

## TECHNICAL REPORT

# DEFLECTION UNDER LOAD: A comparison of the Aspen Vista TX, and the Optec ProGlide 174

### Overview

The function of a cervical orthosis is to restrict motion of the cervical spine. The Aspen **Vista TX** shows less deflection under load than the **Optec ProGlide 174**, thus providing better motion restriction.

### Materials & Methods



Testing of the **Vista TX** and the **ProGlide 174** collars was conducted using a specially designed apparatus consisting of a mannequin mandible attached to a pivoting lever arm, above the upper thorax of the same mannequin. Each of the collars were fitted to the mannequin so that the front of the chin piece was properly positioned beneath

the mannequin mandible, and the back panel was applied. Force was applied through a *Feedback Sports 15050 Expedition Digital Scale* attached to the lever arm. Deflection data was collected in each of three collar settings; low, medium and high. The amount of deflection at a given load was measured up to 32 LBS. or failure of the collar.

### Results

Neither collar showed evidence of any significant deflection at forces below 15 LBS. At forces above this, however, in the medium and high settings, significant differences became apparent. (FIGURE 1 and FIGURE 2) From 15 to 25 LBS. the average deflection of the **ProGlide 174** was more than 6 times that of the **Vista TX**. (.428" vs. .069") In the high setting, 32 LBS. of force caused the **ProGlide 174** to collapse. At the same pressure the **Vista TX** showed less than a quarter of an inch of deflection.

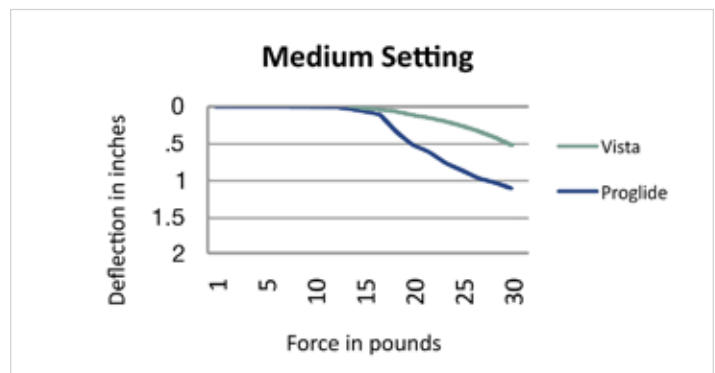


FIGURE 1

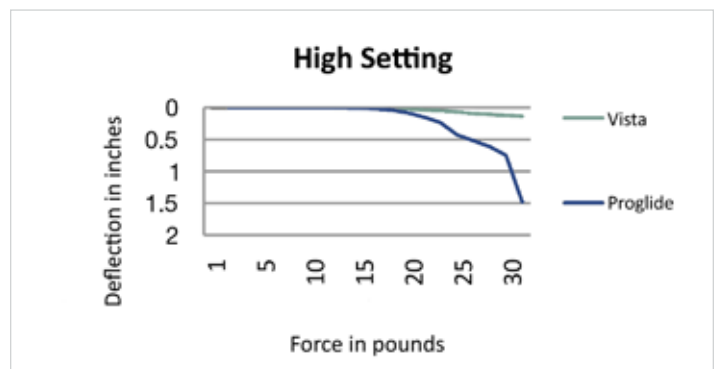


FIGURE 2