DESIGN UPDATE

StabiLink®

Interlaminar Design Rationale

Based on:

Computed tomography measurements of the lumbar spinous processes and interspinous space

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PURPOSE:

This study examines the anatomic proportions of the interspinous space and the spinous processes, considering the optimal placement of an interspinous spacer.

METHODS:

Between January 2008 and December 2009, 565 patients undergoing computed tomography (CT) scans of the abdomen for various reasons were collected retrospectively for the study. Using the CT scan data, spinous processes of the lumbar spine L1–5 and the interspinous spaces T12–L5 were measured (Fig. 1). It has been shown that implantation of an interspinous spacer displaces load posteriorly onto the spinous process, with corresponding compression produced at the area of the bone-implant interface. The question remains as to the optimal placement of a stand alone spacer within the interspinous space.

RESULTS:

According to our results, the interspinous space narrows significantly from anterior to posterior. Cortical thickness also decreases significantly from anterior to posterior. Therefore, the anterior space appears to offer more room and stability for implantation of a spacer (Fig. 2). The thicker cortex anteriorly provides a more stable contact surface (Fig. 3). As well, in addition to the protection given by the interspinous and supraspinous ligaments, the bony narrowing posteriorly offers an extra buffer against posterior displacement.

CONCLUSION:

The anterior interspinous space offers a more stable bearing surface for an interspinous implant than the posterior space.

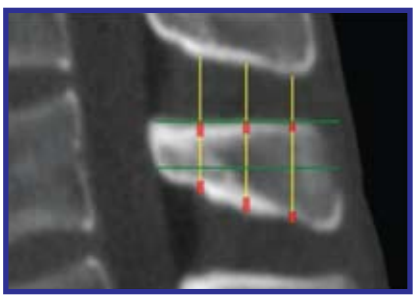

Fig. 1 - Increased Anterior space

Fig. 2 - Increased space for Anterior Tray

Fig. 3 - Thicker cortex anteriorly

Key Clinical Advantages

Biomechanical Strength

- Laminar Lock Technology™ significantly reduces range of motion in all three planes Flex/Ext, Lateral Bending and Axial Rotation*

Open Anterior Tray Design

- Protects Dura
- Maximizes containment area for bone graft material to promote bony fixation between the spinous processes

Rigid Bone Spikes

- 16 Spikes over Broad Area Results in increased Load-Sharing Capability

Minimally Invasive

- 2-4 cm Incision

Torque Controlled Locking Mechanism

- Provides Secure Lock

Six Anterior "Tray" Sizes 8-10-12-14-16-18 mm

- Optimum Anatomical Fit

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