FACULTY OF PRE-HOSPITAL CARE
THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH

Interim position statement on the Site of application of Tourniquets

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Some years ago the FPHC issued a position statement on tourniquets which said '*… in the presence of catastrophic, life threatening external haemorrhage from a limb, not applying a tourniquet could be considered negligent*'. This is unchanged and recent experience from military conflict zones has reinforced just how important the early application of tourniquets is in saving lives.

Over the last year or so attention has turned to where the tourniquet should be applied – The options being

- on a single bone i.e. above the knee or elbow joints
- about two inches above the wound even if that means it is applied below the knee or elbow i.e. over two bones.

Historically application over two bones was felt not to work as the artery in these cases runs between the bones and rapid effective compression was thought unlikely. Recent military experience has questioned this though there have been no scientifically based trials to gauge the difference.

In general the reason for applying a tourniquet as close as possible to the actual wound is related to tissue/joint preservation for the surgeon to work with, thus improving reconstruction options and speed of rehabilitation. In skilled, experienced hands the use of tourniquets in this way would seem to be appropriate.

The FPHC has, however, been concerned that this may be confusing for the average PHC practitioner in the UK civilian environment where blast injury is uncommon and regular experience in real-time tourniquet application is extremely rare.

This being the case we would advise the following. It is advised that in normal civilian UK PHC practice any necessary tourniquet should be applied to a single bone above the wound and as close to the joint as is practical to rapidly control the life threatening bleed . Once life threatening bleeding has been controlled a full primary survey should then be undertaken.

On reviewing the casualty under 'Circulation' consideration should be given to the following situations :

Wounds above the knee/elbow

In blast injury (ragged wounds), large circumference limbs and situations were treatment is being applied early (the patient's blood pressure is high) it maybe necessary to apply 2 tourniquets. The first is mid point (if possible) over a single bone and if bleeding is not controlled, then the second tourniquet is sited just below this. The distal one will effectively be in a lower pressure zone. Both tourniquets will require

tightening to effect. It is important not to go too close to the knee joint as the femoral condyles offer some protection to the artery from the tourniquet as it passes between them.

Wounds below the knee/elbow

If the wound is to a distal part of the limb and blood loss is well controlled then consideration should be given to the application of a second tourniquet about two inches proximal to the edge of this wound. The first tourniquet should be left in place as well UNLESS transit time to hospital is likely to be > 1 hour in which case expert medical advice should be sort.

The aim of this advice is to make sure that the ‘ rare tourniquet user’ has a simple set of guidelines to follow that are aimed at life saving treatment.

Regular, experienced tourniquet users – aka military practitioners - should do what clinical guidelines for operations currently dictate.

The FPHC is attempting to provide an evidence based answer to this question this year – albeit in a non-injured model – and will alter its advice accordingly if data suggests differently.