

Cordotomy

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Cordotomy is a surgical procedure that disables selected pain-conducting tracts in the spinal cord, in order to achieve loss of pain and temperature perception. This procedure is commonly performed on patients experiencing severe pain due to cancer or other diseases for which there are currently no cure. Anterolateral cordotomy is effective for relieving unilateral, somatic pain while bilateral cordotomies may be required for visceral or bilateral pain. Cordotomy is usually done percutaneously with fluoroscopic guidance while the patient is under local anesthesia. Open cordotomy, which requires a laminectomy, is often risky for patients with poor medical conditions, but may be required if percutaneous cordotomy is not feasible or an attempt has failed. Cordotomy is now used exclusively for pain due to cancer where treatment to level 3 of the World Health Organisation analgesic ladder has proved ineffective. Cordotomy is especially indicated for pain due to mesothelioma. A number of alternative surgical procedures have evolved in the 20th century; these include: "Commissural myelotomy", with limited rostro-caudal range; it produces bilateral analgesia. "Limited midline myelotomy" for the treatment of pelvic visceral cancer pain. Recently, Dr. Elie D. Al-Chaer and his colleagues discovered a new pathway in the spinal cord relatively specific for visceral pain - the pain that originates from visceral organs such as the colon, the bladder and the pancreas. The new pathway is located in the posterior columns, traditionally believed to mediate light touch and kinesthesia. This discovery led to a paradigm shift in our understanding of pain pathways and in the approach to treat intractable visceral pain. As a result, "punctate midline myelotomy" was introduced around the world as a new surgical procedure for the treatment of visceral pain residual to cancer and refractory to conventional treatment. ([From the Wikipedia article Cordotomy.](#))

Recent Publications on Cordotomy:



- [Mechanosensitive primary bladder afferent activity in rats with and without spinal cord transection.](#)
*PURPOSE: Spinal cord injury induces functional and morphological changes...*31st October, 2009
Departments of Urology, Faculty of Medicine, University Antwerp, Wilrijk,- J Urol. 2009 Nov;182(5):2504-10. Epub 2009 Sep 17. ([DOI Direct Link](#))
- [Vocal fold paralysis: role of bilateral transverse cordotomy.](#)
*Objective:Although modern endoscopic laser techniques aim to avoid a...*11th September, 2009
Department of Otolaryngology, York Hospital, UK.- J Laryngol Otol. 2009 Sep 10:1-4. ([DOI Direct Link](#))
- [Laryngeal complications after lipoinjection for vocal fold augmentation.](#)
*OBJECTIVES/HYPOTHESIS: Vocal fold augmentation with autologous fat has...*29th August, 2009
Department of Otolaryngology, University of Texas Health Science Center at- Laryngoscope. 2009 Aug;119(8):1652-7. ([DOI Direct Link](#))
- [\[Description of complications after injection laryngoplasty with polydimethylsiloxane\]](#)
*The injection of polydimethylsiloxane for medialization of the vocal folds...*6th August, 2009
Hopitaux Universitaire de Geneve, Service d'Oto-Rhino-Laryngologie et de- Rev Laryngol Otol Rhinol

- (Bord). 2009;130(1):69-72.
- [Fractionated radiosurgical management of intramedullary spinal cord metastasis: A case report and review of the literature.](#)
*OBJECTIVE AND IMPORTANCE: Intramedullary spinal cord metastasis (ISCM)...*31st July, 2009
 Department of Radiation Oncology, University of Pittsburgh Cancer- Clin Neurol Neurosurg. 2009 Jul 27. ([DOI Direct Link](#))
 - [Percutaneous CT-guided C1-2 cordotomy for intractable cancer pain.](#)
*OBJECTIVE AND IMPORTANCE: Intramedullary spinal cord metastasis (ISCM)...*10th July, 2009
 Department of Anesthesiology and Pain Medicine at the University of- Curr Pain Headache Rep. 2009 Aug;13(4):253-5.
 - [\[Spinal cord injuries. Rehabilitative neurosurgery\]](#)
*OBJECTIVES/HYPOTHESIS: Vocal fold augmentation with autologous fat has...*20th May, 2009
 Neurokirurgiska Kliniken, Akademiska sjukhuset, Uppsala.- Lakartidningen. 2009 Mar 11-17;106(11):775-8.
 - [Computed tomography-guided percutaneous cordotomy for intractable pain in malignancy.](#)
*OBJECTIVE: Pain, usually a response to tissue damage, is accepted as an...*2nd May, 2009
 Department of Neurosurgery, Ankara University School of Medicine, Sihhiye,- Neurosurgery. 2009 Mar;64(3 Suppl):187-93; discussion 193-4. ([DOI Direct Link](#))
 - [Five-year follow-up of a cordotomy.](#)
*Percutaneous cervical cordotomy is an invasive procedure to treat severe,...*15th April, 2009
 Department of Internal Medicine, University Medical Center Groningen,- Pain Res Manag. 2008 Nov-Dec;13(6):506-10.
 - [Laser cordotomy for the treatment of bilateral vocal cord paralysis in infants.](#)
*OBJECTIVE: Vocal cord paralysis is the second cause of neonatal stridor....*1st April, 2009
 Department of Pediatric Otorhinolaryngology, La Timone Children's- Int J Pediatr Otorhinolaryngol. 2009 Jan;73(1):9-13. Epub 2008 Nov 18. ([DOI Direct Link](#))
 - [Chemical cordotomy. How far have we come?](#)
*OBJECTIVE: Vocal cord paralysis is the second cause of neonatal stridor....*12th February, 2009
 - Surg Neurol. 2008 Dec;70(6):599. Epub 2008 Sep 10. ([DOI Direct Link](#))
 - [Adhesive arachnoiditis following percutaneous cervical cordotomy--may we still use lipiodol?](#)
*OBJECTIVE: Vocal cord paralysis is the second cause of neonatal stridor....*10th January, 2009
 - J Pain Symptom Manage. 2008 Nov;36(5):e1-4. Epub 2008 Sep 26. ([DOI Direct Link](#))
 - [Effect of cervical dorsolateral funiculotomy on reach-to-grasp function in the rat.](#)
*Cervical spinal cord injury (SCI) can severely impair reaching and...*19th November, 2008
 Department of Physical Therapy, Arcadia University, Glenside, Pennsylvania- J Neurotrauma. 2008 Aug;25(8):1039-47. ([DOI Direct Link](#))
 - [Emergence of highly neurofilament-immunoreactive zipper-like axon segments at the transection site in scalpel-cordotomized adult rats.](#)
*Following transection of the spinal cord, severed axonal ends retract from...*6th November, 2008
 Department of Integrative Brain Science, Kyoto University Graduate School- Neuroscience. 2008 Jul 31;155(1):90-103. Epub 2008 May 9. ([DOI Direct Link](#))
 - [Destructive procedures for the treatment of nonmalignant pain: a structured literature review.](#)
*OBJECT: Nonmalignant pain has been treated in the past century with...*10th October, 2008
 Department of Neurological Surgery, Oregon Health & Science University,- J Neurosurg. 2008 Sep;109(3):389-404. ([DOI Direct Link](#))



Cordotomy Patents:

- 6053913- [Rapid exchange stented balloon catheter having ablation capabilities](#)
- 6228109- [Methods for treating atherosclerosis and vulnerable plaques](#)
- 6235024- [Catheters system having dual ablation capability](#)
- 6246912- [Modulated high frequency tissue modification](#)
- 6267769- [Trajectory guide method and apparatus for use in magnetic resonance and computerized tomographic scanners](#)
- 6267770- [Remote actuation of trajectory guide](#)
- 6267781- [Medical device and methods for treating valvular annulus](#)
- 6283962- [Device for valvular annulus treatment and methods thereof](#)
- 6306133- [Ablation catheter system and methods for repairing a valvular annulus](#)
- 6312426- [Method and system for performing plate type radiofrequency ablation](#)
- 6319251- [Medical device and methods for treating intravascular restenosis](#)
- 6206890- [Remote actuation of trajectory guide](#)
- 6179789- [Enhanced radioactive stent for reduction of restenosis](#)
- 6165206- [Apparatus for medical ablation use and methods thereof](#)
- 6068645- [Filter system and methods for removing blood clots and biological material](#)
- 6090134- [Surface fluorinated stent and methods thereof](#)
- 6102908- [Rotatable apparatus having ablation capabilities](#)
- 6104952- [Devices for treating canker sores, tissues and methods thereof](#)
- 6113593- [Ablation apparatus having temperature and force sensing capabilities](#)
- 6123703- [Ablation catheter and methods for treating tissues](#)
- 6123718- [Balloon catheter](#)
- 6129725- [Methods for reduction of restenosis](#)
- 6149647- [Apparatus and methods for tissue treatment](#)
- 6161548- [Ablation device and methods thereof](#)
- 6322583- [Medical device and methods thereof](#)
- 6346105- [Device for treating tissue and methods thereof](#)
- 7229469- [Methods for treating and repairing mitral valve annulus](#)
- 7231122- [Photonic crystal waveguides and systems using such waveguides](#)
- 7294623- [Benzyl morpholine derivatives](#)
- 7310466- [Photonic crystal waveguides and systems using such waveguides](#)
- 7331954- [Photonic crystal fibers and medical systems including photonic crystal fibers](#)
- 7349589- [Photonic crystal fibers and medical systems including photonic crystal fibers](#)
- 7410982- [Propanamine derivatives as serotonin and norepinephrine reuptake inhibitors](#)
- 7410996- [3-aryloxy/thio-2,3-substituted propanamines and their use in inhibiting serotonin and norepinephrine reuptake](#)
- 7417064- [3-aryloxy/thio-3-substituted propanamines and their use in inhibiting serotonin and norepinephrine reuptake](#)
- 7432280- [3-aminopiperidines and 3-aminoquinuclidines as inhibitors of monoamine uptake](#)
- 7167622- [Photonic crystal fibers and medical systems including photonic crystal fibers](#)
- 7037932- [Heteroaryloxy 3-substituted propanamines as serotonin and norepinephrine reuptake inhibitors](#)
- 6962703- [Clostridial toxin derivatives able to modify peripheral sensory afferent functions](#)
- 6368329- [Method of using trajectory guide](#)

- 6395513- [Clostridial toxin derivatives able to modify peripheral sensory afferent functions](#)
- 6451011- [Medical device having temperature sensing and ablation capabilities](#)
- 6451015- [Method and system for menu-driven two-dimensional display lesion generator](#)
- 6485489- [Catheter system for repairing a mitral valve annulus](#)
- 6596756- [Treatment of fibromyalgia](#)
- 6721603- [Nerve stimulation as a treatment for pain](#)
- 6752812- [Remote actuation of trajectory guide](#)
- 6902547- [Medical needle](#)
- 6902569- [Trajectory guide with instrument immobilizer](#)
- 7521462- [4-Amino-piperidine derivatives as monoamine uptake inhibitors](#)

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