



October 18, 2010

Strength and Durability Evaluation of Intec's Genesis Saddletree **Report #: R2010-074**

Work Conducted for: Intec Corporation
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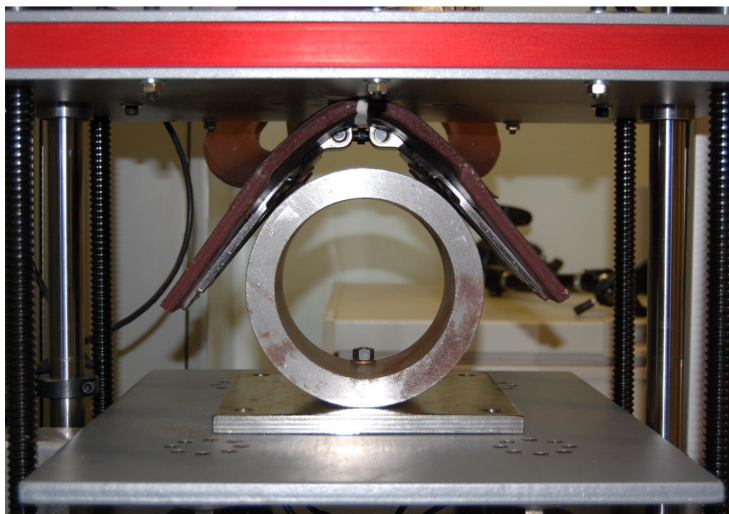
Work Conducted by: Tim Bayne, Biokinetics and Associates Ltd.

Objective: Intec Corporation manufactures an adjustable saddletree (actual product tested was the Genesis Adjustable Tree) and Biokinetics was contracted to subject the saddletree to a controlled spreading force to evaluate the durability and strength of the adjustable mechanism.

Test Method: An electro-mechanical press with two horizontal platens was used to apply a controlled load to the saddletree.

The saddletree's full range of motion was recorded to be 104° fully open and 66°, fully closed. The middle point was calculated to be 85°; this is the saddletree angle that was used for testing.

The saddletree was supported on the underside with a steel cylinder having an outside diameter of 160 mm (6.29 inch) and a length of 90 mm (3.54 inch) and was loaded on the top by the moving horizontal platen, a picture of this setup is seen below.



The saddletree was placed axially along the cylinder such that it was fully supported by the cylinder.

The electro-mechanical press was programmed to load the saddletree at a loading rate of 1 mm/minute (.0394 inch/minute) to a maximum load of 7500 N (1686 lbf).

The test sample was to be loaded to failure or until maximum load was attained.

Results: The saddletree was tested to the full load of 7500 N (1686 lbf) and appeared to have not suffered any permanent deformation. The adjustable mechanism continued to function as it did before the test was conducted. A deflection of 5.5 mm (0.217 inch) was recorded when the peak load was achieved. A force vs. displacement graph is shown below for the tested saddletree.

