RAPIDSTOP®
TOURNIQUET

THE EMERGENCY TOURNIQUET HANDBOOK

POWERED BY
AERO Healthcare

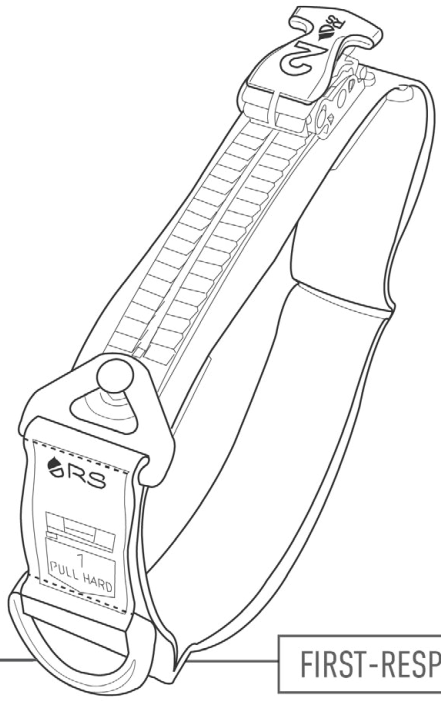
TABLE OF CONTENTS

WHAT IS A TOURNIQUET?

WHAT IS A TOURNIQUET?

Tourniquets are devices used to treat major haemorrhage (a significant bleed in a limb) and stop the flow of blood through a vein or artery

Tourniquets have long been an accepted method for controlling massive catastrophic (or significant) bleeding from limbs within military settings but are now an accepted and promoted treatment in civilian settings (Kauvar et al., 2018). The impact of tourniquets in the civilian setting has seen improved patient survival in pre-hospital settings (Reynold et al., 2021), particularly when Ratcheting Medical Tourniquets with clear instructions on use are utilised (Portela et al., 2020).



FIRST-RESPONDER

In this booklet, you will see the different types of tourniquets available on the market, as well as how to apply a tourniquet and the key considerations when purchasing yours.

LIFE-THREATENING EMERGENCY INTERVENTION

Massive haemorrhage resulting from major injury is a life-threatening emergency condition that requires immediate treatment (Vymazal 2015). Tourniquet application is a widely accepted intervention to temporarily stop critical bleeding until surgical repair can be administered (Parry 2021).

WHAT ARE THE TYPES OF TOURNIQUET?

It is important to consider the mechanical and practical advantage of different emergency tourniquets before deciding which one to use.

– JUNCTIONAL TOURNIQUETS

Junctional Tourniquets are ideal for control of bleeding from the neck, inguinal or axilla areas. The use of Junctional Tourniquets is limited to trained professionals.

Engaging these allows for the option of bilateral control of blood flow through controlled compression of the arteries in the groin or armpit. Some junctional tourniquets use two inflatable bladders in place of T-handles to apply the necessary compression (Croushorn 2014; Oostendorp and Geeraedts Jr 2016).

While arterial tourniquets have proven to be effective in military and civilian pre-hospital care for life-threatening wounds on limbs, they cannot be used to control bleeding from the groin or armpit such as the Junctional tourniquets.

– ARTERIAL TOURNIQUETS

An arterial tourniquet is a medical device designed to stop blood flow to and from a limb. It is used to control severe bleeding. It does this by applying controlled pressure around the limb above the site of the bleed, usually through tightening a strap by hand and then using the windlass, ratchet, or air pump incorporated in the tourniquet. This compresses the muscles within the extremity, which, in turn compress the blood vessels and stop the bleeding (Deloughry and Griffiths 2009).

Arterial tourniquets can be differentiated by their mechanism and their efficacy in stopping arterial blood flow.

TYPES OF ARTERIAL TOURNIQUETS

Simple, intuitive, product-integrated

The **RapidStop® Tourniquet** is a commercially available ratcheting medical tourniquet, suitable for use by civilians, military personnel and first responders.

This closed-loop tourniquet uses a self-locking (ratcheting) buckle to apply the desired pressure. It is a lightweight, intuitive design that enables easy one-handed self-application, allowing the user to quickly tighten it by pulling the strap through before engaging the ratcheting buckle to apply further pressure.

With an easy 1-2-3 step application process, guided by the instructions printed on the product and additional pocket-sized instruction cards, RapidStop® Tourniquet can achieve arterial occlusion in a matter of seconds. Simply, pull the D-ring firmly until snug, crank lever repeatedly until bleeding stops, and wrap & tuck any excess strap.

Portela et al., 2020 in their study of tourniquet effectiveness have shown ratcheting medical tourniquets allow rapid application. The study found them even more effective than some other tourniquet types. Thanks to the intuitive nature of Ratcheting Medical Tourniquets this study suggests it could be one of the more suitable tourniquets for use by untrained civilians.

TYPE	MILITARY	FIRST RESPONDER	TRAINING
PART#	RST100	RST101	RST102
COLOR	BLACK	ORANGE	BLUE
UPC#	9341394017504	9341394017511	9341394017528
TEMPERATURE RANGE	-50c to + 50c (-58f to +122f)		
TENSILE STRENGTH	minimum 600N		
PACKAGE SIZE	19.56cm long x 5.1cm wide x 3.8cm high (7.7" long x 2" wide x 1.5" high)		
WEIGHT	127.6g (4.5oz)		
STRAP	Mil-W-17337 ; 3.81cm width ; 8,000N		
LIMB CIRCUMFERENCE	17.8cm to 83.8cm (7" to 33")		
RESISTANCE	IMPACT-RESISTANT TO LARGE CRUSHING, BENDING FORCES		

Patent No. 10,568,636

MADE IN THE USA

SINGLE USE ONLY

FDA Registered

Other Patents Pending: www.rapid-stop.com/pat

Application Instructions:

PULL D-RING
firmly until snug

LIFT LEVER repeatedly
until bleeding stops

RECORD time, WRAP
& TUCK excess strap

RAPIDSTOP®

LEVER

Intuitive product-integrated application instruction on Lever (Step 2)

RATCHET

Ratchet mechanical advantage of 8:1; Easier and quicker to achieve high compression forces, particulary necessary for application on upper leg (thigh)

QUICK-CLASP

Simple, rapid application around trapped limbs: with just gross motor skills, the RapidStop® Tourniquet Quick-Clasp can be detached and reattached for application around a trapped limb - no dexterous strap routing required. 'QUICK-CLASP' can be opened and closed easily even when wearing gloves

STRAP

Minimum 600N tensile strength: 200N is typically the largest tensile force needed in a tourniquet to fully occlude blood flow in large thigh application. RapidStop® Tourniquet is designed with a minimum 3x factor of safety;

RapidStop® Tourniquet is designed for limb sizes circumference from 17.8cm / 7" (83.8cm / 33") this equates to the 1st percentile of female upper arm sizes up to the 99th percentile of male upper thigh sizes; encompassing the vast majority of adult limb sizes

Mil-W-17337 spec; 3.8cm / 1.5" wide with 8,000N breaking strength and superior abrasion resistance

LABEL

Intuitive product-integrated application instruction on Label (Step 1)

TIME-RECORD

Time record label located above the d-ring strap

D-RING

Large, rugged D-ring 5.1cm / 2" width (3.8cm / 1.5" height) makes it simple and quick to grasp

Instantaneous one-handed cinch vastly improves time to occlusion in all application scenarios. Easy and quick to apply; requires no stabilizing hand and supplies a mechanical advantage of 2:1 prior to effecting tightening mechanism [NOTE: a poorly-performed initial cinch is a typical cause for a tourniquet application failure.]

TYPES OF ARTERIAL TOURNIQUETS

CAT

SOF-TT

Windlass Tourniquet (CAT & SOF-TT)

Windlass tourniquets use a rod mechanism which is twisted or turned to tighten the band to apply the necessary pressure to stop arterial blood flow. The two most common variants are listed below:

- **Combat Application Tourniquet (CAT)**

One of the oldest commercial military tourniquets used by soldiers. As a closed-loop system, CATs rely on a hook-and-loop strap to achieve pressure on a limb.

- **Special Operations Forces Tactical Tourniquet (SOF-TT)**

Consists of an open-loop system that operates via a windlass mechanism that can be twisted to apply pressure. To maintain pressure, the windlass rod can be held in place with a tri-ring locking clip that is fixed to the strap. The SOF-TT Wide is another variant improved upon the original design by replacing the narrow strap with a wider alternative. SOF-TT variants tend to differ from CAT Tourniquets in the material generally made of metal as opposed to plastic, which has been a point of preference for some first responders.

Emergency and Military Tourniquet (EMT)

Commonly used in the course of surgery and military settings, EM tourniquets employ an air bladder, similar to a blood pressure cuff that can be quickly inflated via a hand bulb pump to apply adequate pressure (Willis 2021).

While EM tourniquets are associated with improved limb safety and recovery, they generally cost around 10 times more than other tourniquet types (TacMed 2016). It has also been suggested that reliance on an air pump system may carry an unnecessary risk of puncture or other equipment failure compared to simpler, mechanical tourniquets.

Please note, the arterial tourniquets we've narrowed down here represent only a selection of the many others presently available on the market.

WHAT IS A MASS HAEMORRHAGE?

WHAT IS MASS HAEMORRHAGE?

Although definitions of massive haemorrhage varies the peer-reviewed literature defines it as follows:

> Where such blood loss is coming from a limb injury such as avulsion, bullet or shrapnel wounds or deglovings or animal and shark bites, **the rapid application of an arterial tourniquet is life saving** *(Vymazal 2015)*. However, it is important to note that slower bleeding, such as from varicose veins can result in massive blood loss but over a longer period of time. *(Parry 2021)*.

Mass hemorrhage refers to a significant and rapid loss of blood from the circulatory system. It can be caused by trauma, internal organ damage, or other medical conditions and may lead to life-threatening consequences if not promptly treated.

THE USE OF AN ARTERIAL TOURNIQUET IS WIDELY ACCEPTED AS A MEDICAL INTERVENTION TO TEMPORARILY STOP BLEEDING UNTIL SURGICAL REPAIR CAN BE CARRIED OUT.

(Parry 2021)

Survival rates would be improved by 10%–20% with better control of bleeding, including the use of arterial tourniquets. *Vymazal 2015*

Annual statistics released by Safe Work Australia showed that over the period 2019–2020, a **total of 120,355 serious injuries occurred in Australian workplaces** and that, of these, 18,729 (16%) were wounds, lacerations, amputation and internal organ damage. *High-risk Industries*

Massive haemorrhage is a **leading external cause of death** and injury worldwide. *Shah et al., 2022*

STATISTICS

Massive haemorrhage will quickly lead to poor perfusion (shock) and death and it is a major external cause of death and injury worldwide. Various studies have addressed the impact of massive haemorrhage, including:

Around the world each year around **five million people die from massive haemorrhage** amongst whom are a significant number suffering significant limb injuries. *Vymazal 2015*

Worldwide, around **30 to 40% of trauma deaths are a result of haemorrhage** amongst whom are those whose bleeding is from a limb and, as such, are potentially preventable deaths. *Kauvar et al., 2006*

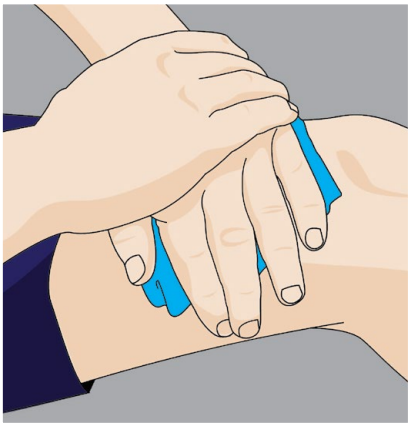
Up to 60% of deaths resulting from massive haemorrhage occur **within the first 3 hours of injury**. *Shah et al., 2022*

Out of **427 fatalities due to haemorrhage**, 162 (38%) were bleeding due to traumatic injury including injuries to limbs. Against this, 124 fatalities (29%) were due to gastrointestinal haemorrhage. Where the **catastrophic bleeding occurred outside of hospital, the death rate was 69%**. *Gibson et al. 2017*

HOW TO TREAT A MASS HAEMORRHAGE & STOP THE BLEED

A person can bleed out in as little as 90 seconds, so it's important to stop the bleed, fast. Stop The Bleed is a national campaign for the teaching of bystanders and first aiders to stop uncontrolled, catastrophic bleeding using simple and effective techniques.

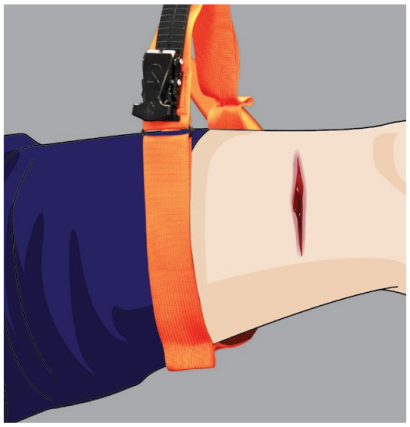
In the case of massive haemorrhaging from an arm or leg, Stop The Bleed trains bystanders to follow these simple steps:



Compress & Staunch the Flow

Find the bleed: Life threatening wounds are often hidden by clothing, especially dark clothing. **All clothing must be removed if possible to expose the site of the bleeding** and allow the application of firm, steady, pressure to the bleeding site using hands, clothing or dressings.

Increase the pressure to stop the blood flowing by increasing direct pressure. If the blood flow continues or the area of damage is too big, tourniquet the limb.



Tourniquet

If the bleeding cannot be stopped, place a tourniquet around the limb 5-7.5cm or 2-3 inches above the site of the bleeding and tighten.

Compress Again

If the bleeding doesn't stop with a tourniquet, maintain direct pressure over the site of the bleeding and place a second tourniquet proximal to the torso, 2-3 inches from the first and tighten. Remember to check the tightness of the tourniquet, and re-tighten if it gets loose.

These steps provide a general guideline for stopping catastrophic bleeding and may need to be adjusted for specific circumstances.

WHEN TO APPLY A TOURNIQUET?

WHAT TRAUMA REQUIRES A TOURNIQUET?

Tourniquets are intended for use in the event of a medical emergency where the patient's limb has sustained major trauma, resulting in excessive external bleeding. Car accidents, industrial workplace accidents, gunshot wounds and animal bites are some common causes of trauma involving massive haemorrhage that may require the use of a tourniquet.

Traumatic Avulsion or Severing of a Limb

If the patient's limb has been completely severed or torn off (avulsed) as a result of an accident or injury, an arterial tourniquet should be considered to stem blood loss where direct pressure, elevation and rest are not working.

In the case of traumatic hand or foot amputations, it may be possible to control the bleeding by first applying pressure and dressings to the bleeding stump, but, if the bleed cannot be stopped rapidly a tourniquet should be applied.

Severe Bleeding

Generally, if the patient has sustained severe trauma above the knee or elbow and the haemorrhaging cannot be stopped by direct pressure, elevation and rest, an arterial tourniquet should be applied.

However, if the arterial bleed is junctional and located near the groin, armpit or inguinal region where an arterial tourniquet cannot properly be applied (10cm or 2-3 inches above the bleed), consider packing the wound firmly with gauze or a bandage and then binding the wound with a heavyweight bandage. If a junctional tourniquet is readily available, it may be used as an alternative. It is important to note, however, that the use of junctional tourniquets is limited to trained professionals.

Tactical

In certain high-risk workplaces, extreme outdoor settings and military environments, it is not always possible to assess a wound to determine the precise level of bleeding. As a result,the US Committee on Tactical Combat Casualty Care (CoTCCC) - an organisation of physicians, medical technicians and providers operating under the U.S. Department of Defense - recommends that, under hazardous conditions, arterial tourniquets should be applied when a life-threatening haemorrhage is suspected but not proven (Shackelford et al. (2015).

In these situations, an arterial tourniquet should be applied until the wound can safely be examined at a later stage.

COMMON MYTHS OF TOURNIQUET USE

1.

(x) Myth: Tourniquets should only be used as a last resort.

(✔) Reality: Tourniquets are a first-line treatment for life-threatening extremity haemorrhage. They should be applied as soon as possible and can be left in place for up to two hours without causing permanent damage. Arterial bleeds do not necessarily spurt.

2.

(x) Myth: Tourniquets cause permanent damage.

(✔) Reality: Properly applied tourniquets do not automatically result in long term harm. Whilst poorly applied or managed tourniquets can cause nerve, muscle, and tissue damage, the risk of death from blood loss is much higher.

3.

(x) Myth: If a tourniquet is applied, the patient will lose their limb.

(✔) Reality: Limb loss is typically due to the injury that necessitated the tourniquet, not the tourniquet itself. Modern understanding and use of tourniquets do not correlate with an increased rate of amputations.

4.

(x) Myth: Improvised tourniquets are just as effective as commercial ones.

(✔) Reality: While an improvised tourniquet can be used in a pinch, studies have shown that commercial tourniquets are more effective and safer. Improvised tourniquets often need to be tighter and can be less effective, which may lead to greater tissue damage. (Engber et al, 2020)

Always try to use a commercial, purpose-made tourniquet when possible.

5.

(x) Myth: Tourniquets should not be used in children

(✔) Reality: Some Tourniquets have been found to provide effective treatment in the paediatric population. The key is appropriate application, as with adults. (Charlton et al, 2021)

References:

Charleton et al, 2021 - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8118807/

Engber et al, 2020 - https://www.annemergmed.com/article/S0196-0644(20)31170-7/fulltext

WHO SHOULD USE TOURNIQUETS?

WHO SHOULD USE TOURNIQUETS?

Stop the Bleed has listed a number of individuals and organisations for whom tourniquet training should be regarded as "critical".

This list includes:

- Police and specialised units
- Emergency Service Officers
- Security staff and specialised units
- First Aid Trainers
- Registered Training Organisations
- Hospital staff
- Transport industry
- Lifeguards and the surfing community
- Event organisers
- Motorcyclists
- Industrial sector
- Mining and offshore
- Anyone operating in remote areas
- Any organisations where entrapment of limbs may occur

THE IMPORTANCE OF TOURNIQUET TRAINING

With the potential for further and unnecessary injury from poor application and prolonged use, good training in the use of tourniquets has been identified as essential (Portela et al., 2020; Shackelford et al., 2015).

It is recommended that tourniquet training emphasise the need:

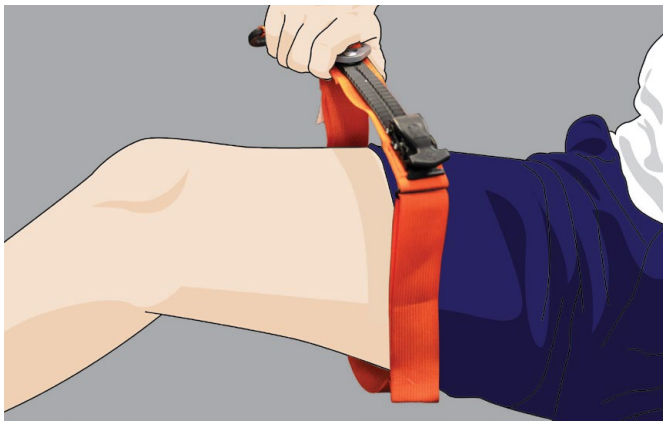
- To use direct pressure, elevation and rest as the first line treatment of serious bleeding.
- Apply the tourniquet to stop both the bleeding and pulses below the injury.
- Re-checking of the pressure of the tourniquet on the limb in case of muscle relaxation.
- Re-assessment as soon as possible but at most, 2 hours after initial tourniquet placement.
- Early use of haemostatic or pressure dressings when in the field.
- To be prepared for the pain caused to a casualty when applying a tourniquet, note that, on average, it will result in a pain score between 6 and 8 on an arm and 10 on a leg. The casualty may attempt to remove the tourniquet or even attack the person applying it.

Goolsby et al. (2015) demonstrated that laypeople, when handed a basic instruction card, can apply a tourniquet twice as effectively as those laypeople who weren't given the card. It is essential that information and/or training on how to properly use a tourniquets is provided. The RapidStop® Tourniquet includes labeling of the 3 key steps for application.

HOW TO APPLY THE RAPIDSTOP® TOURNIQUET?

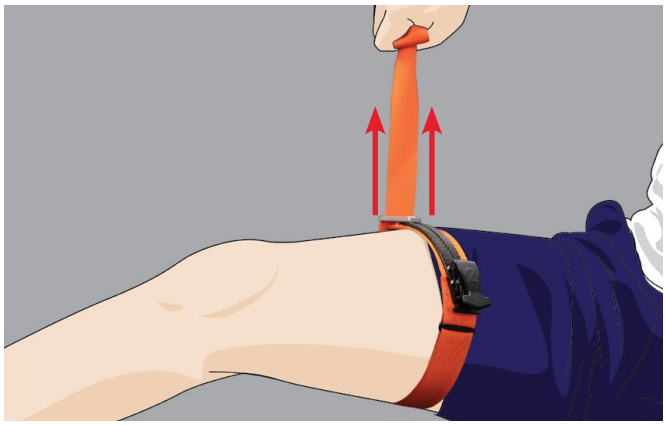
HOW TO APPLY THE RAPIDSTOP® TOURNIQUET

In the case of uncontrolled bleeding from a limb where an arterial tourniquet has been deemed appropriate, the following steps should be taken to apply the RapidStop® Tourniquet correctly:



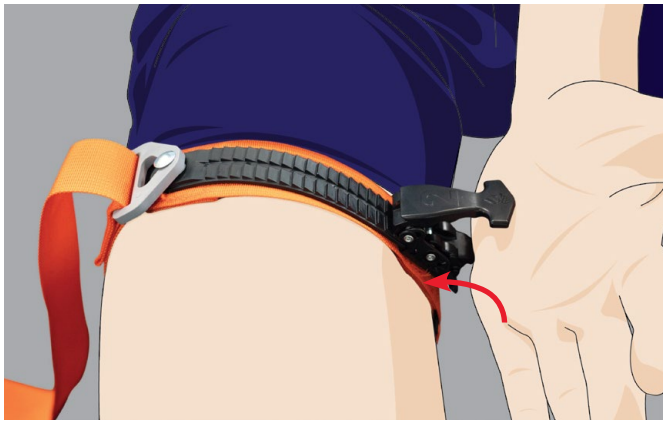
1. Position the Tourniquet

Place the RapidStop® Tourniquet at least 5-7.5cm or 2-3 inches above the bleeding point on the limb (towards the torso). If the bleeding point is not obvious, position the tourniquet 'high and tight' on the limb. You can do this by either opening the RapidStop® Tourniquet up and re-clipping it around the limb at the appropriate level using the Quick-Clasp or by making a loop to start with and sliding it up the limb into the correct position.



2. Tighten the Strap

Once the RapidStop® Tourniquet is correctly looped around the limb, pull the D-Ring until the strap is firmly secured.

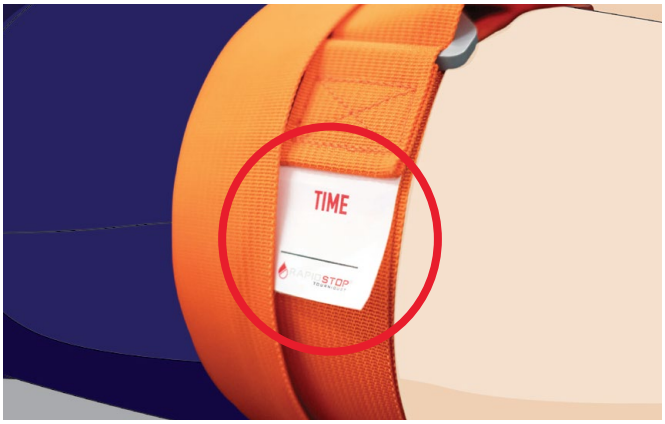


3. Engage the Ratcheting Mechanism

Crank the ratcheting lever repeatedly until the haemorrhage is seen to have ceased and there are no pulses below the site of the injury.

4. Secure the Tourniquet

Once the RapidStop® Tourniquet has been sufficiently tightened, take the excess length of the strap, wrapping it around the limb and tucking it in place. Check again that the bleeding has been controlled.

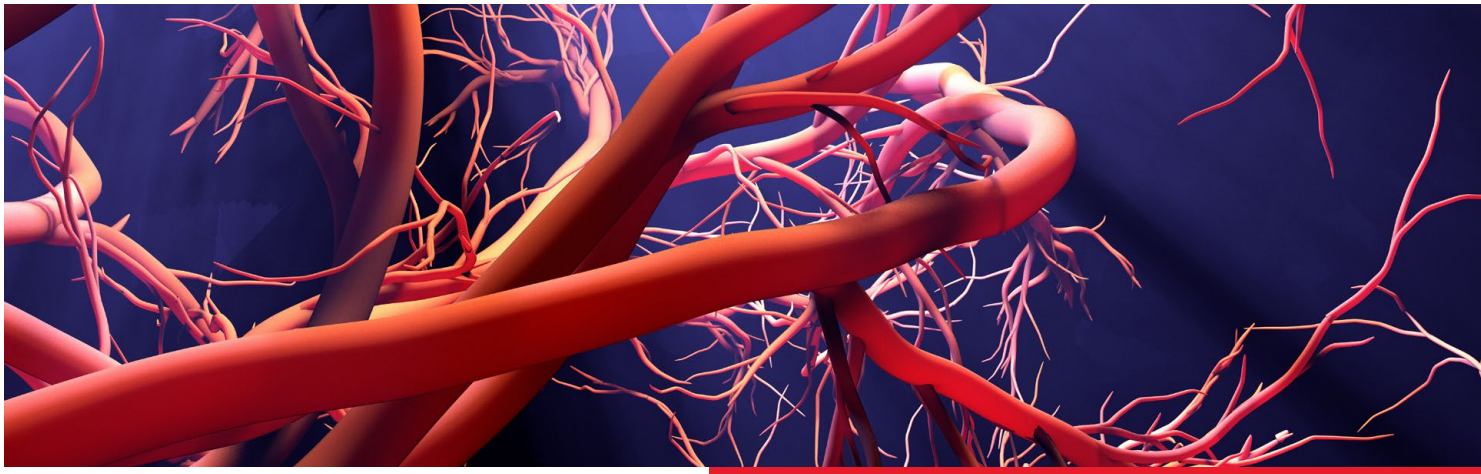


5. Note the time

With the RapidStop® Tourniquet now fully secured, record the time of application on the Time patch attached to the strap so it can be reviewed by medical personnel at a later stage. Write the time of application on the casualty's forehead and if possible, write "TQ" and the time of application on the casualty's forehead as well.

PRECAUTIONS WHEN USING TOURNIQUETS

Shackelford et al. (2015) found that most complications from tourniquets arise as a result of poor application or prolonged use.



Emergency Tourniquet

If a tourniquet is applied too lightly it stops venous blood flowing from the limb but allows arterial blood to continue flowing into the limb. This is called a "venous tourniquet" (Shackelford et al., 2015). This leads to further bleeding, venous congestion and distention and dangerous compartment syndrome (Kragh et al., 2008). To ensure this does not occur, it is vital that the tourniquet stops both the bleeding and all pulses below the injury.

Muscle Relaxation

Recent evidence indicates that within a minute of initial tourniquet placement the casualty's muscle tension may relax causing the tourniquet to become loose and ineffective. Early reassessment to identify if the tourniquet requires re-tightening or adjustment is essential.

Prolonged Use

The longer a tourniquet is left in place, the greater the chance of tissue damage and other complications. Re-assessment of the blood flow from the injury and the use of haemostatic or pressure dressings when the blood flow is controlled is vital.

Generally a two hour time period is promoted as the maximum limit that a tourniquet should be left on a limb (Shackelford et al., 2015).

WHY USE AN EMERGENCY TOURNIQUET?

When applied properly, tourniquets can provide an effective means to stop massive haemorrhaging from a limb by stopping arterial blood flow until the casualty can be professionally assessed and treated by trained medical personnel.

To date, numerous studies have demonstrated the efficacy of tourniquet use, with figures suggesting that mortality rates from severe limb haemorrhage can be reduced to as low as 10% when applied early before the onset of shock (Butler 2015; Kragh Jr et al. 2008; Kragh Jr et al. 2009).

Despite the historical controversy and stigma surrounding tourniquet use, recent studies have found few complications associated with their application when done correctly. The medical literature suggests that the potential life-saving benefit of tourniquet use outweigh the risks of potential complications (Alonso-Algarabel et al., 2019; Wongtongkam 2019).

KEY CONSIDERATIONS WHEN PURCHASING A TOURNIQUET

ANY TOURNIQUET INTENDED FOR FIELD USE MUST HAVE THESE CORE FEATURES

EASE OF USE

FAST & EFFECTIVE APPLICATION

3,2,1, GO!

A patient who is suffering from massive haemorrhage from a limb will quickly begin to become shocked from poor perfusion and they can have as little as 60 seconds to control the bleeding and stem blood flow to/from the limb before falling unconscious. Because of this, it is critical to stop the bleeding from the limb in the shortest time possible.

The RapidStop® Tourniquet achieves control of massive haemorrhage reliably and rapidly with its intuitive Quick-Clasp mechanism. This can be detached and reattached for rapid application around a limb or by making a closed-loop to start with and sliding it up the limb into the correct position. Single-handed cranking of the ratchet lever of the RapidStop® Tourniquet makes it easier and quicker to achieve the high compression forces necessary to stop the bleeding.

Fast and easy single-handed self-application is paramount to a tourniquet's effectiveness in any environment. As a method of rapid intervention for major arterial trauma, tourniquet application must be intuitive and easy to administer by trained and untrained people alike, minimising time to occlusion through a simple and ergonomic design.

The RapidStop® Tourniquet allows for easy, single-handed application with the use of only gross motor control, ideal for fast self-application. The instantaneous one-handed cinch vastly improves time to occlusion. Combined with product-integrated application instructions, the RapidStop® Tourniquet enables an untrained user to apply the tourniquet with speed and reliability in an easy 3-step process:

STEP 1
PULL D-RING firmly until snug

STEP 2
LIFT LEVER repeatedly until bleeding stops

STEP 3
Record time, WRAP & TUCK excess strap

RAPIDSTOP® TOURNIQUET

STRONG & RUGGED DESIGN

Robust structural integrity is imperative for tourniquets intended for field use. A strong, rugged design, capable of enduring austere military and civilian environments is integral to tourniquet efficacy.

The RapidStop® Tourniquet is built to withstand high-stress trauma situations where application time is critical. With a band made from high-strength nylon webbing rated with a 8,000N or 815kg breaking point, and a polycarbonate ratchet lever (used in the F-22 jet fighter canopy), the RapidStop® Tourniquet is constructed to endure the toughest conditions, extreme temperatures and resist any corrosion.

INTUITIVE. STRONG. LIFESAVING.

The RapidStop® Tourniquet is an award-winning, rapid application tourniquet that maximizes the chances of survival. Developed at MIT and perfected by EMS, military and industry specialists. RapidStop® represents a haemostatic solution with military-grade ruggedness, all age suitability, superior single-handed application and fastest average occlusion time.

MILITARY / TACTICAL

FIRST RESPONDERS

HIGH-RISK INDUSTRIES

EXTREME SPORTS

RAPIDSTOP® BLEED CONTROL KITS

The RapidStop® Bleed Control Kit has everything you need to save lives, FAST.

The RapidStop® Bleed Control Kits are designed for quick and effective control of mass haemorrhaging. These compact kits are designed to provide treatment options with efficiency and effectiveness in mind, whether used in Military, First Response or Civilian environments.

KIT CONTENTS

RSK500 Standard

1x RapidStop® Tourniquet (Orange Strap)
4x AeroGlove Nitrile Gloves
1x AeroPlast Emergency Foil (140x210cm)
1x AeroWound Trauma Dressing (10x18cm)
1x Aero Tuffcut Scissors
1x RapidStop® Permanent Marker

RSK501 Advanced

1x RapidStop® Tourniquet (Orange Strap)
4x AeroGlove Nitrile Gloves
1x AeroPlast Emergency Foil (140x210cm)
1x AeroWound Trauma Dressing (10x18cm)
1x Aero Tuffcut Scissors
1x RapidStop® Permanent Marker
1x Chest Seal Dressing Vent

RSK502 Pro

1x RapidStop® Tourniquet (Orange Strap)
4x AeroGlove Nitrile Gloves
1x AeroPlast Emergency Foil (140x210cm)
1x AeroWound Trauma Dressing (10x18cm)
1x Aero Tuffcut Scissors
1x RapidStop® Permanent Marker
1x Chest Seal Dressing Vent
1x Haemostatic Gauze (5ft Z-Fold)

CONTROL KIT POUCH vs KIT BOX

The RapidStop® Bleed Control Kit is also available as a portable and lightweight pouch. The kit pouches contain the same kit contents as the weatherproof kit boxes but without the box's bulk. Can also be used as a refill pack for any used Bleed Control Kit box.

JOURNAL ARTICLES

Alonso-Algarabel et al. (2019): https://europepmc.org/article/med/30656874

Croushorn (2014): https://www.specialmedics.com/media/documents/Croushorn-2.16f684.pdf

Curry and Davenport (2018): https://pubmed.ncbi.nlm.nih.gov/30592036/

Deloughry and Griffiths (2009): https://academic.oup.com/bjaed/article/9/2/56/299450

Gibson et al. (2017): https://pubmed.ncbi.nlm.nih.gov/29224237/

Goolsby et al. (2015): https://pubmed.ncbi.nlm.nih.gov/26302453/

Kauvar et al. (2006): https://journals.lww.com/jtrauma/Fulltext/2006/06001/Impact_of_Hemorrhage_on_Trauma_Outcome__An.2.aspx

Kauvar et al. (2018): https://journals.lww.com/jtrauma/Abstract/2018/05000/Systematic_review_of_prehospital_tourniquet_use_in.18.aspx

Kragh Jr et al. (2008): https://pubmed.ncbi.nlm.nih.gov/18376170/

Kragh Jr et al. (2009): https://pubmed.ncbi.nlm.nih.gov/19106667/

Oostendorp and Geeraedts Jr (2016): https://sjtrem.biomedcentral.com/articles/10.1186/s13049-016-0301-9

Parry (2021): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8741618/

Portela et al. (2020): https://onlinelibrary.wiley.com/doi/full/10.1111/acem.13857

Reynold et al. (2021): https://www.sciencedirect.com/science/article/abs/pii/S1072751521002398

Rothstein et al. (2019): https://www.pajtcces.com/doi/PAJT/pdf/10.5005/jp-journals-10030-1237

Shackelford et al. (2015): https://www.jsomonline.org/TCCC/05%20TCCC%20Change%20Documents/14-02%20TCCC%20Shackelford%20Optimizing%20Tourniquet%20Use%20JSOM%202015.pdf

Shah et al. (2022): https://associationofanaesthetists-publications.onlinelibrary.wiley.com/doi/10.1111/anae.15866

Vymazal (2015): https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4524472/

Wongtongkam (2019): https://europepmc.org/article/med/30656874

Charleton et al, 2021 - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8118807/

Engber et al, 2020 - https://www.annemergmed.com/article/S0196-0644(20)31170-7/fulltext

ORGANISATIONS

Brouhard (2022): https://www.verywellhealth.com/how-to-use-a-tourniquet-1298298

QAS (Queensland Ambulance Service) 2018: https://www.ambulance.qld.gov.au/docs/clinical/cpp/CPP_Arterial%20tourniquet.pdf

RapidStop: https://lfafirstresponse.com.au/wp-content/uploads/2020/05/Rapid-Stop.pdf

Safe Work Australia: https://www.safeworkaustralia.gov.au/doc/key-work-health-and-safety-statistics-australia-2021

Stop the Bleed: https://www.stopthebleed.com.au/training-courses/stop-the-bleed-workshop/

TacMed 2016: https://tacmed.com.au/wp-content/uploads/2020/07/Arterial-Tourniquets-E-Book-Tacmed-Australia.pdf

Willis (2021): https://www.thenewsurvivalist.com/types-of-tourniquets/

POWERED BY

AERO Healthcare

HEALTHCARE | WE MAKE IT BETTER

CALL **01403 790 704**
EMAIL **sales@aerohealthcare.co.uk**
VISIT **aerohealthcare.com/uk**