



<b>Title</b>	<b>Interspinous Implants and Pedicle Screws for Dynamic Stabilization of Lumbar Spine: Rapid Assessment</b>
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## Aim

To synthesize available clinical and economic evidence for lumbar, nonfusion, posterior stabilization devices.

## Conclusions and results

Lumbar, nonfusion, posterior stabilization devices are an alternative to decompression surgery and/or fusion surgery in treating degenerative conditions of the spine that have not responded to conservative treatment.

*Nonfusion Pedicle screws (Dynesys):* Prospective studies reported improvements in back and leg pain, quality of life, walking distance, and return to work. However, a significant proportion of operated patients required a surgical re-intervention needing device removal. Complications reported were malpositioned screws and broken screws leading to screw loosening.

*Interspinous devices (X STOP and Wallis):* One RCT concluded to the higher effect of X STOP on pain relieving 2 years after surgical intervention, on walking ability, and on patients' satisfaction. However, a trend of regression in pain was observed toward baseline levels. Methodological weaknesses questioned the reliability of results. Prospective studies on X STOP and Wallis reported an improvement in pain, physical function, and walking distance. Complications associated with the devices were device migration.

*Economic evaluation:* No full economic evaluation of interspinous implants and pedicle screw systems was identified. Information was insufficient to perform a cost-effectiveness analysis.

*International comparison:* In Belgium, the prices for X STOP and Dynesys are close to the prices in 5 neighboring countries (approximately 2500 euros). Different countries apply different reimbursement mechanisms.

*Conclusion:* There is low quality evidence on the clinical effectiveness and the safety of nonfusion dynamic stabilization devices in treating degenerative pathologies of the lumbar spine.

## Recommendations

The lumbar nonfusion dynamic stabilization devices must be considered experimental.

- Randomized prospective studies are needed to define the place of these devices as therapeutic means in degenerative lumbar spine surgery.
- Evidence is insufficient to recommend reimbursement for lumbar nonfusion posterior stabilization devices.

## Methods

This rapid assessment followed the standard methodology of HTA reports, without considering patient, ethical, and organizational issues. We searched the following databases: HTA agencies, databases of CRD, Cochrane Library, MEDLINE, Embase, Psycinfo, Econlit, and the NHS Economic Evaluation Database. An international comparison aimed to compare prices and reimbursement practices among sampled European countries.