Researchers at the University of South Florida have improved upon existing commercially available bands that are used to evacuate blood from extremities for surgical purposes by adding image guides to indicate an approximate pressure of the bandage.

Prior to surgeries, a stretchable band can be used to force the venous blood out of an extremity and to prevent re-entry of higher pressure arterial blood. Although a certain level of force is required to successfully evacuate the blood prior to activation of the tourniquet, the elastic bands used do not give an indication of the amount of force applied to the limb. Therefore, the surgeon is left to use his or her best judgment as to the efficiency and tightness of the band’s application.

USF inventors designed an improved Esmarch bandage which provides immediate visual feedback for the application of force the bands are giving. This visual feedback prevents excessive pressure. Its novel design also provides consideration for the multiplicative effect of overlapping the elastic band.

The current invention is a set of images printed directly on a stretchable band. These images can help to gauge, quantify and adjust the pressure applied to the limb. This invention has the potential to make the application of Esmarch bandages easier and more convenient by taking out the guess work.

**ADVANTAGES:**
- Gives visual indication of amount of pressure on the limb
- Easy to use
- Prevents excessive pressure caused by judgment of force

**Modified Stretchable Band with Added Visual Representation of Force Applied for Limb Hemoevacuation**

**Venous Exsanguination with an Esmarch Bandage**