

## AAJT Design and Testing

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In the Spring 2016 issue of the *Journal of Special Operations Medicine*, researchers reported results of a study of junctional hemorrhage and found the Abdominal Aortic and Junctional Tourniquet (AAJT; Compression Works; <http://compressionworks.com>) to be very effective.<sup>1</sup> However, they did encounter breakage of the pressure gauges on the older devices they were using (Figure 1).

**Figure 1** Breakage of gauge from repetitive stress.



Current information on field use of the AAJT shows that it performs extremely well and provides mission operational reliability under its intended use. The AAJT is intended for single use only and is not a permanent, reusable medical device. The perceived failure in durability for the tested devices was due to excessive stress as

a result of repetitive training placement. Each device in the study was expected to complete 56 tests. All AAJT devices tested in the study remained intact for multiple uses before breaking. Therefore, the design as tested was shown to be capable of withstanding adverse field conditions and maintain a high reliability for single-patient use.

Irrespective of the study results, Compression Works identified a potential weakness within the pressure gauge in early 2014 (all devices used in the study were manufactured before this time). As a preventive measure, a protective cap (i.e., shroud) was designed to increase the ruggedness of the device. By April 2014, all devices manufactured included this shroud over the end of the gauge (Figure 2). No breakages related to the gauge have occurred since that time.

**Figure 2** Protective cap added in April 2014.



### Reference

1. Chen J, Benov A, Nadler R, et al. Testing of junctional tourniquets by medics of the Israeli Defense Force in control of simulated groin hemorrhage. *J Spec Oper Med*. 2016;16:36–42.