All bleeding stops Eventually!

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Objectives

- Recognise a “catastrophic external bleed”
- Understand the consequences of “catastrophic external bleed”
- Review the techniques for management including:
    - Compression bandages
    - Haemostatic dressings
    - Tourniquets

What is a Catastrophic external bleed?

Not all external bleeding is catastrophic regardless of the mechanism; catastrophic haemorrhage can be defined as:

Severe – obvious heavy bleeding usually free flowing but not necessarily pumping.

Sustained – the bleeding continues unless effectively managed.

Uncontrolled –the wound continues to bleed with initial treatment such as dressing application and elevation.


BBC
WORLD

Systematic Approach

- M = Massive (catastrophic) external bleed
- A = Airway
- R = Respirations (Breathing)
- C = Circulation
- H = Head (Disability)

Catastrophic external bleed”
Why deal with this first?

- The body will only tolerate about 50% blood loss (about 3L in an adult)
- Arterial haemorrhage can exceed 1L per min
- It is unusual for a mechanism of injury to produce massive haemorrhage *and* total airway obstruction
- It is more likely the blood loss has lead to respiratory arrest.

Why is it important to deal with "catastrophic external bleed" as a priority?

- Blood loss causes shock, collapse, cardiac insufficiency and eventually death
- Even small wounds can result in major blood loss

Major haemorrage

- Spend no more than 60 seconds controlling it
- Apply direct pressure over artery or apply tourniquet (DDIT)
- Delegate if possible

Major Haemorrhage in more detail

- 5 Sources of blood loss (on the floor and 4 more)
- External
- Chest
- Abdomen
- Pelvis
- Long Bones

Time critical

- Golden Hour
- Platinum 10

Compression bandages

- Demonstrate the compression bandage

Haemostatic dressings

INDICATIONS

- Hemostatic dressing is intended for emergency use to temporarily control bleeding of severe external wounds

Prepare

Haemostatic dressings

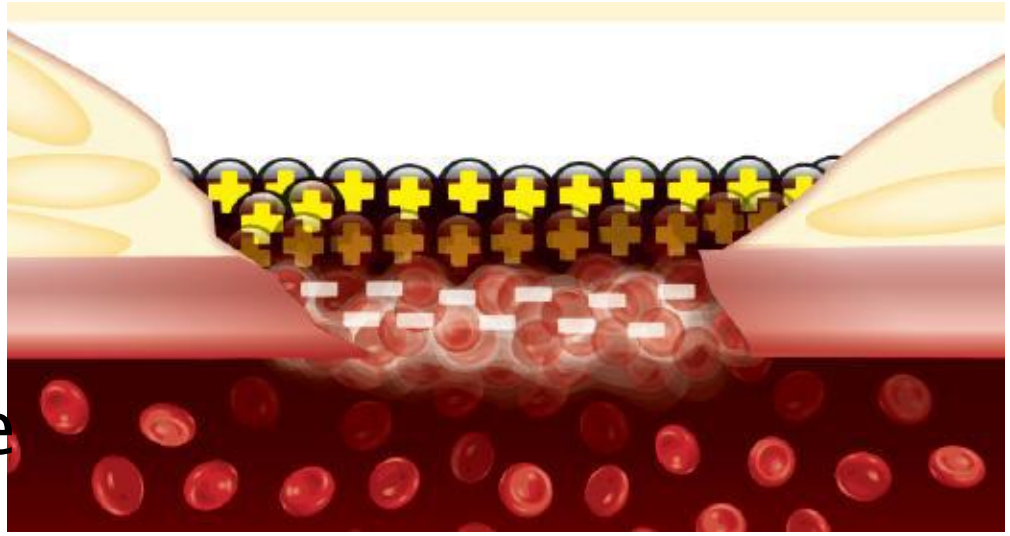
CELOX Demonstration

Directions

- Identify bleeding site.
- Pack high density gauze direct to source of bleeding.
- Maintain pressure on bleed point.
- Apply firm pressure for one minute or until bleeding stops.
- Wrap and tie with a bandage to maintain pressure.
- **Direct contact + pressure = success!**

How it works

- Chitosan absorbs fluid and forms an adhesive gel.
- Adhesive gel plug seals the wound, stops blood flow.
- Does not rely on the body's intrinsic clotting capability.

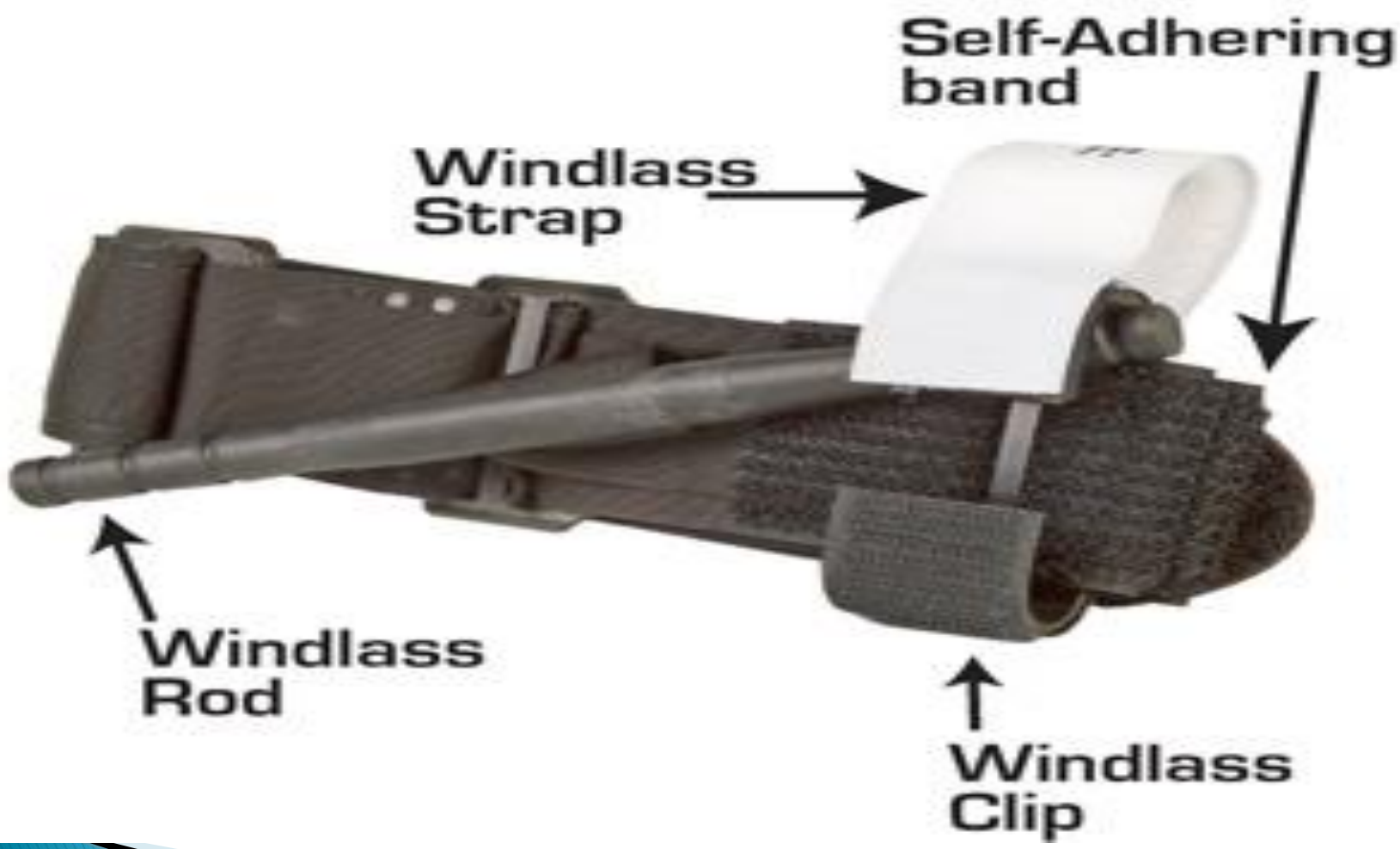


Other facts

- In severe blood loss, blood does not clot normally. Typically as hypothermia sets in.
- Haemostatic dressings are effective on cooled blood.
- It is also effective on blood containing blood thinners.
- Chitosan is hypoallergenic and has natural antibacterial properties.
- Chitosan is made by treating shrimp and other crustacean shells with the alkali sodium hydroxide.
- There is no evidence of reactions with persons suffering with shellfish allergies.

Tourniquets

C.A.T


Self-Adhering band
Windlass Strap
Windlass Rod
Windlass Clip

Tourniquets

- Place the tourniquet just above the elbow or knee, as applicable. The upper arm or leg has only one bone, rather than two. The artery is compressed directly against that single bone more easily, without the excessive tension that can cause extensive vascular damage.
- The C.A.T. will only tighten about 4 cm, slightly less than two inches, so be sure to secure it firmly with the buckle prior to applying tension.

- One and two handed application- Refer to manufacture guidelines

Last resort??

- In cases of severe arterial bleeding, the time wasted with less effective methods can be fatal. In cases of complete or near-complete amputations, a tourniquet should be applied first, before further blood loss causes shock or death. A patient can lose a fatal amount of blood in as little as a minute.

Summary

- Major external bleeding can cause death !
- It is easily recognised and treated at the scene
- Pack the wound and apply firm direct pressure – this will stop nearly all major external bleeding
- Don't be afraid to remove the dressings and apply new, firmer ones if blood has soaked through

ANY QUESTIONS ?