrhythmia treatment
- Burn management

Note: Officers are only to perform procedures for which they have received specific training and authorisation by the QAS.

Transport to hospital
Pre-notify as appropriate