

Cryosurgery

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Cryosurgery is the application of extreme cold to destroy abnormal or diseased tissue. Cryosurgery comes from the Greek cryo meaning icy cold and the word surgery meaning literally hand work or Handiwork. Cryosurgery is used to treat a number of diseases and disorders, especially skin conditions. Warts, moles, skin tags, solar keratoses, and small skin cancers are candidates for cryosurgical treatment. Some internal disorders are also treated with cryosurgery, including liver cancer, prostate cancer, cervical disorders and, more commonly in the past, hemorrhoids. Although found to be effective, this method of treatment is only appropriate for use against localized diseases with no metastasis. Cryosurgery works by taking advantage of the destructive force of freezing temperatures on cells. At low temperatures, ice crystals form inside the cells, which can tear them apart. More damage occurs when blood vessels supplying the diseased tissue freeze. In the past, the most common method to freeze was using liquid nitrogen as the cooling solution. The super-cooled liquid may be sprayed on the diseased tissue, circulated through a tube called a cryoprobe, or simply dabbed on with a cotton or foam swab. Less frequently, doctors use carbon dioxide "snow" formed into a cylinder or mixed with acetone to form a slush that is applied directly to the treated tissue. Recent advances in technology have allowed for the use of Argon gas to drive ice formation using a principle known as the Joule-Thomson effect. This gives physicians excellent control of the ice, and minimizing complications using ultra-thin 17 gauge cryoneedles. Cryosurgery is a minimally invasive procedure, and is often preferred to more traditional kinds of surgery because of its minimal pain, scarring, and cost; however, as with any medical treatment, there are risks involved, primarily that of damage to nearby healthy tissue. Damage to nerve tissue is of particular concern. Patients undergoing cryosurgery usually experience minor-to-moderate localized pain and redness, which can be alleviated by oral administration of an analgesic or ibuprofen) and application of topical steroid cream. Blisters may form, but these usually scab over and peel away. Category: Medical treatments: CrioTerapia Cryotherapy Cryotherapy is used to define several techniques and procedures in the medical community. The most general definition is the local or general use of low temperatures in medical therapy or the removal of heat from a body part to decrease cellular metabolism, increase cellular survival, decrease inflammation, decrease pain and spasm, promote vasoconstriction, and when using extreme temperatures, to destroy cells by crystalizing the cytosol. It can also be called crymotherapy. The most prominent use of the term refers to the surgical treatment, specifically known as cryosurgery. Other therapies that use the term are cryogenic chamber therapy and ice pack therapy. Cryotherapy is the application of extreme cold to destroy abnormal or diseased tissue. Cryotherapy is used to treat a number of diseases and disorders, especially skin conditions like warts, moles, skin tags and solar keratoses. Liquid nitrogen is usually used to freeze the tissues at the cellular level. The procedure is used often because of its efficacy and low rates of side effects. For more information, see Cryosurgery. Cryotherapy is a treatment where a person is placed in a cryogenic chamber for a short duration. The chamber is typically cooled with liquid nitrogen to a temperature of –110 C. For more information see Cryotherapy. Cryotherapy is commonly used to treat pain conditions. Most forms of cryotherapy used as passive physical modalities of the management and rehabilitation of both acute and persistent pain conditions, provide transfer of thermal energy by conduction, with the exception of vapocoolant sprays and whirlpool baths. The physiologic effects of cold application include immediate vasoconstriction with reflexive vasodilation, decreased local metabolism and enzymatic activity, and decreased oxygen demand. Cold decreases muscle spindle fiber activity and slows nerve conduction

velocity, therefore it is often used to decrease spasticity and muscle guarding. ([From the Wikipedia article Cryosurgery.](#))



Recent Publications on Cryosurgery:

- [Laparoscopic renal cryotherapy: preliminary experience.](#)
*OBJECTIVE: Renal cryotherapy has been described as a minimally invasive...*21st November, 2009
Unidad de Urologia Oncologica, Servicio de Urologia, Fundacio Puigvert,- Actas Urol Esp. 2009 Oct;33(9):982-987.
- [The surgical management of sacral chordomas.](#)
*STUDY DESIGN: Retrospective case series. OBJECTIVE: The purpose of this...*17th November, 2009
Memorial Sloan Kettering Cancer Center, New York, NY, USA.- Spine (Phila Pa 1976). 2009 Nov 15;34(24):2700-4. ([DOI Direct Link](#))
- [Primary Malignant Giant-Cell Tumor of Bone Has High Survival Rate.](#)
*BACKGROUND: Malignant giant-cell tumors (MGCT) comprise 2-9% of all...*11th November, 2009
Orthopaedic Surgery Service, Department of Surgery, Memorial- Ann Surg Oncol. 2009 Nov 10. ([DOI Direct Link](#))
- [Multiwavelength Laser Treatment of Venous Lakes.](#)
*BACKGROUND Venous lakes (VLs) are common benign ectasias in the upper...*6th November, 2009
Department of Dermatology, University Hospital of Salamanca, Salamanca,- Dermatol Surg. 2009 Nov 3. ([DOI Direct Link](#))
- [Cost effectiveness of Mohs micrographic surgery: review of the literature.](#)
*BACKGROUND: A number of treatment modalities are currently in existence...*6th November, 2009
Laser and Skin Surgery Center of Indiana, Carmel, IN 46032, USA.- J Drugs Dermatol. 2009 Oct;8(10):914-22.
- [Computerized Planning of Cryosurgery Using Bubble Packing: An Experimental Validation on a Phantom Material.](#)
*The current study focuses on experimentally validating a planning scheme...*4th November, 2009
Department of Mechanical Engineering, Carnegie Mellon University, 5000- Int J Heat Mass Transf. 2008 Nov;51(23-24):5671-5678. ([DOI Direct Link](#))
- [Pars plana vitrectomy alone with diffuse illumination and vitreous dissection to manage primary retinal detachment with unseen breaks.](#)
*OBJECTIVE: To report on pars plana vitrectomy with diffuse illumination,...*3rd November, 2009
Vall d'Hebron Hospital, Universidad Autonoma de Barcelona, Barcelona,- Arch Ophthalmol. 2009 Oct;127(10):1297-304. ([DOI Direct Link](#))
- [Correlation of Thermocouple Data With Voiding Function After Prostate Cryoablation.](#)
*OBJECTIVES: To identify possible correlations of thermocouple recorded...*27th October, 2009
Department of Regional Urology, Cleveland Clinic Fairview Cancer Center,- Urology. 2009 Oct 23. ([DOI Direct Link](#))
- [Sexually transmitted papillomavirus infections: epidemiology pathogenesis, clinic, morphology, important differential diagnostic aspects, current diagnostic and treatment options.](#)
*The family of human papilloma viruses (HPV) comprises more than 100...*24th October, 2009
Department of Dermatology, Venereology and DermatotomyVOP/MVZ,- An Bras Dermatol. 2009 Aug;84(4):377-89.
- [Renal Functional Outcomes After Cryoablation of Small Renal Masses.](#)
*Abstract Background and Purpose: Renal function outcomes after renal...*21st October, 2009
1 Department of Urology, Eastern Virginia Medical School , Norfolk,- J Endourol. 2009 Oct 19. ([DOI](#)

[Direct Link](#))

- [\[Cryothermal energy: a new perspective for interventional therapy of cardiac arrhythmias?\]](#)
*Cryothermal ablation is a new method in cardiac electrophysiology for the...*20th October, 2009
Klinik III für Innere Medizin, Universitätsklinik zu Köln, Germany.- Dtsch Med Wochenschr. 2009 Oct;134(43):2174-8. Epub 2009 Oct 13. ([DOI Direct Link](#))
- [Experimental cryosurgery investigations in vivo.](#)
*Cryosurgery is the use of freezing temperatures to elicit an ablative...*17th October, 2009
Department of Surgery, SUNY Buffalo, Buffalo, NY, USA.- Cryobiology. 2009 Oct 13. ([DOI Direct Link](#))
- [Aneurysmal bone cyst: The role of cryosurgery as local adjuvant treatment.](#)
*BACKGROUND: Aneurysmal bone cysts (ABCs) are most often treated with...*13th October, 2009
Department of Orthopaedic Surgery, Radboud University Medical Centre,- J Surg Oncol. 2009 Oct 9. ([DOI Direct Link](#))
- [Rapid improvement of extensive non-melanoma skin cancers with combination of 13-cis-retinoic acid and radiotherapy: report of three cases.](#)
*Extensive non-melanoma skin cancer (NMSC) constitutes a therapeutic...*8th October, 2009
Department of Dermatology, "A. Sygros" Hospital, University of Athens,- J BUON. 2009 Jul-Sep;14(3):515-7.
- [Long-term follow-up of photodynamic therapy with a self-adhesive 5-aminolaevulinic acid patch: 12 months data.](#)
*Summary Background Photodynamic therapy with a self-adhesive...*7th October, 2009
Department of Dermatology, Regensburg University Hospital, Franz Josef- Br J Dermatol. 2009 Jun 30. ([DOI Direct Link](#))

BioNews Results for Cryosurgery

- [Fractional Cryosurgery for Skin Cancer](#)
MDLinx: Nov 17 2009 10:53AM Matching: cryosurgery
- [Curettage-Cryosurgery for Facial Skin Cancers Well Tolerated](#)
Lab Medica: Oct 19 2009 3:18PM Matching: cryosurgery
- [Curettage-Cryosurgery for Facial Skin Cancers Well Tolerated](#)
Hospita Medica: Oct 19 2009 3:09PM Matching: cryosurgery
- [Curettage-Cryosurgery for Facial Skin Cancers Well Tolerated](#)
MedImaging.net: Oct 19 2009 3:06PM Matching: cryosurgery
- [ATS Medical Products Featured Prominently at European Association for Cardio-Thoracic Surgeons \(EACTS\) Annual](#)
Genetic Engineering News: Oct 15 2009 11:52AM Matching: cryosurgery
- [ATS Medical to exhibit its innovative cardiac surgery products at the EACTS meeting](#)
News-Medical.Net: Oct 15 2009 11:18AM Matching: cryosurgery

Cryosurgery Patents:

- 7420033- [Composition of lactoferrin related peptides and uses thereof](#)



- 7468379- [Inhibition of osteolytic lesions by SRC kinase inhibitors](#)
- 7470272- [Device and method for ablating tissue](#)
- 7476384- [Death domain containing receptor 4 antibody and methods](#)
- 7476389- [Papillomavirus vaccines](#)
- 7476661- [Regulators of the hedgehog pathway, compositions and uses related thereto](#)
- 7479139- [Apparatus and method for protecting tissues during cryoablation](#)
- 7481806- [Cryosurgical instrument and its accessory system](#)
- 7485117- [Detachable cryosurgical probe](#)
- 7485311- [Methods and compositions for preventing and treating male erectile dysfunction](#)
- 7488333- [Device for enabling the treatment of hemorrhoids](#)
- 7458379- [Method and system for cryoablating tumors](#)
- 7452538- [Death domain containing receptor 4 antibodies and methods](#)
- 7422583- [Cryo-surgical apparatus and method of use](#)
- 7422588- [Pen-type electrosurgical instrument](#)
- 7422600- [Method and apparatus for patient temperature control employing administration of anti-shivering agents](#)
- 7425211- [Cryogenic probe for treating enlarged volume of tissue](#)
- 7431701- [Method and system for diagnosis of lower urinary tract dysregulation and related conditions](#)
- 7432051- [Erythropoietin and erythropoietin receptor expression in human cancer](#)
- 7435250- [Method and apparatus for tissue ablation](#)
- 7435755- [CDDO-compounds and combination therapies thereof](#)
- 7445778- [Hedgehog and patched antagonists for inhibiting cell and tissue growth and differentiation and uses therefor](#)
- 7452359- [Apparatus for inserting spinal implants](#)
- 7491210- [Medical device and methods for use](#)
- 7491530- [Fusion partner cells and uses thereof](#)
- 7497857- [Endocardial dispersive electrode for use with a monopolar RF ablation pen](#)
- 7563260- [Tissue warming device and method](#)
- 7566334- [Ablation device with jaws](#)
- 7572268- [Apparatus and methods for the selective removal of tissue using combinations of ultrasonic energy and cryogenic energy](#)
- 7572882- [Inducing cellular immune responses to human papillomavirus using peptide and nucleic acid compositions](#)
- 7579152- [SENP1 as a marker of cancer development and target for cancer therapy](#)
- 7582223- [Refrigerant composition for refrigeration systems](#)
- 7599729- [Evaluating the urethra and the periurethral tissues](#)
- 7604632- [Cryosurgery device](#)
- 7608071- [Cryosurgical probe with adjustable sliding apparatus](#)
- 7615015- [Focused ultrasound ablation devices having selectively actuatable emitting elements and methods of using the same](#)
- 7560103- [Composition and method of using carcinoma tumor cells](#)
- 7553825- [Anti-proliferative compounds, compositions, and methods of use thereof](#)
- 7500973- [Cryosurgical devices and methods for endometrial ablation](#)
- 7507233- [Cryotherapy system](#)
- 7507235- [Method and system for organ positioning and stabilization](#)
- 7507247- [Urethral catheter stent delivery system](#)
- 7510554- [Detachable cryosurgical probe](#)
- 7514078- [Methods of treating prostate cancer with anti-prostate specific membrane antigen antibodies](#)
- 7527593- [Active template guide plate and system and method for utilizing same](#)
- 7528125- [Water-soluble zinc ionophores, zinc chelators, and/or zinc complexes and use for treating cancer](#)
- 7534207- [Implantable device with sensors for differential monitoring of internal condition](#)
- 7538252- [Drug design for tubulin inhibitors, compositions, and methods of treatment thereof](#)

- 7619000- [S-dimethylarsino-thiosuccinic acid S-dimethylarsino-2-thiobenzoic acid S-\(dimethylarsino\) glutathione as treatments for cancer](#)

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Send comments and feedback to:

Peter Barfoot Managing Director, BioPortfolio Ltd.

UK Tel: (+44) 1300 321501

USA Voicemail and Fax: (+1) 415 680 2472

[Peter Barfoot peter.barfoot@bioportfolio.com](mailto:peter.barfoot@bioportfolio.com)

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