

maxmore spine[®]



THE NEW SAFE AND EASY SPINAL
ENDOSCOPIC DECOMPRESSION SYSTEM



SAFE, PRECISE & EFFICIENT

A complete endoscopy system for herniated and degenerative disc pathology and foraminotomy.

Transforaminal decompression, total fragment tectonic disc abrasion, disectomy, endoplasty.

developed by **THOMAS HOOGLAND M.D.**



THE HOOGLAND SPINE PRODUCTS COMPANY

was founded October 2006 in Munich, Germany. The aim of the company is to develop, produce and distribute instruments and software for minimal invasive spine intervention and surgery. The company is built upon over 20 years of experience in the field of arthroscopy, endoscopy, instrument engineering and spine surgery.

Dr. Hoogland is looking back at over 13.000 cases of spine surgery,

most of them minimal invasive. Starting in the 80's with scoliosis surgery and laminectomy for disc herniation the surgical spectrum has moved into target surgery for herniated discs, disc degeneration and facet joint pathology. In the 90's he developed a spine scope with adequate working channel and acquired a patent on instruments to enlarge the spinal foramen.

Production and distribution of an adequate set of instruments and documentation equipment appeared difficult in terms of manufacturing of the proper elements. These first instruments yielded significant technical difficulties with a steep learning curve. Therefore a physician controlled company was founded in 2006, new, safe and easy instruments were developed and the software was improved.

The young innovative team of Hoogland Spine Products ensures best high tech standards by combining a close

efficient cooperation with leading doctors and centers from all over the world. Our Research and Development Team constantly looks for more efficient and simpler solutions but more important listens to the needs of the surgeons. By listening and understanding we can quickly adapt the customers needs and we are able to implement safe, precise, intelligent and practical instruments without prolonged developing processes known from bigger companies. This is appreciated by our customers and most important by the patients.

Certified quality management is ensured by Johanna Miklitz and sales, product and software management is provided by Boris Miklitz. Early in 2007 the new complete spinal endoscopy set was introduced to the spine surgery community and a training center was established adjacent to the Alpha Klinik in Munich, Germany. In June 2008 the System is already used in more than 15 countries worldwide. More and more training centers will be established in the future to provide education and to pass on the benefits of the "New Standard" in endoscopic Spine surgery.

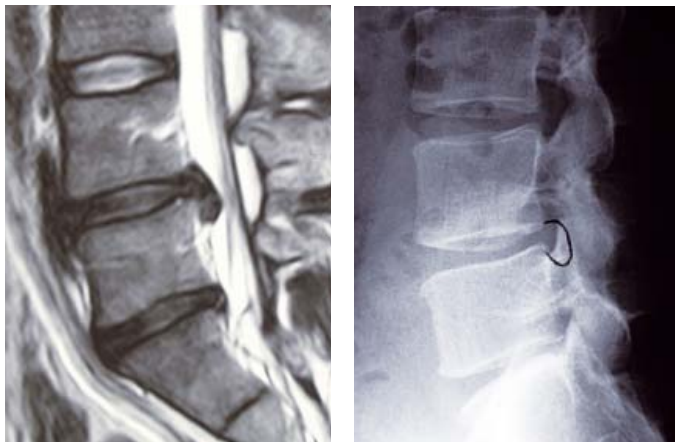
Hoogland Spine Products are confident that the now available system will revolutionize the approach to the lumbar spine with comparable systems to come for the cervical spine. The technique and approach allows also a complete new management of disc degeneration and facet joint hypertrophy. The management of modern intravenous anaesthetics allows extensive spinal procedures in local anaesthesia. This minimizes the risks of spine surgery and opens new windows of opportunity for the steep increase of degenerative spine conditions.

LITERATURE

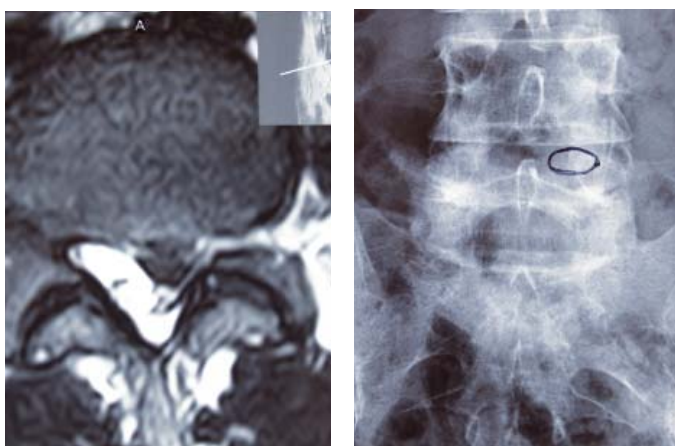
1. Die perkutane lumbale Nukleotomie mit Low-Dosis Chymopain, ein ambulantes Verfahren. T. Hoogland, C. Scheckenbach
Z. Orthop. 133,106-113, 1995
2. Out-Patient Endoscopic Lumbar Laserdiscectomy. T. Hoogland, Proceedings : International Symposium Laser in Orthopaedics, San Francisco, September 27-19, 1991
3. Erfahrungen nach 2000 ambulanten Bandscheibenoperationen T. Hoogland, C. Scheckenbach, Ch. Wagner, München
Ambulant operieren, 3, 1: 1-6, 1994
4. Low-Dose Chemonucleolysis Combined with Percutaneous Nucleotomy in Herniated Cervical Disks
T. Hoogland, C. Scheckenbach
Journal of Spinal Disorders, 8, 3: 228-232,1995
5. Endoskopische transforaminale Diskektomie erfolgreich
Dr. T. Hoogland
Extracta orthopaedica, 12: 12-16, 1997
6. Die endoskopische transforaminale Diskektomie bei lumbalen Bandscheibenvorfällen. T. Hoogland, C. Scheckenbach
Orthopädische Praxis, 34, 5: 352-355, 1998
7. New in Vivo Measurements of Pressures in the Intervertebral Disc in Daily Life H. Wilko, P. Neef, M. Coimi, T. Hoogland, L.Claes. Spine 24, 8, 775-762, 1999
8. Endoskopische transforaminale Diskektomie
T. Hoogland, C. Scheckenbach, H. Dekkers, München
Ambulant operieren, 6, 4: 1-3, 1999
9. Ambulante perkutane Discoplastik bei Rückenschmerzen
T. Hoogland, B. Miklitz
Ambulant operieren, 3: 77-80, 2002
10. Transforaminal disctomy with foraminoplasty for lumbar disc herniation T. Hoogland Surgical Techniques in Orthopaedics and Traumatology. 55-120-C-40,2003, 6p.
11. Nukleotomie mit Foraminoplastik bei lumbalen Bandscheibenvorfällen. Endoscopic Transforaminale Nucleotomy with Foraminoplasty für Lumar Disc Herniation
Hoogland, T., Schubert, M.,
Oper Orthop Traumatolog 2005/5:641-661
12. Transforaminal Posterolateral Endoscopic Disectomy With or Without the Combination of a Low-Dose Chymopypain:
A Prospective Randomized Study in 280 Consecutive Cases.
Spine 2006;31(24) E:890-E897
13. Endoscopic Transforaminal Discectomy for Recurrent Lumbar Disc Herniation
T. Hoogland, K. van den Brekel, M. Schubert, B. Miklitz, A. Ramirez Spine Journal 2008; Volume 33; Number 9

1 preoperative planning

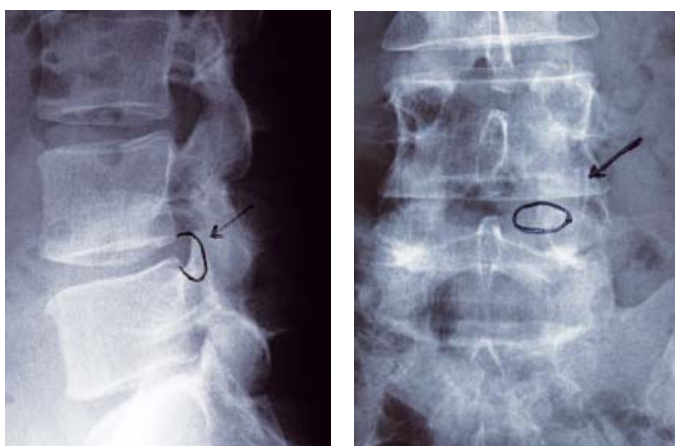
1 a the herniated fragment on the MRI is plotted into the lateral X-ray view of the lumbar spine



1 b the herniated fragment on the axial MRI view is plotted into the AP X-ray of the lumbar spine



2 determination of the entrance point to the foramen on the lateral and AP X-ray view.



3

positioning of the patient in a stable lateral position on the radiolucent operating table



4

disinfection of the skin and sterile draping



5

marking of the skin 12 cm from the midline



6

marking of the approach angle with C-arm guidance



7

determination of the entrance point on the skin and local anaesthesia



8

positioning of a spinal needle at the target area on the facet joint



9

facet joint injection of 5cc 1% xylocain with adrenaline



10

insertion of the guide wire



11

skin incision of 8 mm



12

predilation with a 3.0 mm rod



13

dilation with a 6.3 mm rod



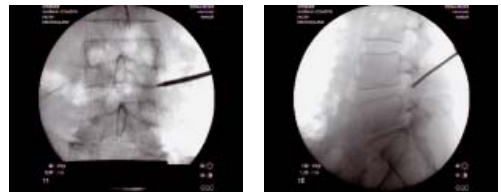
14

advancing of TOMshidi



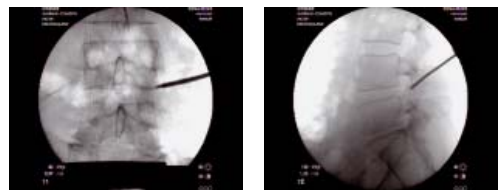
14 a

targeting of TOMshidi in to the herniated fragment



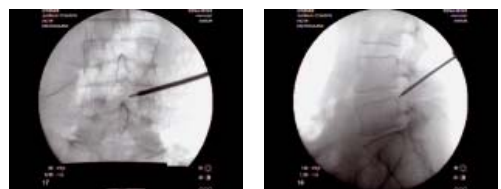
14 b

advancing under C-arm control



14 c

advancing of blunt drill under C-arm control



15 placement of the guide wire through TOMshidi



16 straight line drilling with 1st canulated TOM bone drill, 4 mm



16 a



CAUTION! THE GUIDE WIRE STAYS IN PLACE

17 enlargement of the drill hole/tunnel with 2nd canulated TOM bone drill, 6 mm



18 tunnel enlargement with 3rd TOM bone drill, 7 mm



19 tunnel enlargement with 4th TOM bone drill, 8 mm and angle correction, if necessary



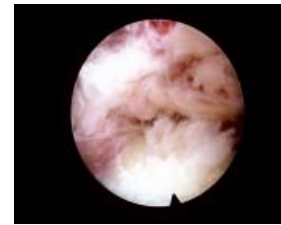
20 insertion of dilatation over pilot guide wire and working canula



21 positioning of working canula under C-arm control



22 endoscopic inspection of spinal canal entrance



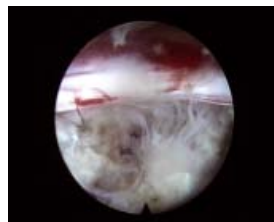
23 endoscopic removal of the herniated fragment



24 control of the position of working canula and forceps



25 endoscopic inspection of the spinal nerve: **confirmed by free movement of previously compressed nerve root**



maxmore spine[®]

INSTRUMENTS



ALL INSTRUMENTS ARE PATENT PROTECTED

maxMore[®] Data System



powered by



maxmore spine[®]

HOOGLAND SPINE PRODUCTS GMBH

Arabellastr. 4
D - 81925 Munich | Germany
Fon +49 (0) 89 20 4000 281
Fax +49 (0) 89 20 4000 298

info@max-more.com
www.max-more.com