Modular Dorsal Plate

This invention adds substantially and significantly to the human knowledge and gives a novel surgical option in the form of an anatomical, easily malleable locking plate for spine surgeons to tackle various Dorsal spine pathologies involving injured lamina or which requires opening up of the lamina.

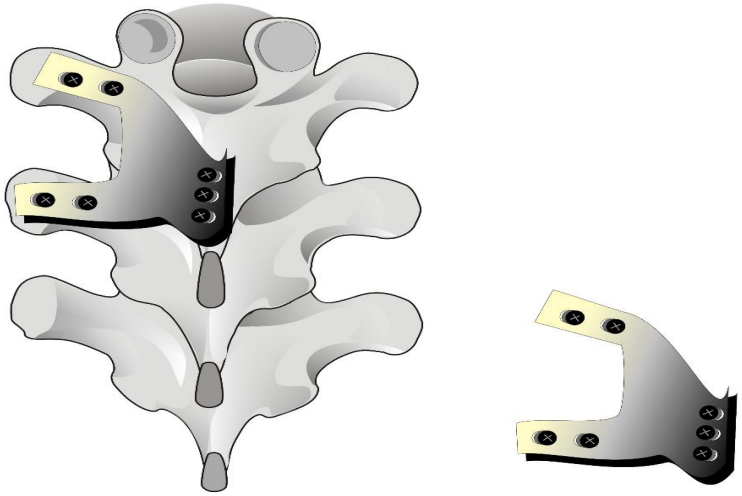
The Problems being solved are:

A. Laminectomy : It is the standard procedure being performed in Dorsal spine to tackle various pathologies including Trauma, Tumour, Degenerative conditions, Infection, Deformity correction and many other problems and conditions. It has inherent disadvantages of removal of natural bone protection for vitally important spinal cord, Pseudo-membrane formation and posterior fusion is not possible with laminectomy and Kyphosis. This give surgeons an excellent option to put back laminectomy flap and fix it firmly so that posterior wall of bony spinal canal is reformed with its inherent strength and advantages.

B. Laminoplasty : At present laminoplasties being done are fixed with general 2.7 mm plates available commercially in the market. These plates are not specifically designed for unique anatomy of Dorsal spine and hence have the inherent disadvantages of fixation not being rigid, non-anatomical design, increased rate of non - union of flap, requires extensive intraoperative moulding and manipulations alongwith lack of enough and adequate screw options is not available.

No one that we know of have attempted to find a solution to the above said problem based on a scientific approach and rationale as we have tried doing here in our case.

Brief description of invention: A new 2.7 mm locking, “U” shaped, malleable and easily contourable, anatomically designed plate specific for Dorsal spine. It is an anatomical plate for Dorsal spine designed keeping in mind unique anatomy of the region. It is malleable to allow individualisation for best fit possible and adjustments at junctional regions. It is shaped with screw holes at each phalanx to take purchase at spinous process and facet joints being fixed.



This is an ingenious invention with novelty, non-obviousness and usefulness.

Purpose:

1. Maintain posterior soft tissue integrity
2. Dynamic stabilisation of spine
3. Re – form spinal canal anatomically

Indications:

1. Tumour excision
2. Degenerative conditions
3. Traumatic spine requiring decompression
4. Deformity correction

Most of these conditions require access to spinal canal. Laminectomy which is current gold standard requires removal of lamina and attached soft tissue to get in to spinal canal. With laminoplasty fixed with plate we get access to canal without disrupting posterior tissue integrity.

Advantages gained after using this plate for surgeon, patient and overall:

Surgeon

1. Ease of decompression
2. Strong, stable fixation of laminoplasty flap
3. Increased rate of laminoplasty flap fusion
4. Large surface available for posterior fusion

Patient

1. Early mobilisation
2. Dynamic fixation of spine
3. No post laminectomy syndrome

Overall

Improved patient care with excellent postoperative outcome

The facets fusion and internal fixation of laminoplasty flap to allow its fusion are the salient **Objectives** of this invention.

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