Kittitas County Prehospital EMS Protocols

SUBJECT: BLEEDING & BANDAGING

BLEEDING

Managing bleeding so that it stops completely as quickly as possible is a primary goal of EMS responders.

Specific information needed:

A. Mechanism of injury and forces involved
B. Past medical problems and medications

Specific objective findings:

A. Vital signs, including neurologic assessment
B. Level of sensory and motor deficit: presence of any evidence of neurologic function below level of injury (attempt GCS)
C. Physical exam, with careful attention to organs or limbs which may not have sensation

General treatment:

A. Control hemorrhage as indicated below.
B. Assess airway and breathing: treat life-threatening difficulties, use controlled ventilations for high cervical cord injury associated with abdominal breathing, and maintain inline cervical immobilization while managing ABC's
C. Administer O2
D. Immobilize cervical, thoracic, and lumbosacral spine if indicated per protocol.
E. Obtain initial vital signs and neurologic assessment
F. Monitor airway, vital signs and neurologic status frequently at scene and during transport
G. Keep patient warm

Advanced Skills -

H. Establish venous access. If signs of hypovolemia, fluid bolus 10-20cc/kg to maintain SBP>100
I. Consider narcotic analgesia per protocol
J. In the setting of hemorrhagic shock from trauma less than 3 hours old, with anticipated need for massive blood transfusion due to marked internal or external blood loss, the criteria for Tranexamic acid administration are:

1. Adult traumas patients equal to or greater than 16 years of age.
2. Traumatic injury less than 3 hours old.
3. Hemorrhagic shock due to trauma: systolic BP 90mmHg or less: and/or sustained heart rate more than 110 bpm
4. Patient has received at least 500mL of crystalloids and other hemorrhagic control measures have been initiated, i.e., direct pressure, etc.

Tranexamic acid (TXA) 1-gram IVP administered over 10 min. in 100mL or 250mL Isotonic Crystalloid (may piggy-back). Notify receiving facility that TXA was initiated in the field.

Control external bleeding with:

- **Direct pressure** – Direct pressure stops the majority of bleeding. Using BSI, apply firm pressure by fingertips or full hand directly to the point or area of blood loss for ***no less than 5 minutes.*** Using a dry dressing is helpful. Consider pressure dressing if available.
- **Coagulant impregnated bandage or topical coagulant** – see below. Not required on aid unit or ambulance. Optional per agency preference.
- **Tourniquet** – see below.
- ***Wound packing – see below.*** Commercial wound packing products not required on aid unit or ambulance at this time. Optional per agency preference. Commercial wound packing dressings are recommended to include the radiopaque pattern marker, but regular roller gauze may be used. Wound packing must be effectively communicated and documented to receiving facility.
- Dress and Bandage wound when bleeding has stopped.

Coagulant Impregnated Bandage or Topical Coagulant

Indication -

- Expose wound. Identify active bleeding tissues.
- Apply coagulant impregnated bandage or topical coagulant product.
- Apply firm direct pressure for ***at least 5*** minutes or per manufacturer's instructions.
- Ensure bleeding has stopped completely.
- Dress and Bandage wound. Allow for distal circulation assessment.
- Notify staff at hospital or responders during transfer of care what product has been used and specific brand name.

Tourniquet

Indication - Tourniquets are used for uncontrolled arterial bleeding from an extremity (arm or leg) when direct pressure is not sufficient, or significant bleeding has occurred from an extremity wound (i.e. bleeding equivalent to 2-12 oz cans of soda = tourniquet)

- A commercially produced tourniquet is preferred, ***at least 1.5" minimum*.**
- Expose the limb completely if possible. Tourniquets can be applied over clothing.
- When possible, visualize the wound and apply the tourniquet above and near the wound. If removing clothing is not possible or too slow, apply the tourniquet high and tight (i.e. police uniform, cold exposure/ski pants). Do not apply above or across joints if possible.
- Tighten tourniquet until bleeding stops.
- Write the time of application on the patient's skin (ex: TQ 1645)
- ***Consider second tourniquet above the first if bleeding is still not controlled.***
- Dress, bandage and immobilize affected extremity. Consider coagulant bandage or topical coagulant to aid bleeding control. (Regardless of the type of tourniquet used, once applied, do not remove it if the patient is in shock, the limb was amputated, there are obvious arterial

disruptions, the tourniquet has been on for an extended period, or you will be transferring care and can no longer observe the patient.)

- Keep tourniquet exposed.
- Expect increased pain from the tourniquet.
- Initiate rapid transport, notifying ER of tourniquet placement.
- Consider advanced care for IV fluids.
- Consider use of compression dressing with or without coagulant as an alternative or in addition to tourniquet.

Wound packing

Indication/background – Wound packing is relevant for wounds where the bleeding source may not be directly compressible with direct hands-on pressure but can be transmitted directly by packing gauze in the wound area. Wound packing generally must pack against a firm backdrop. Hence, wound packing is not effective for bleeding coming from a cavity (i.e. abdomen or thorax) as the packing will not compress the bleeding source but instead just fill up the cavity.

- Packing should be placed firmly and as close to the bleeding source as possible in an effort to compress the bleed between the gauze and anatomic firm structures.
- Work to maintain constant pressure throughout the process while you layer in additional gauze filling the cavity.
- Overfill the cavity with gauze so that you can overlay a pressure dressing that will assure ongoing compression.

Epistaxis (nosebleed)

BLS Care

- Have the patient sit down and lean forward
- Pinch and hold nostrils closed for 5-10 minutes
- Discourage patient from swallowing blood
- If the patient loses consciousness, place in recovery position

ALS Care – Administration of Oxymetazoline Hydrochloride (AFRIN®) may help slow intranasal bleeding.

- Adult and Children (6 years and older) - 2 or 3 sprays in each bleeding nostril.
- DO NOT exceed 2 doses in any 24-hour period.

DRESSING AND BANDAGING REMINDERS:

1. Maintain body substance isolation (BSI) by wearing appropriate personal protective equipment.
2. Large, easily removed debris, such as glass, splinters, or gravel can be removed before bandaging. Secure large, deeply imbedded fragments or projectiles in place with the bandage.
3. If possible, leave patient's fingers or toes exposed.
4. Check circulation by feeling for a distal pulse or checking capillary refill.

5. Elevate or immobilize the injured extremity, if possible, help control bleeding and pain.
6. Cover eviscerated abdominal contents with a large multi-trauma dressing soaked with saline. Then apply an occlusive dressing, if available, to retain heat and moisture. Secure as needed.
7. ***Document well to include: time, product type and name, and if wound is packed.***