

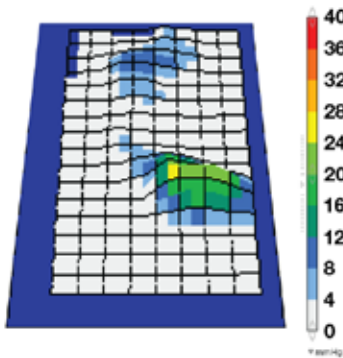
TECHNICAL REPORT

■ PRESSURE DISTRIBUTION: A comparison of the Aspen Vista TX, and the Optec ProGlide 174

Overview

The function of an extended wear cervical collar is to restrain motion of the cervical spine without creating tissue interface pressures high enough to cause skin breakdown. Effective distribution of the forces involved is primarily dependent on the design of the collar structure. While the two collars are similar in appearance, the **Vista TX** distributes pressure far more effectively than the **ProGlide 174**.

Materials & Methods



Testing of the **Vista TX** and the **ProGlide 174** collars was conducted using a Pressure Mapping System (#UT5010-1495). Each of the collars were fitted to the test subjects according to the manufacturers' instructions. To insure that both collars were tightened equally, a *Mecmesin Compact Force Gauge 200N* attached to the loop Velcro straps, was set to 10 LBS. The pressure

mapping pad was calibrated so that pressures above capillary closing pressures are dark orange or red. The pad was then placed between the patient and the collar padding. Tissue interface pressures were measured on the mandibles and upper chest wall. The subjects were directed to relax and let the collar support their head.

Results

The graphs demonstrate that there are clinically significant differences in the tissue interface pressures between the two collars. Peak pressures measured in the **Vista TX** and the **ProGlide 174** were 29 mmHg and 101 mmHg respectively.

Discussion

While the **Vista TX** and the **ProGlide 174** collars are similar in appearance, the pressure testing data show that there is a significant difference in their performance. The **Vista TX** distributes pressure far more effectively than the **ProGlide 174**. The graphs show the pressure in a "best case" scenario where the subjects are relaxed. Any attempted motion by the subjects would cause significant increases in pressure, especially over the hot spots (red areas).

