Application of a tourniquet for bleeding

The imposition of a tourniquet in case of bleeding is not accidentally referred to as the "alphabet of salvation", this is a very important moment in providing first aid for injuries, often saving the victim's life. But an incorrectly applied tourniquet will not only not help, but also harm.

What is a tourniquet

A tourniquet is a specialized medical treatment that is applied to stop serious bleeding. It is used in extreme cases when there is a risk of death

There are several types of tourniquet. The main classification is the division into homemade and professional, medical / tactical. In principle, its role can be played by any elongated piece of fabric, rubber or artificial leather (for example, a belt) of a relatively small width, which can be wrapped around the limb several times and tightened.

Options that can be used as this tool:

• rope;

•elastic bandage;

• strong rubber seal;

• a narrow and long piece of fabric.

The principle of the tourniquet is based on the clamping of the great vessels (arteries). Overlap can be achieved in two ways: significant squeezing by the surrounding soft tissues, or pressing against the bone protrusion.

Types of harnesses

At the moment, 4 types of harness are commonly used. Some of them are outdated, others are being actively improved and due to this they are more preferable:

1. Langenbeck. The most primitive design, improved on the basis of a prototype from the 1870s. Produced around the 1970s.Consists of a rubber band with snap fasteners at one end and entry holes at the other.

2. With metered compression. It is a belt made of synthetic material with a plaque made of a combined material (metal plus plastic). Used during the Second World War. At the moment it has gone out of use, which does not prevent some manufacturers from still releasing and selling this species. The peculiarity is that the required dose of tension is marked on the plaque - it will be different for the shoulder or for the hip.

3. Red Army with a twisting element. Also used during World War II. The design is similar to the previous one, that is, there is a leather or fabric base and plaques. However, there are no coordinates on how to regulate the force of pressure. The advantage is the presence of a "twist" - a stick, the twisting of which increases the

contraction of tissues, which allows you to quickly stop bleeding even with poor physical development of the rescuer.

4. Alpha. This type of tourniquet is considered safe, as it does not cause injury to the arteries, nerves and tissue necrosis. Recommended by doctors. The design feature is a ribbed surface: it allows you to maintain the movement of blood through the capillaries, while the artery is completely pinched

The first three types of harness are not recommended for use. They are outdated and have performed poorly in practice. 1 and 2 do not work at low temperatures (less than +5 and below 0, respectively). If used in winter, the surface of the rubber band simply cracks, the elasticity decreases.

The most convenient and safest option is to use the Alpha option. The design of this model does not lead to tissue necrosis, and allows you to quickly and easily apply a sling to any part of the body

Indications for the use of a tourniquet for bleeding

Blood gushes like a fountain. This is a sign of fatal arterial bleeding. A tourniquet may also be required for venous bleeding, but only if the limb is severely / deeply excised. Before exercising
the imposition of a tourniquet for bleeding, other measures must be taken. The first action should be to raise the limb (this may be enough not only to relieve bleeding, but also to stop it completely). Next, a squeezing bandage is applied. If the blood loss is obviously too fast, you cannot hesitate: bypassing the stages of washing and treating the wound, you need to take care of the tourniquet.

1. The victim has lost a limb. In this regard, you can forget about the risk of amputation: some of the tissue has already been lost, and another part will be removed after admission to the hospital. However, if the limb is not completely torn off, care should be taken to keep the constriction as close to the wound as possible.

2. It is impossible to accurately determine the source of bleeding. As a consequence, it is difficult to know its nature (venous / arterial). Such situations are

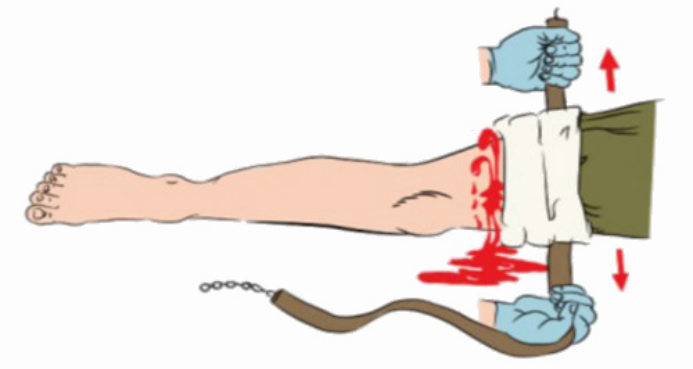
possible during the conduct of hostilities, detonation on an explosive device, in an accident, etc.
3. The patient has two or more sources of bleeding and can only be treated by one person. In this case, the person who plays the role of a rescuer, with the threat of hemorrhage up to loss of consciousness and death, must apply a tourniquet to one of the wounds, then, by a different, milder method, stop the second bleeding. The tourniquet must be removed from the first wound (if the artery is not affected) and a number of milder hemostatic measures must be taken, for example, by applying a squeezing bandage.
4. There are several injured per rescuer. The principle is the same as in paragraph 4: the tourniquet is a short-term measure, if possible, it should be removed as soon as possible and the bleeding should be stopped by another method

Contraindications to the use of a tourniquet for bleeding

The tourniquet is forbidden to use in places of inflammation - this will lead to the spread of infection. Another contraindication is a weak bleeding pattern. If it is possible to refuse the remedy, it is better to use a bandage.

Complications when applying a tourniquet

The main possible complications are associated with tissue necrosis. Necrosis occurs if the tourniquet is applied for too long, blood does not flow to the tissues and they are irreversibly destroyed.
What this can lead to:
• loss of sensitivity of a large part of the limb;
• amputation of a limb;
• lethal outcome if decomposition products enter the bloodstream above the wound site.



Rules for the imposition of a hemostatic tourniquet

1. It is necessary to find material that will not violate the integrity of the skin of the limb or trunk. In other words, thin and sharp objects such as wire, part of a fishing line will not work. They will only aggravate bleeding by creating a new wound, and they can also lead to necrosis more quickly.

2. The patient should be positioned so that the wounded area is above the level of the heart. It is enough to raise an arm or leg (in the second case, after laying the person down). If the focus of injury is on the trunk below the chest, you need to turn the victim onto the side opposite to the wounded.

3. When applying a tourniquet for bleeding, use a soft material as a lining. It is advisable to drag it over your clothes. If not, any piece of fabric will do.

4. On the tourniquet itself or on the victim's forehead, the exact time and date of the sling should be noted.

5. For blood loss to stop, the wound must be compressed. General technique of imposition: first round (winding) squeeze the tissues, then 2-3 strengthen the fixation.

Control of the correct application of a hemostatic tourniquet

A correctly applied tourniquet should stop bleeding. In addition to the obvious cessation of hemorrhage, which is noticeable with a naked wound, there are other ways to control.

• The skin below the site of application is pale or colder;
• no peripheral pulsation is observed below the place of fixation;
• The dressing is not saturated with new (scarlet) blood.

Ideally, a complete cessation of circulation should occur, since the main artery is compressed. If the limb does not turn pale, small wounds that were not closed earlier continue to emit blood, this indicates a poor-quality application of a hemostatic tourniquet.

Another sure sign of the continuation of blood circulation is the appearance of edema. The error can lead to renewed bleeding later. In some cases, a hemostatic tourniquet that is not fully tightened, and does only lead to increased blood loss. If a similar situation arises, it is necessary to consult a qualified doctor as soon as possible, and also to try to stop the blood loss again.

Errors of application of a tourniquet during bleeding

The main mistakes in first aid include:

• weak limb clamping;

• too strong compression of tissues;

• no lining for the harness;

• lack of overlay time control;

• not using a compression bandage on the wound itself (even if there is a tourniquet, it is additionally needed);

• poor fixation.

Important recommendations

Be sure to pay attention to the timing of the application of the hemostatic tourniquet. If it stays on the limb for too long, necrosis will occur. In this regard, the following recommendations must be observed:

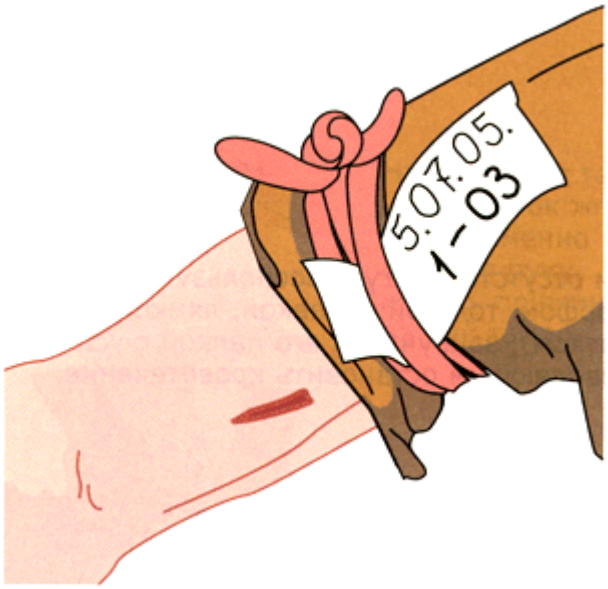
• be sure to mark the overlay time in a conspicuous place;

• leave the aid open so that doctors can see it immediately;

• if it is necessary to reapply, it is advisable to first fix the additional tourniquet, and then remove the first.

What is forbidden to do with the tourniquet

The tourniquet must never be used longer than the specified time. For children it is 20 minutes in winter and 40 minutes in summer, for adults - no more than an hour in winter and 2 hours in summer. After this time, the limb dies off. If medical assistance is not yet available, the agent should be weakened for 10 minutes, the limbs should be allowed to bloody, then the device should be applied again a little higher than the previous place.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