

Report on internal research of the tactical tourniquet MAWAID 03

Purpose of the study:

Determination of total stop performance venous flow in the upper and/or lower limbs at the location on a single bone (humerus bone and femoral bone). and double bones (elbow bone / radial bone and tibial bone . / sagittal bone.) by itself and/or by the third person in relation to the victim.

Group tests:

5 volunteers, healthy men in the mobilization age, without vascular disorders, coagulation disorders, without previous vascular injuries in the limbs and other health burdens that could may affect for the effectiveness of the study.

Mechanism for controlling the effectiveness of the tourniquet:

Pulse oximetry / pulse measurement at the distal point of the upper limb (thumb and pointing finger) and lower limb (big toe) are enriched with palpation measurement performed in the case of the lower limb in the ridge of the feet and in the popliteal fossa and, in the case of the upper limb, on the radial area of the wrist.

As for control devise was used tourniquets recommended by TCCC - CAT /SAM / SOFT.

The course of study:

Each volunteer was given a MAWAID 0.3 tourniquet in ½ thigh, arm, lower leg and forearm in the form of a stand-alone application and application assisted, carried out by the instructed in accordance with the rules of TCCC of another volunteer, then measured with pulse oximetry, auscultation, and palpation, looking for loss of pulse on the subject limb.

Measurements were made immediately after placement of the tourniquet and 5 minutes after application. Volunteers were also served with a typical mix of displacements characteristic for the field evacuation carried out from the use and / or without the use of typical improvised equipment for the battlefield or mass incident area.

The research result:

As part of the study, each time a loss of heart rate was obtained for the tested limb. This loss persisted regardless of displacement of the injured person. There was no spontaneous loosening and / or displacement and / or loss of the tourniquet. Application of the tourniquet MAWAID 3 the

pain was the same as in the case of the recommended tourniquets by TCCC. In practically every case, it was described as a strong but to overcome. There are no deformation in terms of windlass, tape breakage which could show the constriction or material defect. The tourniquet did not emit any disturbing sounds. This effect was stable even when the same tourniquet was applied several times.

Conclusions from the study:

Conclusion 1: Using the MAWAID 0.3 tourniquet is effective in cutting off the arterial inflow and venous outflow in two locations of the limbs lower and upper with firm application procedure, twisting and securing the tourniquet on the volunteer's limb, what in the situation of the real bleeding, should cause the expected stop of bleeding from a limb.

Conclusion 2: The performed in-house study allows recommend the MAWAID 0.3 tourniquet for follow-up testing with ultrasound DOPPLER to exclude any flow in a leg secured with a tourniquet.

Conclusion 3: The in-house study performed allows recommend the possibility of using the MAWAID 0.3 tourniquet target further certification tests, e.g. within the framework of TCCC or other centers certifying rescue and military equipment.

Conclusion 4: As part of the tests under which the MAWAID 0.3 tourniquet. each copy was applied several times with the maximum use of an acceptable strength by a volunteer, did not occurred damage to the device. Although tourniquet, which in real conditions is disposable (potentially infectious contact with blood), the construction of the tourniquet it allows for its trouble-free repeated application several times. This fact allows to state that this device has the appropriate tolerance within strength range, and thus the application is carried out by a human force cannot disintegrate the device. It is advisable determination of research boundary parameters for individual elements of the device (webbing, buckle, restrainer pin, clasp) to completely exclude possible disintegration of the device due to forces / tensions generated toolless by a human nuisance.

Translated by Justyna Markuś