

INSTRUCTIONS



Tactical magnetic haemostatic tourniquet Class I medicinal product

The tactical magnetic haemostatic tourniquet can be used by paramedics in providing assistance to victims and by victims themselves, but in strict compliance with the recommendations of the medical military services and these instructions.

The tactical magnetic haemostatic tourniquet is a highly effective solution for stopping various types of bleeding from the lower, upper extremities and body, which uses a magnetic field of permanent neodymium magnets. The tactical magnetic haemostatic tourniquet is designed to stop bleeding from arterial, venous, vascular and capillary vessels of the damaged human limb and can be used as a first aid aid in the equipment of military personnel, when rescuing wounded people in combat and emergency situations, when providing first aid in emergency medical facilities.

The advantages of this type of tourniquet include a better resistance to harmful and destructive environmental factors, the ability to apply light clothing on top, a controlled compression and release, one-handed use, reusability, incomplete compression of the entire limb,

which allows blood to flow further along the limb through intact vessels, and quick bleeding control.

The tactical magnetic haemostatic tourniquet is not sterile and has no measurement function and means, and is reusable.

The tactical magnetic haemostatic tourniquet exerts an antibacterial effect (the magnetic field of the working surface of the tourniquet with an induction of 300 mT or more inhibits the growth of *P. Aeruginosa* and *S. aureus*).

CONTENTS OF THE PACKAGE:

- Tactical magnetic haemostatic tourniquet – 1 pc;
- Case for storage of the tourniquet – 1 pc; and
- Instructions for use – 1pc.

PRINCIPLE OF OPERATION

The tactical magnetic haemostatic tourniquet with its magnetic field exerts a significant effect **DIRECTLY ON THE SITE OF INJURY OR WOUND THAT CAUSED BLEEDING**, on all structures of the skin, subcutaneous tissue and muscles that have been damaged or amputated:

1. Within the skin epidermis, the nuclei in all its layers are oriented perpendicularly to the skin surface with their longitudinal elongation.

2. Smooth muscles of arteries and arterioles undergo spastic changes, which significantly narrows the lumen of blood vessels and can contribute to rapid bleeding control.

3. Red blood clots are formed in the venules and capillaries, which leads to a slowdown in blood flow and can help stop bleeding.

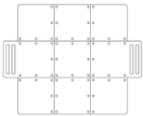
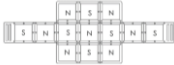
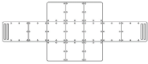
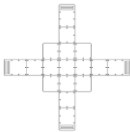
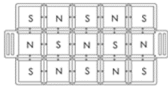
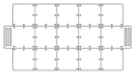
4. The endothelium of all types of vessels demonstrates reorientation of its cell nuclei from the parallel orientation to the vessel lumen to the perpendicular one, which significantly narrows the lumen of the vessels, slows down the blood flow rate and can help to stop bleeding.

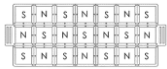
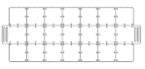
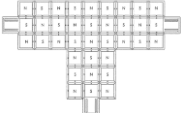
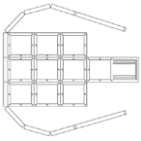
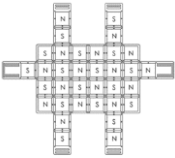
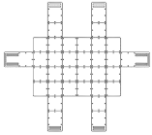
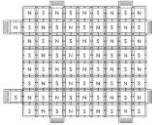
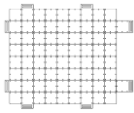
5. Muscle fibers undergo homogenization and vacuolization, which may be a sign of necrotic changes in muscle tissue.

6: Nerve fibers are vacuolized and detached from the perineurium, which may be a sign of necrotic changes in the nervous tissue.

7. Adipose tissue does not undergo significant changes after exposure to a magnetic field.

SPECIFICATIONS

<i>Name of the product</i>	<i>Weight / dimensions</i>	<i>View of the working side, where the magnetic inductors are located</i>	<i>View of the rear side</i>
<i>Tactical magnetic haemostatic tourniquet – Model 3 x 3</i>	<i>350 grams, 115/145/5 mm</i>		
<i>Tactical magnetic haemostatic tourniquet – Model 3 x 3 x 2L</i>	<i>500 grams, 115/300/5 mm</i>		
<i>Tactical magnetic haemostatic tourniquet – Model 3 x 3 x 4 L</i>	<i>670 grams, 300/300/5 mm</i>		
<i>Tactical magnetic haemostatic tourniquet – Model 3 x 5</i>	<i>600 grams, 115/190/5 mm</i>		

<i>Tactical magnetic haemostatic tourniquet – Model 3 x 7</i>	820 grams, 115/300/5 mm		
<i>Tactical magnetic haemostatic tourniquet – Model 9 x 3 x 3 x 3</i>	1300 grams, 115/380/250/5 mm		
<i>Tactical magnetic haemostatic tourniquet – Model 6 x 4 x 6 L</i>	1300 grams, 370/340/5 mm		
<i>Tactical magnetic haemostatic tourniquet – Model 8 x 9 x 2 L</i>	2500 grams, 380/340/5 mm		

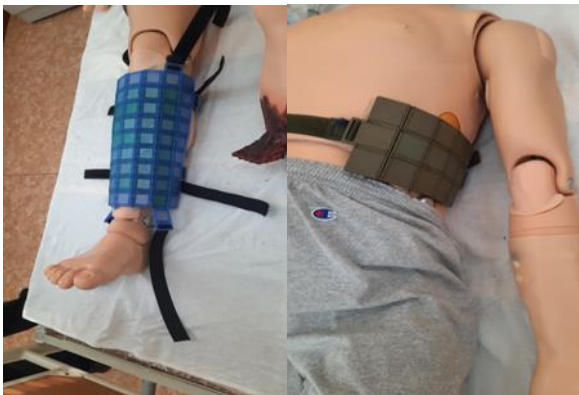
METHOD OF USE

In case of damage or injury:

1. WARNING!

Before APPLYING THE TOURNIQUET TO THE SITE OF AN INJURY OR WOUND THAT HAS CAUSED BLEEDING, apply a sterile napkin

2. Apply the tactical magnetic haemostatic tourniquet with the working side with magnets to an open wound or injured part of the body (as shown in the photo below), on which a sterile cloth is applied. It does not require special conditions, can be applied to the body through the fabric of light clothing (underwear, T-shirt, leotard and pants without heat-insulating lining).





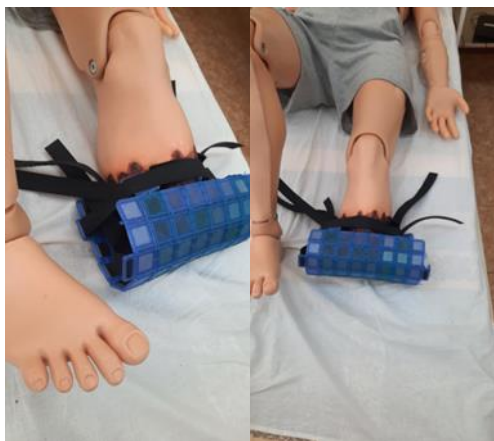


3. Pull the Velcro strap through the clips as far as it will go. Tighten the strap around the limb, securing its free end with a Velcro fastener.

If possible, fix the tourniquet in such a way that it does not change position when the victim moves or is moved.









4. Press the tourniquet to the wound with your free hand. It should surround the wound with the generated magnetic field so that you can feel its slight pressure on the wound or injury site.

The tourniquet should not apply excessive pressure to the area of damage.

Hold it in this position for at least 10 minutes, do not release it.

The tourniquet should compress an open wound or amputated limb and stay on the wound until qualified medical care is provided in a medical facility

Bleeding slows down and stops in 30 seconds to 5 minutes, depending on the extent of the injury and the intensity of the bleeding.

If the bleeding does not stop after applying the tourniquet, check whether it is applied correctly.



5. After stopping the bleeding, do not remove the tourniquet from the injured area until qualified medical aid is provided.

6. The tactical magnetic haemostatic tourniquet SHOULD NOT be left on the injured area for more than 2 hours.

WARNINGS AND PRECAUTIONS!

1. Before using the tourniquet, please read and understand the instructions for use; keep them and follow them. Before using the tourniquet, undergo training on how to use the tourniquet.

Failure to comply with the instructions can lead to serious consequences for the user's health: blood loss, infection and loss of functional properties of the tourniquet.

2. Keep these instructions for the entire period of use of the tourniquet.

3. The tourniquet is intended for individual use by one user only. Under no circumstances should the tourniquet be shared with other persons. The use of the device by another user is associated with the risk of cross-infection.

4. **WARNING!** Tourniquets pose a serious danger to people with pacemakers or other internal medical devices (implantable defibrillators or any other implanted electrical or mechanical devices)! They may cause malfunction of the pacemaker and internal medical devices, so do not put them in breast pockets.

5. **WARNING!** Approaching the tourniquet to anti-vehicle mines equipped with non-contact magnetic fuzes or

magnetic target sensors can trigger the latter and cause the mines to explode.

6. **WARNING!** There is a possibility of triggering the fuze (fuse of the UZRGM (Modernized Unified Fuse for Hand Grenade) type) of an anti-personnel mine of the “tripwire” type upon direct contact of the working surface of the tourniquet with the product used as a combat check.

The triggering of anti-vehicle mines of various types equipped with mechanical contact fuzes when they directly interact with the tourniquet is excluded.

7. Do not keep the tourniquet near and do not apply it to measuring devices, magnet-type devices, bank cards, floppy disks and other data carriers, video tapes, mechanical, quartz watches, hearing aids, electric motors, electronic equipment, radio electronic equipment and other electrical appliances - this may cause malfunctioning of these devices.

8. Keep the tourniquet out of reach of children.

9. Do not fold the working side of the tourniquet with magnetic surfaces facing each other, as this will cause the working side to stick together and damage. When several magnets collide, they are directed towards each other at high speed and stick together with a strong impact, which can injure your fingers.

10. Do not use the tourniquet other than for its intended purpose. Do not place the tourniquet with the working side against metal items.

11. The magnets are fragile and can be easily destroyed. Do not place heavy objects on the tourniquet. Do not allow the tourniquet to stick together, fall or hit hard surfaces, as this may lead to the destruction of the tourniquet.

12. Broken parts of the tourniquet are sharp and can cause cuts.

13. After use, the tourniquet must be cleaned of blood residues and disinfected. It is forbidden to use a tourniquet that has not been cleaned and disinfected after use for another person.

14. WARNING! PROHIBITION OF STERILIZATION
This leads to a weakening or complete loss of the magnetic field effect.

15. Do not allow the tourniquet to be heated to a temperature above 70 °C, neither put it in hot water nor boil it. A high temperature adversely affects the device and leads to a loss of its functional properties.

16. Do not apply the tourniquet to the wound over the **outerwear** (jacket or pants with an insulating lining) - this **reduces the effect of the magnetic field on the injured area** and prevents stopping bleeding

17. Do not use the tourniquet after its shelf life has expired, in the event of the loss of its functional properties and integrity, and damage.

18. Do not attempt to saw or drill magnets under any circumstances, as magnets can easily catch fire when they are sawed or drilled.

19. After each use, inspect the tourniquet for damage, destruction and loosening of the connecting flexible ties.

CLEANING AND DISINFECTION

To clean the tactical magnetic haemostatic tourniquet after use, proceed as follows:

1. Soak the tourniquet in an enzymatic cleaning solution. Follow the instructions for enzymatic cleaning regarding concentration, water temperature, and time. Use a soft brush to remove any residual contaminants. Rinse the tourniquet under running water until all blood and body fluids are completely removed.

2. Soak the tourniquet in 3% hydrogen peroxide for 25 minutes. Rinse in running water. Let to dry.

3. Wipe the tourniquet with a napkin soaked in 96% ethyl alcohol.

SAFE STORAGE CONDITIONS

Store the tourniquet in the storage case.

Keep dry.

Do not store the tourniquet in a contaminated state.

WARNING! Do not store or place next to anti-personnel mines and anti-vehicle mines equipped with non-contact magnetic fuzes or magnetic target sensors.

Ambient air temperature during storage: from - 30 C to + 50 C with a relative humidity of not more than 80%.

The warranty period for products is 12 months from the date of manufacture.

Shelf life: 10 years subject to proper use and storage.

The tourniquet is manufactured in accordance with
Ukrainian Specifications TU U 32.5-2874221016-003:2023
Declaration of conformity of a medical device
No. TP.002-23 of October 09, 2023



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Entrepreneur**

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Partnership and cooperation agreement between Valeriy Yurchik, an individual entrepreneur, and P.O. Kogut, an individual entrepreneur, dated December 12, 2023, the city of Kharkiv

Agreement on scientific cooperation between V. N. Karazin Kharkiv National University, the Department of General Surgery, Anesthesiology and Palliative Medicine of the Faculty of Medicine, and Valeriy Yurchik, an individual entrepreneur, dated January 01, 2024

Agreement on scientific cooperation between V. N. Karazin Kharkiv National University, the Department of Chemical Metrology of the Faculty of Chemistry, and Valeriy Yurchik, an individual entrepreneur, dated March 01, 2024.

The tactical magnetic haemostatic tourniquet is protected by applications for utility model patents No. u202304381 of September 15, 2023, No.u202401051 of February 27, 2024. and invention patent application No. u202304379 of

September 15, 2023, No. u202401049 February 27, 2024,
international patent application PCT/IB2024/050890 of
February 15, 2024.

Forgery is punishable by the laws of Ukraine.

Made in Ukraine 

DISPOSAL

The medical device shall be disposed of in compliance
with the requirements of national legislation in the field of
environmental and health protection.

Symbol	Description
	Manufacturer
	Date of manufacture
	Please read and understand Instructions for Use
	Precaution! Please read and understand important information of Instructions for Use
	Not sterile
	Lot code

	Catalog reference number
	Best if used by
	Keep Dry
	Store at between -30 °C and +50 °C
	Fragile, Handle with Care
	Mark of conformity with the Technical Regulations for Medicinal Products (Resolution of the Cabinet of Ministers of Ukraine No. 753 of October 02, 2013)