Position statement on the application of Tourniquets

July 2017

Tourniquet use has been re-introduced into civilian practice, influenced by recent military experiences. It could be argued that in a civilian setting, catastrophic external haemorrhage from a limb is rare and most bleeds can be controlled with direct pressure successfully. However, there remains a place for the use of a tourniquet and these include events such as stabbings, firearms incidents, industrial accidents and incidents in remote areas.

Tourniquets should only be used as a last resort after other stepped measures have failed except in complete traumatic amputation where a tourniquet should always be applied.

It must be reiterated that tourniquets must be used correctly or not at all. An inappropriately used tourniquet can be harmful and an incorrectly applied tourniquet will cause increased bleeding from distal soft tissue injuries and damaged arteries if there is occlusion of the lower pressure venous outflow, but inadequate occlusion of arterial blood flow i.e. the tourniquet is not tight enough.

Arterial tourniquets exist in either improvised or custom-built forms, and use a number of different techniques in order to apply a band of pressure over a body-part with the aim of arresting haemorrhage. The design of any tourniquet improvised or otherwise requires a broad band to provide adequate compression.

Application of the tourniquet

In the past, the advice has been to apply the tourniquet to a single bone only as it was thought to be more effective. This doctrine is believed to have arisen from porcine animal haemorrhage models. The model neither reflects human anatomy, nor the way a limb mangled by ballistic trauma will respond to circumferential compression. Significant military experience has shown that applying a tourniquet as distally as possible above the wound is effective.

It is recommended that the tourniquet is:

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<th>Steps</th>
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<td>1. Applied as rapidly as possible</td>
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<td>2. Applied directly to the skin</td>
<td>To prevent slippage</td>
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<tr>
<td>3. Placed as distally as possible above the wound</td>
<td>Including over the lower leg and the forearm, to preserve the maximum amount of salvageable tissue</td>
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4. Applied tightly enough to arrest haemorrhage

- Effectiveness of the tourniquet will be determined by the cessation of external haemorrhage and not by the presence or absence of a distal pulse
- If it is ineffective the tourniquet should be tightened or a repositioned
- The application of a second tourniquet (applied above the first) may be required
- Slight oozing at the wound site may occur due to some blood flow from the exposed medullary bone end


