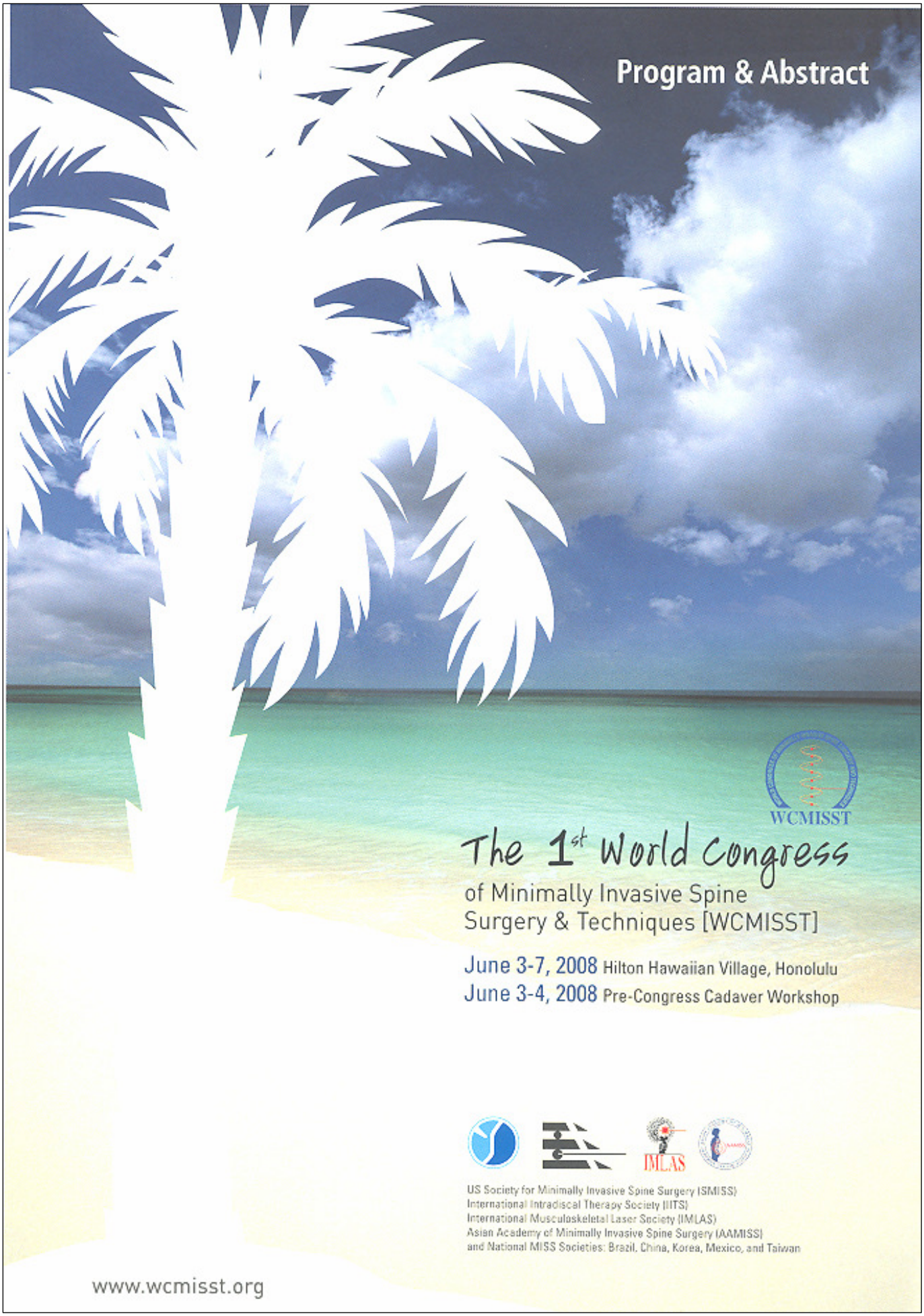
Program & Abstract
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The 1st World Congress
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June 3-7, 2008 Hilton Hawaiian Village, Honolulu
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[10103]

Expandable single implant for foraminal or lateral stenosis in extreme collapsed lumbar discs: Transforaminal endoscopic stenosis surgery (TESS)

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Purpose: The purpose of this paper is to present a new endoscopic surgical procedure for extremely collapsed discs (>50% of total disc height) secondary to DDD, that we call the transforaminal endoscopic stenosis surgery (TESS). This technique is used to ream out the foramen under direct endoscopic vision and then implant an expandable device (B-Twin) in the intervertebral space through a posterolateral transforaminal approach. The implant is used here only as a disc spacer, that expands the foramen and provides additional vertebral stability in case of spondylolisthesis up to grade 1.

Methods: Sixtyfive patients with DDD underwent TES surgery between March 2005 and July 2007. 44 patients underwent TES surgery at Centro Médico Teknon in Barcelona, (Spain) and 21 patients at Wooridul Spine Hospital, Seoul (South Korea). All 65 procedures were performed by posterolateral transforaminal approach under direct endoscopic vision. Bone reamers were used in order to perform foraminoplasty to allow the access to the intradiscal collapsed space. Implants were then placed into the intervertebral space in order to increase or maintain the disc's height. Pain was scored pre- and post-operatively with a Visual Analog Scale (VAS) and the disability was also evaluated pre- and post-operatively with the Oswestry24 disability index (ODI) for every patient.

Results: The outcome of group D (double implant, 28 cases) was: 16 excellent (57.1%), 7 good (25%), 3 fair (10.7%), 2 poor (7.2%). The outcome of group S (single implant, 37 cases) was: 24 excellent (64.9%), 8 good (21.6%), 3 fair (8.1%), 2 poor (5.4%). The VAS and ODI scores did not show significant differences ($p<0.05$) between the scores of both groups.

Conclusions: A new surgical technique (TESS) using a new endoscopic 3.5mm bone reamer for undercutting the superior facet under direct endoscopic vision is presented here. This proves to be useful for narrow foramens in which the access is generally difficult. Expandable implants are additionally placed in order to partially restore disc height. Placing one implant instead of two shows a similar outcome with no significant difference in the VAS and ODI scores.

Key words: expandable implant, endoscopic surgery, stenosis, collapsed disc, endoreamer

[10156]

The learning curve in foraminal endoscopic discectomy

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Purpose: We sought to construct a general methodology for objectively quantifying the learning curve associated with any surgical technique and to determine the number of cases needed to achieve a success rate of 90% for the technique of transforaminal endoscopic lumbar discectomy. To our knowledge, no other studies have observed the learning curve of endoscopic lumbar discectomy by transforaminal approach.

Methods: We studied the learning curve of 1 orthopedic surgeon who had had experience performing open spine surgery and knee and shoulder arthroscopic surgery, but not endoscopic spine surgery. We studied 144 patients who had an endoscopic lumbar discectomy by transforaminal approach (using the Yeung Endoscopic Surgery System). We evaluated results with modified MacNab criteria and used a questionnaire to determine the patients' satisfaction with the surgery. The average follow-up period was 24 months. We used an algorithm, analyzing the patient outcome and the surgical time evolution, to determine the case at which a success rate of 90% good/excellent results was reached.

Results: The cut for the calculated learning curve was placed at case no. 72; i.e., the results in the first 72 cases were 75% good/excellent, 18% fair, and 7% poor, and the results in the following 72 cases were 90.3% good/excellent, 9.7% fair, and 0% poor.

Conclusions: A methodology to calculate the learning curve of a surgical procedure was developed. A learning curve of 72 cases was needed to reach the goal of 90% of good/excellent results for transforaminal endoscopic lumbar discectomy.

Key words: learning curve, endscopic surgery, transforaminal approach

Congress Outline

Combining Societies & Cooperating Societies

Combining Societies



2008 Annual Meeting of US Society for Minimally Invasive Spine Surgery (US SMISS)
21st Congress of International Intradiscal Therapy Society (IITS)
15th Congress of International Musculoskeletal Laser Society (IMLAS)
2008 Annual Meeting of Asian Academy of Minimally Invasive Spine Surgery (AAMISS)
: including Japan, Singapore, Hong Kong, India, Indonesia, Malaysia, and Dubai

Cooperating Societies


Sociedad Interamericana de Cirugia Minimamente Invasiva de Coluna
Brazilian Spine Society (BSS)
Brazilian Minimally Invasive Spine Society (BMISS)
Sociedad Mexicana de Minima Invasion de Columna (SOMMIC)
Taiwan Society of Minimal Invasive Spine Surgery (TSMISS)
China Congress of Minimal Invasive in Spinal Surgery (CCMISS)
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