

MAST Suit Application Procedure

Purpose: Medical Anti-Shock Trousers (MAST or Anti-Shock Trousers) are a medical device which provides an effective out-of hospital method for treating shock. The exact effect they have is not clear, but appears to be a combination of slight autotransfusion of the patients own blood from the legs and abdomen into the upper body and to cause an increased peripheral vascular resistance. The effect of their application is to increase blood pressure and help maintain the supply of blood and oxygen to the vital organs. MAST will also help to immobilize and control bleeding in pelvic and lower extremity fractures, and control bleeding in the legs and abdomen.

PERSONNEL TRAINING:

Anti-Shock trousers are to be applied only by EMS personnel who are trained in their application and use. In the Marquette County EMS Medical Control Authority region the following personnel are authorized to use this device pre-hospital following the proper training:

All licensed EMS personnel
(including medical first responders properly trained on the device).

A. INDICATIONS:

1. Hypotension associated with other signs and symptoms of shock. (Hypovolemic, neurogenic, anaphylactic shock)
2. Splinting of fractures to pelvis or lower extremities.
3. Use when systolic pressure is 90 or less and signs of hypovolemic shock. Apply without inflating in major trauma without hypotension in which the potential for rapid deterioration is great.
4. Intra-abdominal hemorrhage.
5. In bradysystolic or asystolic arrest when hypovolemia is suspected. Particularly indicated for pulseless CPR.

NOTE: This is not to imply that MAST are to be utilized in all arrest situations, but to point out they may be indicated in a arrest that is of a hypovolemic origin.

B. CONTRAINDICATIONS: "When Not To Use"

1. Pulmonary edema
2. Extensive burns. (Check with Medical Control)

Hemorrhage above the diaphragm and closed head injury are relative contraindications to the use of MAST. If hypovolemia is life-threatening, the suit is indicated. Every attempt should be made to stop the bleeding before inflation. Benefits will be very transient in the presence of continued bleeding.

If patient worsens, develops difficulty breathing, noisy respiration, frothy pink sputum, or otherwise seems to deteriorate when trousers are inflated - they should be deflated. When

possible contact Medical Control prior to deflation.

In pregnancy, inflate only the legs, not the abdominal compartment; with eviscerations, inflate only the legs. If patient continues to deteriorate contact Medical Control for orders to possibly inflate abdominal section.

C. PRECAUTIONS:

1. DO NOT DEFLATE IN THE FIELD! Except by direct Medical Control order. Deflation is best managed in a hospital situation where IV lines are secure, blood is available and definitive intervention to stop the bleeding can be started immediately. Deflation should be done under direct order and supervision of a physician. In patients in which pulmonary edema develops, where practical contact Medical Control prior to deflation.
2. Respiratory compromise can occur, particularly if applied too high with encroachment on lower ribs.
3. If patient is pregnant, avoid abdominal inflation unless order by Medical Control.
4. Note carefully presence of wounds that the MAST suit will cover, once inflated. (You may be the only individual who can give the hospital this information).

D. TECHNIQUE:

1. Obtain baseline vitals prior to inflation if time permits. **The use of MAST is based on blood pressure readings, not MAST suit pressures.**
 - a. In a severe shock patient, absence of radial pulses, unconsciousness, etc. are indications to apply MAST and obtain a BP reading at the earliest opportunity.
2. Place suit on backboard or stretcher prior to moving patient, if possible. If in doubt, apply MAST without inflating.
3. PERFORM "PREMAST" SURVEY to find injuries that MAST will be covering up. Briefly cover any wounds that MAST will be covering.
4. Apply suit using manufacturer recommendations. Do not allow riding above xiphoid. MAST may be placed over clothing and bandages, but sharp or hard objects should be removed first.
5. Assess patient for urgency of inflation of MAST.
 - a. If patient is of severe shock (ie. unconscious, BP less than 80, radial pulses absent or extremely weak and rapid).
 - 1) Inflate both legs all the way up until the velcro crackles on the pants.
 - 2) Reassess patient. If shock persists, inflate MAST abdominal section all the way until velcro crackles.
 - 3) Reassess patient and package to transport.
 - b. If patient is showing initial signs of shock (decreased level of consciousness, increasing pulses, dropping BP, etc).

