

# Advances In Intervertebral Disc Disease In Dogs And Cats

The Intervertebral Disc The Biology of the Intervertebral Disc Gene and Cell Delivery for Intervertebral Disc Degeneration The Lumbar Intervertebral Disc Advances in Intervertebral Disc Disease in Dogs and Cats The Intervertebral Disc Biology Of Invertebral Disc Tissue Engineering For Degenerative Intervertebral Discs Lumbar Disc Herniation The Disc and Degenerative Disc Disease Advances in Intervertebral Disc Disease in Dogs and Cats Lumbar Intervertebral Disc Degeneration, an Issue of Orthopedic Clinics Role of Mechanical Loading in Intervertebral Disc Degeneration Basic Science of Spinal Diseases The Biology of the Intervertebral Disc Intervertebral Disc Degeneration Cells and Biomaterials for Intervertebral Disc Regeneration Intervertebral Discs and Other Mechanical Disorders of the Lumbar Spine The Intervertebral Disc The Lumbar Intervertebral Disc Irving M. Shapiro Peter Ghosh Raquel Madeira Gonçalves Frank M. Phillips James Fingerroth Anthony F. De Palma Peter Ghosh Jun Zou Franco Postacchini Luigi Manfrè James Fingerroth Dino Samartzis Olivier Ken Colliou Alok D Sharan PETER. GHOSH Allen L. Ho Sibylle Grad C. K. Fernando Francis Keith Bradford Frank M. Phillips

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the intervertebral disc is a complex structure that separates opposing vertebrae permits a wide range of motion and accommodates high biomechanical forces disc degeneration leads to a loss of function and is often associated with excruciating pain written by leading scientists and clinicians the first part of the book provides a review of the basic biology of

the disc in health and disease the second part considers strategies to mitigate the effects of disc degeneration and discusses the possibility of engineering replacement tissues the final section is devoted to approaches to model normal development and elucidate the pathogenesis of degenerative disc disease using animal organ and cell culture techniques the book bridges the gap between the basic and clinical sciences the target audience includes basic scientists orthopaedists and neurologists while at the same time appealing to the needs of graduate students medical students interns and fellows

intervertebral disc degeneration is one of the major causes of lower back pain for which the common therapeutic interventions are not efficient a search for alternative therapies for lower back pain and intervertebral disc degeneration includes cell based therapies unfortunately intervertebral disc degeneration is avascular and thus a hostile environment for cell survival furthermore cellular characterization in intervertebral disc degeneration and particularly in the nucleus pulposus is controversial mainly due to lack of specific markers and species variability this book adds to the knowledge on cellular and molecular therapies for intervertebral disc degeneration and associated lower back pain key selling features describes the ontogeny and phenotype of intervertebral disc cells reviews the role that inflammation plays in discogenic pain highlights the types of cells that might be used as sources for treating degenerating intervertebral discs summarizes current alternative therapies explores methods for cell delivery into degenerated intervertebral discs

written by leading authorities in the field of spine care this book is a comprehensive reference for the latest techniques for managing intervertebral disc disorders affecting the lumbar spine it opens by reviewing basic science and then covers management of disc herniation and degenerative disc disease

advances in intervertebral disc disease in dogs and cats defines our present knowledge of this common clinical problem compiling information related to the canine and feline intervertebral disc into a single resource as a comprehensive focused work the book is an authoritative reference for understanding and treating disc disease providing a sound scientific and clinical basis for decision making offering an objective synthesis of the current literature the book supplies guidance on the approach to a potential disc rupture surgical and medical strategies and management of the patient offering a complete understanding of intervertebral disc disease the book describes and discusses the controversies and issues surrounding this topic acknowledging the gaps in our knowledge advances in intervertebral disc disease in dogs and cats presents up to date reliable information on this common condition for veterinary surgeons neurologists and general practitioners

first published in 1988 this book documents the role biology and structure of the intervertebral disc carefully compiled and filled with a vast repertoire of notes diagrams and references this book serves as a useful reference for students of medicine chiropractors and

other practitioners in their respective fields

low back pain is a common disorder in the clinical treatment of the department of orthopedics lumbar intervertebral disc degeneration is a main reason for the chronic pain and the process is difficult to reverse traditional treatment methods include conservative treatment and surgical treatment although the clinical symptoms caused by intervertebral disc degeneration can be alleviated to a certain extent these treatment methods do not solve the fundamental issues and they also produce corresponding complications the rise of tissue engineering technology and its applications in different fields have brought new ideas for the treatment of intervertebral disc degeneration this book discusses the fundamentals as well as more recent developments in stem cell therapy and tissue engineering technology and offers an alternative for treating degeneration of intervertebral discs

this most complete monograph so far published on the subject analyses all aspects related to the etiopathogenesis pathomorphology diagnosis and treatment of lumbar disc herniation five chapters are dedicated to biological and pathomorphologic aspects while five deal with the clinical presentation and diagnostic tests in both extreme depth and breadth much space is devoted to conservative percutaneous and surgical treatments as well as the causes and management of failed back syndrome

this easy to consult guide examines the most advanced techniques in the radiological evaluation of the disc and degenerative disc disease using conventional functional dynamic and advanced imaging it provides clear information on a range of ct x ray and mri guided techniques presents all disc treatments in connection with symptomatic disc herniations evaluates conservative chemical esi steroid ozone ethanol gel injections and physical treatments coblation laser decompressors endoscopy and assesses the possibility of repairing and or regenerating the disc in the context of reversible disc degeneration like other books in the springer series new procedures in spinal interventional neuroradiology this practice oriented volume will fill a significant gap in the literature and meet the need expressed by many specialists interventional neuroradiologists and radiologists neurosurgeons and orthopedists for a topical and handy guide that specifically illustrates the currently available materials and methods

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epidemiology of lumbar intervertebral disc degeneration structure and biology of the intervertebral disc in health and disease nutrition of the intervertebral disc the endplate and its relevance with intervertebral disc degeneration genetic risk factors in intervertebral disc degeneration biomechanics of intervertebral disc degeneration diagnostic tools and imaging methods in intervertebral disc degeneration an overview of the management of degenerative disc disease adjacent level disc disease is it really a fusion disease prosthetic total disc replacement stem cell regeneration of the intervertebral disc gene therapy for intervertebral disc degeneration tissue engineering for intervertebral disc degeneration emerging technologies for molecular therapy for intervertebral disc degeneration intervertebral disc transplantation

this is the 1st edition of the book basic science of spinal diseases this text is a comprehensive updated as per the present day requirements in the subject of basic science of spinal diseases the core basis of the book is organized in four major sections anatomy and physiology of the intervertebral disc pathophysiology of the intervertebral disc the science of spinal instrumentation and the science of spinal interventions following this the editors have formatted every chapter to begin with a clinical presentation followed by a full discussion of the science in the particular area and ending with questions for future investigation the chapters cover both animal and clinical research providing interest to both scientists and clinicians the current treatment of spinal disorders is quite fragmented and patients often seek guidance from a variety of specialists such as physiatrist neurologists physical therapists neurosurgeons and orthopedic surgeons most commonly the treatments are based on anecdotal evidence and not scientific methodologies it is the only book currently available that brings to this field a compilation of the scientific works necessary for anyone's sound understanding of spinal disease this book is an asset for many different types of readers and should become a must keep text for all young readers entering the field of spinal disorders this book will serve as the foundation for the generation of future treatment paradigms in spine surgery

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degenerative disc disease is a significant component of spine disorders and lower back pain that now afflicts nearly one third of the adult population this represents a significant morbidity and cost burden nearly a tenth of all health care spending that is only increasing in

prevalence as the elderly population continues to grow while current treatment modalities ranging from conservative approaches to surgical interventions are continually evolving new therapies for intervertebral disc disease are also in development increased research on the cellular mechanisms underlying ddd have led to novel cell based treatments which aim to delay rates of degeneration intervertebral disc degeneration prevalence risk factors and treatments is a comprehensive text on all facets of the disease process that covers the pathophysiology biomechanics as well as the location specific pathology and treatment options for degenerative disc disease written by nationally renowned experts in neurosurgery and orthopedic surgery of the spine each chapter is a thorough cogent discussion of an essential topic related to intervertebral disc degeneration that includes many original easy to understand figures and illustrations also included are overviews of the most cutting edge and emerging surgical and biologic management options of disc disease at all levels of the spine

disorders related to the intervertebral disc ivd are common causes of morbidity and of severe life quality deterioration ivd degeneration although in many cases asymptomatic is often the origin of painful neck and back diseases in western societies ivd related pain and disability account for enormous health care costs as a result of work absenteeism and thus lost production disability benefits medical and insurance expenses although only a small percentage of patients with disc disorders finally will undergo surgery spinal surgery has been one of the fastest growing disciplines in the musculoskeletal field in recent years nevertheless current treatment options are still a matter of controversial discussion in particular they hardly can restore normal spine biomechanics and prevent degeneration of adjacent tissues while degeneration affects all areas of the ivd the most constant and noticeable changes occur in the gel like central part the nucleus pulposus np recent emphasis has therefore been put in biological ways to regenerate the np however there are a number of obstacles to overcome considering the exceptional biological and biomechanical environment of this tissue different biological approaches such as molecular gene and cell based therapies have been investigated and have shown promising results in both in vitro and in vivo studies nonetheless considerable hurdles still exist in their application for ivd regeneration in human patients the choice of the cells and the choice of the cell carrier suitable for implantation pose major challenges for research and development activities this lecture recapitulates the basics of ivd structure function and degeneration mechanisms the first part reviews the recent progress in the field of disc and stem cell based regenerative approaches in the second part most appropriate biomaterials that have been evaluated as cell or molecule carrier to cope with degenerative disc disease are outlined the potential and limitations of cell and biomaterial based treatment strategies and perspectives for future clinical applications are discussed table of contents cell therapy for nucleus pulposus regeneration recent advances in biomaterial based tissue engineering for intervertebral disc regeneration

this is a book written for physical therapists and physicians interested in the treatment of patients with low back pain the author has brought nearly 50 years of clinical training and scientific evidence to write this book according to a very well known physical therapist this book is claimed to be a seminal book on low back pain and according to dr basmajian father of emg biofeedback it should strengthen the hands and minds of several branches of the healing professions while clearing the debris of dubious techniques the book is about treatment of mechanical disorders of lumbar spine and mainly intervertebral disc disorders by physical therapists using conservative techniques the author is cognizant of the fact that patients who come to physical therapy should not be harmed by physical therapy hence with this in mind these gentle techniques are presented to the practicing physical therapist and the student alike there are 9 chapters with two appendices and an index the three anatomy chapters were co authored with dr arthur nelson the next few chapters are on sprains strains intervertebral disc conditions spinal stenosis and disc degeneration spondylolesthesis spondylolysis and spondylosis in addition to that there are chapters on epidemiology clinical evaluation chronic low back pain and physical therapy techniques the main thrust in this book is that all patients must be treated by proper clinical diagnosis based on pathophysiology using sensitive and specific tests and arriving at treatment techniques which are evidence based this book is not for the believer and non scientist but to all those who profess to be physical therapists scientists this might be the only book written by two physical therapists for the treatment of patients suffering low back problems with evidence to back it up

written by leading authorities in the field of spine care this book is a comprehensive reference for the latest techniques for managing intervertebral disc disorders affecting the lumbar spine divided into four main sections the book opens with a review of fundamental basic science concepts including epidemiology anatomy pathophysiology biology biomechanics and mechanisms of pain the second section focuses on the management of disc herniation with chapters guiding clinicians from the pathophysiology of the herniated disc to clinical presentation to various treatment strategies the final sections of the book present in depth coverage of degenerative disc disease and provide essential information for imaging and testing diagnosis patient screening treatment and rehabilitation highlights detailed coverage of the latest innovations in the field including nonsurgical treatments minimally invasive procedures biologic techniques and motion preserving procedures enables clinicians to select the appropriate treatment for each clinical situation more than 200 high quality illustrations and images demonstrate key concepts valuable discussion of safety considerations and how to avoid and manage potential complications ideal for practitioners and trainees with a focus on spinal disorders this book will be an invaluable resource for orthopaedists neurosurgeons pain specialists physiatrists neuroradiologists and researchers in these specialties

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