TCCC Quick-Look: Tourniquet Reassessment

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8 June 2026

Bottom Line Up Front

- **Tourniquets are the most reliable way to stop life-threatening arm or leg bleeding. They saved thousands of American and coalition lives in Iraq and Afghanistan when used for that purpose.**

- **Tourniquets are <u>very safe</u> when applied for periods of 2 hours or less.**

Bottom Line Up Front

- **Where evacuations are prolonged, however, (as in the Russo-Ukrainian conflict), tourniquets that stay on too long may cause damage to the arm or leg, unnecessary amputations, kidney damage, and even death.**

Rethinking TQT Conversion:

COL (ret) John Holcomb

- Ukrainian casualty

- Only wound was a minor fragment injury to the forearm (under the gauze dressing)

- Delayed evacuation - 11.5 hours tourniquet time).

- The right upper arm was cold, with no radial pulse and no sensation.

- Arm had to be amputated

- This outcome could have been avoided with prompt reassessment of the tourniquet.

Who Should Do Tourniquet Reassessments/Conversions?

1. In the past, TCCC recommended that tourniquet reassessment be done by a Combat Medic or more advanced provider.
2. But medics may be early casualties. Or there may be no medic present. Others may need to perform this task.
3. The Committee on TCCC has recently added tourniquet reassessment to the Combat Lifesaver and All Combatant skill sets.
4. The Ukrainian military also now allows All Combatants to do tourniquet reassessment.

Reassess, Reassess, Reassess

- **Reassess applied tourniquets frequently!**

- **Extremities with tourniquets applied may begin to rebleed over time:**
  - **Muscle relaxation**
  - **Tourniquet loosening**
  - **Casualty movement**
  - **Fluid resuscitation**

Tourniquet Reassessment

- You are caring for a casualty who has a tourniquet on his leg.
- What should you do as soon as tactically feasible but no longer than 2 hours after application?

- REASSESS the tourniquet!

Tourniquet Reassessment

There are 6 things that one might do with the tourniquet when it is reassessed:

- **Leave it alone.**
- **Remove it - if it is not needed.**
- **Reposition the tourniquet (if needed) to a location 2-3 inches above the bleeding site**
- **Tighten it - if there is still bleeding.**
- **Add another tourniquet - if needed.**
- **Convert from a tourniquet to another method of hemorrhage control.**

Tourniquet Reassessment

Option 1: LEAVE IT ALONE if:

- **Bleeding is controlled and the casualty will reach a medical treatment facility within 2 hours of application time.**

  OR

- **The arm or leg is amputated just below the tourniquet.**

  OR

- **The casualty is in shock.**

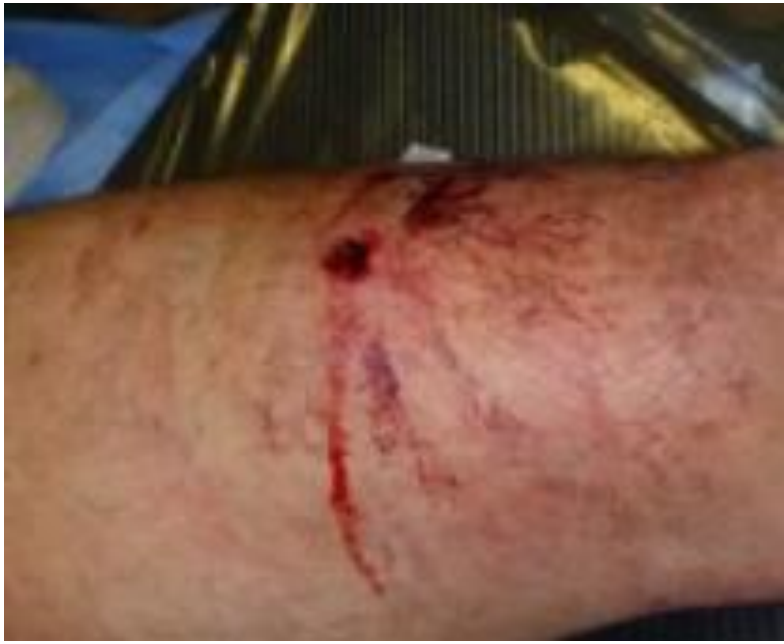
  OR

- **The tourniquet has been on for 6 hours or longer.**

Tourniquet Reassessment

Option 2: REMOVE THE TOURNIQUET if:

- **You expose the wound and find that it is not bleeding significantly.**



Tourniquet Reassessment

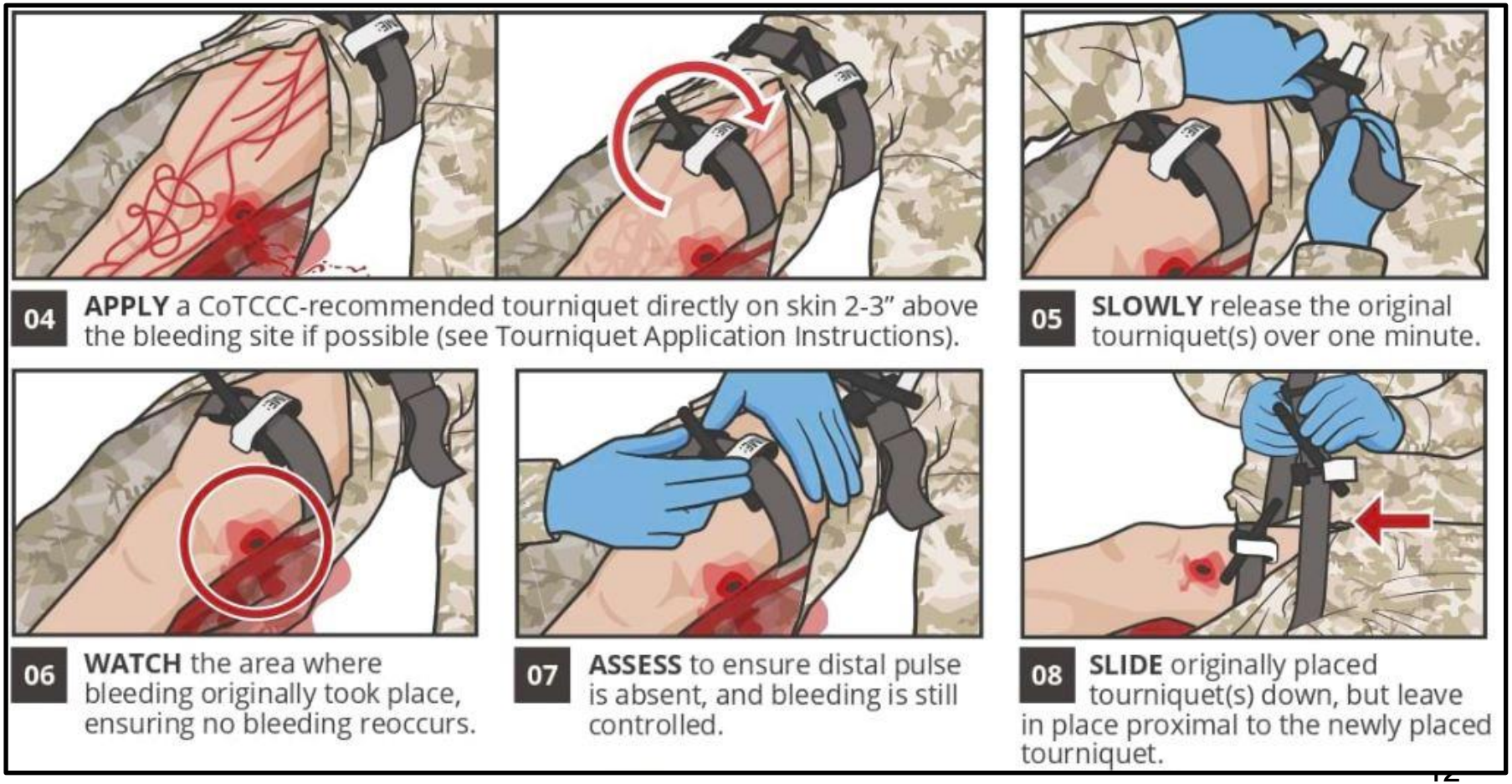
Option 3: REPOSITION THE TOURNIQUET if:

- **The tourniquet is found to be needed but is higher on the arm or leg than it needs to be.**

- **Apply a second tourniquet directly onto the skin 2-3 inches above the bleeding site, then loosen the higher tourniquet over 1 minute as shown in the next slide. This minimizes the tissue at risk of injury due to loss of blood flow caused by the tourniquet.**

Tourniquet Reassessment

Option 3: REPOSITIONING A Tourniquet

- 

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Tourniquet Reassessment

Option 4: TIGHTEN THE TOURNIQUET if:

- **There is still bleeding from the wound.**

OR

- **There is still a distal pulse present in the arm or the leg on which the tourniquet is applied.**

Tourniquet Reassessment

Option 5: ADD A SECOND TOURNIQUET if:

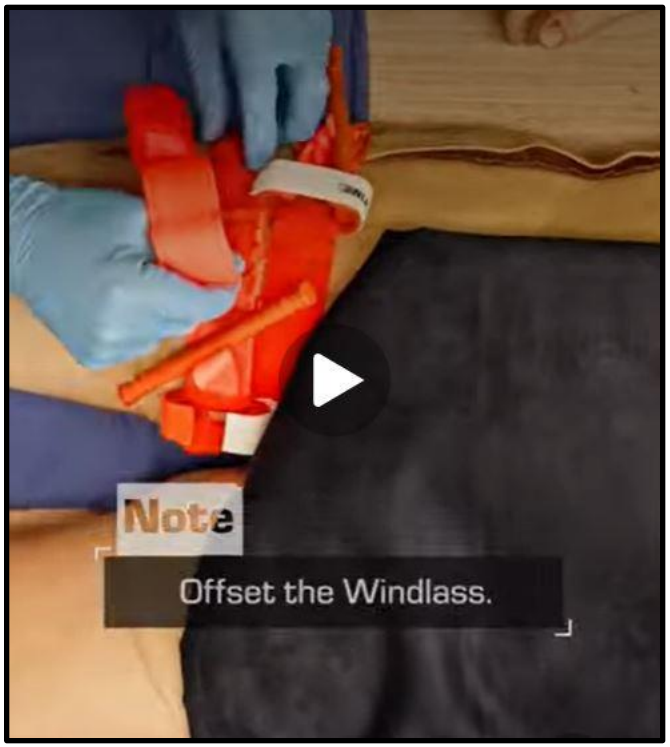
- **There is still bleeding from the wound after maximum tightening.**

OR

- **There is still a distal pulse present in the arm or the leg on which the tourniquet is applied.**

Watch the video at:

https://www.narescue.com/nar-blog/How-do-you-apply-a-second-tourniquet.html



Tourniquet Reassessment

Option 6: CONVERT THE TOURNIQUET if:

- The bleeding resumes when the tourniquet is loosened and is judged to be potentially life-threatening

BUT

- The tourniquet needs to be removed to prevent tissue damage and the bleeding can be controlled with direct pressure, hemostatic gauze, XStat, an iTClamp, or a combination of these items.

Tourniquet Reassessment

Option 6: CONVERTING A TOURNIQUET (1):

01 **EXPOSE** the wound, if not previously exposed.

NOTE: Remove clothing and equipment as required.

02 **REMOVE** the hemostatic dressing or gauze from its sterile package.

NOTE: If hemostatic dressing or gauze is not available, use clean, dry cloth material.

03a **PACK** the dressing tightly into the wound.

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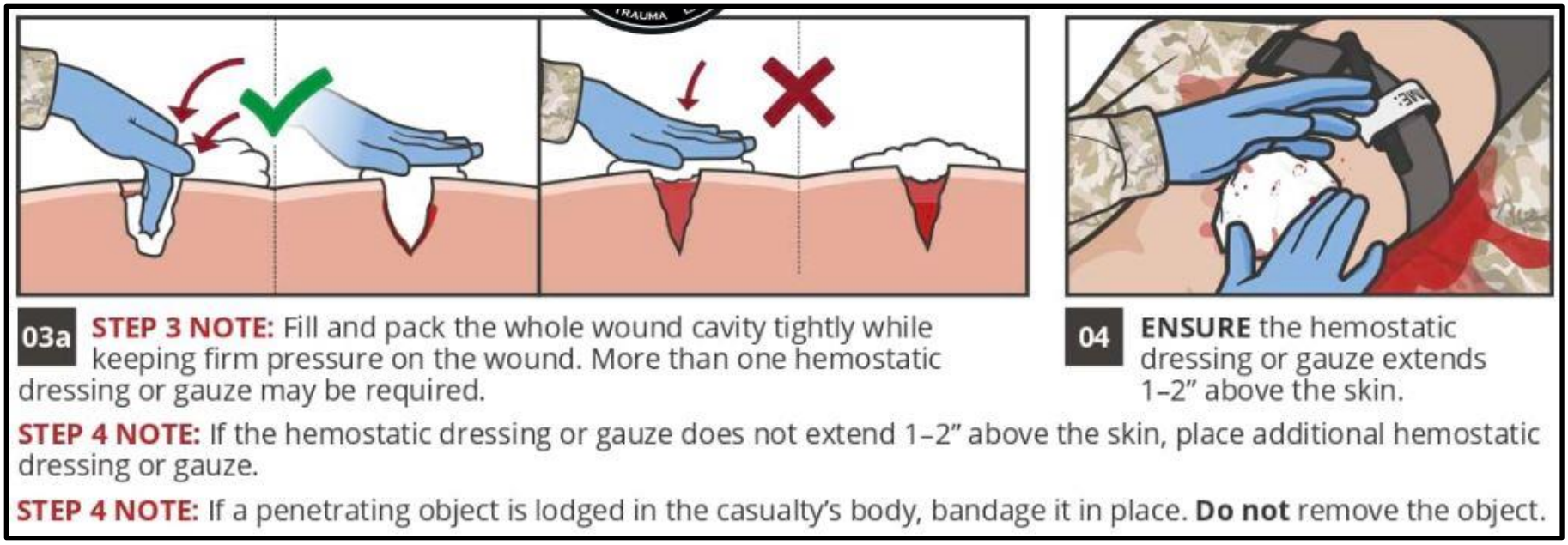
Tourniquet Reassessment

Option 6: CONVERTING A TOURNIQUET (2):



03a **STEP 3 NOTE:** Fill and pack the whole wound cavity tightly while keeping firm pressure on the wound. More than one hemostatic dressing or gauze may be required.

04 **ENSURE** the hemostatic dressing or gauze extends 1–2" above the skin.

STEP 4 NOTE: If the hemostatic dressing or gauze does not extend 1–2" above the skin, place additional hemostatic dressing or gauze.

STEP 4 NOTE: If a penetrating object is lodged in the casualty's body, bandage it in place. **Do not** remove the object.

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Tourniquet Reassessment

Option 6: CONVERTING A TOURNIQUET (3):

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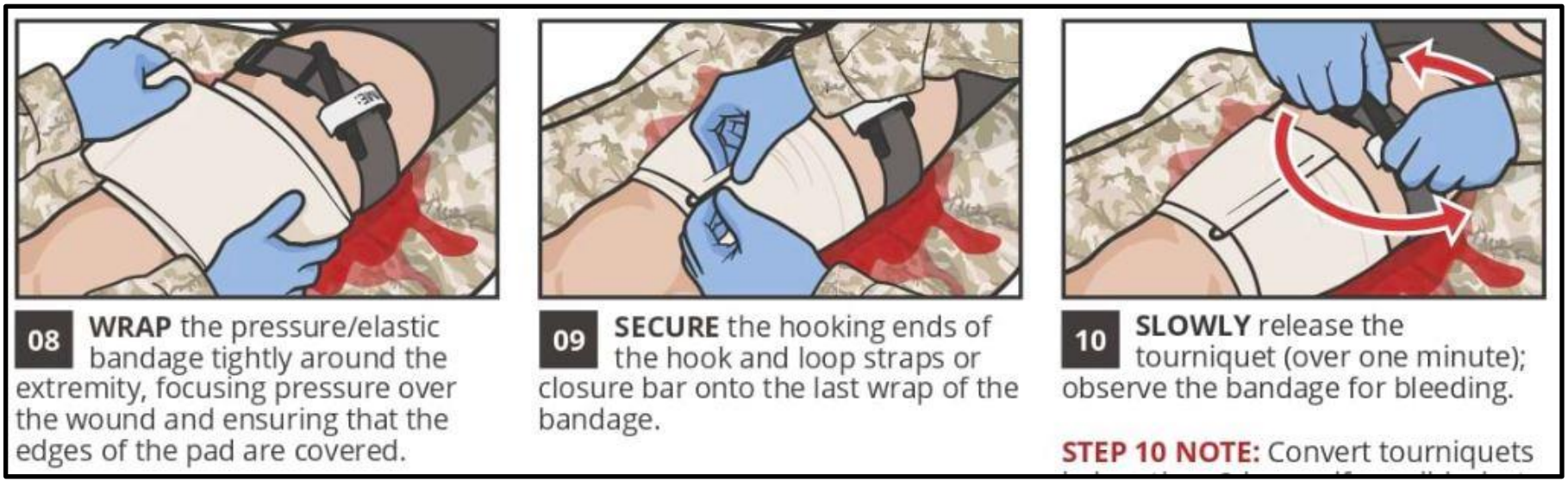
Tourniquet Reassessment

Option 6: CONVERTING A TOURNIQUET (4):



08 **WRAP** the pressure/elastic bandage tightly around the extremity, focusing pressure over the wound and ensuring that the edges of the pad are covered.

09 **SECURE** the hooking ends of the hook and loop straps or closure bar onto the last wrap of the bandage.

10 **SLOWLY** release the tourniquet (over one minute); observe the bandage for bleeding.

STEP 10 NOTE: Convert tourniquets

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Tourniquet Reassessment

Option 6: CONVERTING A TOURNIQUET (5):

STEP 10 NOTE: Convert tourniquets in less than 2 hours, if possible, but do not remove a tourniquet that has been in place more than 6 hours.

STEP 10 NOTE: If bleeding reoccurs, retighten the original tourniquet, ensuring bleeding is controlled and the distal pulse is absent.

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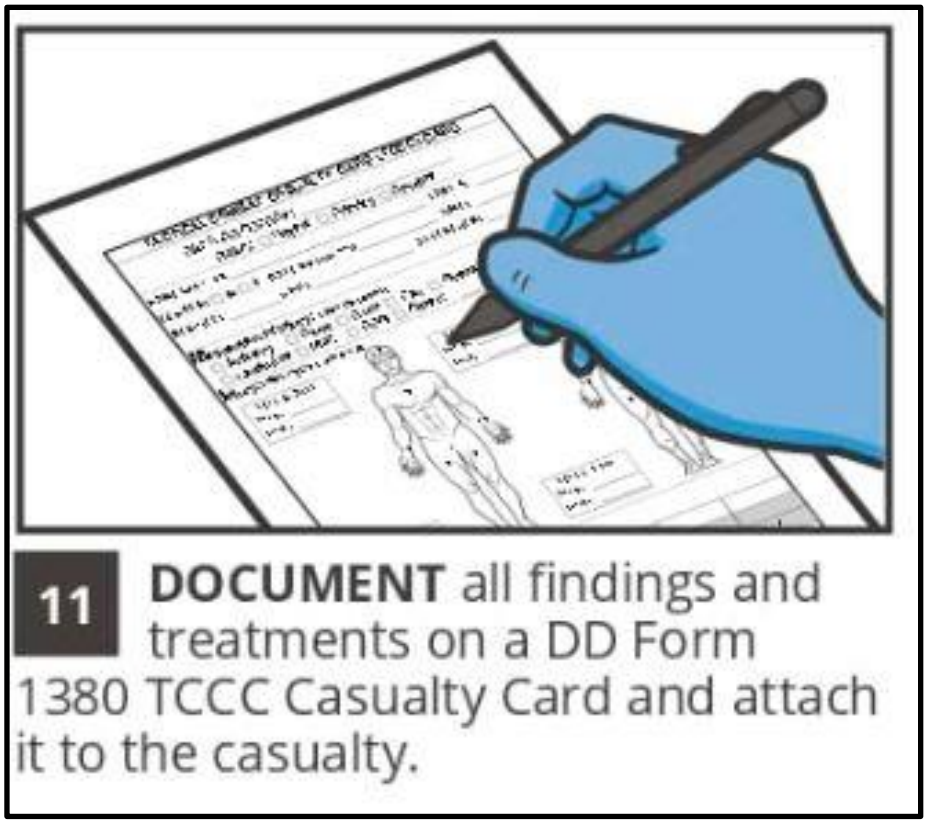
Tourniquet Reassessment

Option 6: CONVERTING A TOURNIQUET (6):



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Tourniquet Reassessment

Option 6: CONVERTING A TOURNIQUET (4):

Watch this tourniquet conversion video when you have internet access:

https://www.facebook.com/nextgencombatmedic/videos/deployed-medicine-video-on-how-to-convert-a-tourniquet-straight-from-the-website/346660965054014/

Deployed Medicine website

Tourniquet Reassessment

- **<u>50-75% of tourniquets can be converted</u> to other methods of bleeding control, even when the bleeding is severe.**

- **Do NOT attempt conversion if:**
  - **Casualty is in shock**
  - **Unable to monitor casualty after conversion**
  - **Limb is amputated below the tourniquet**

Jerome
Can J Rural Med
2026

Delayed Tourniquet Reassessment

TOURNIQUET TIME 4-6 hours:

Delayed Tourniquet Reassessment

TOURNIQUET TIME > 6 hours:

Tourniquet Reassessment

- Is an ESSENTIAL part of tourniquet use
- Should be done within 2 hours or less of tourniquet application time
- If this is not done, the result may be death or limb loss for the casualty.
- EVERYONE on the battlefield must be able to perform tourniquet reassessment.

Thank You!

Photo – MSG (ret) Harold Montgomery