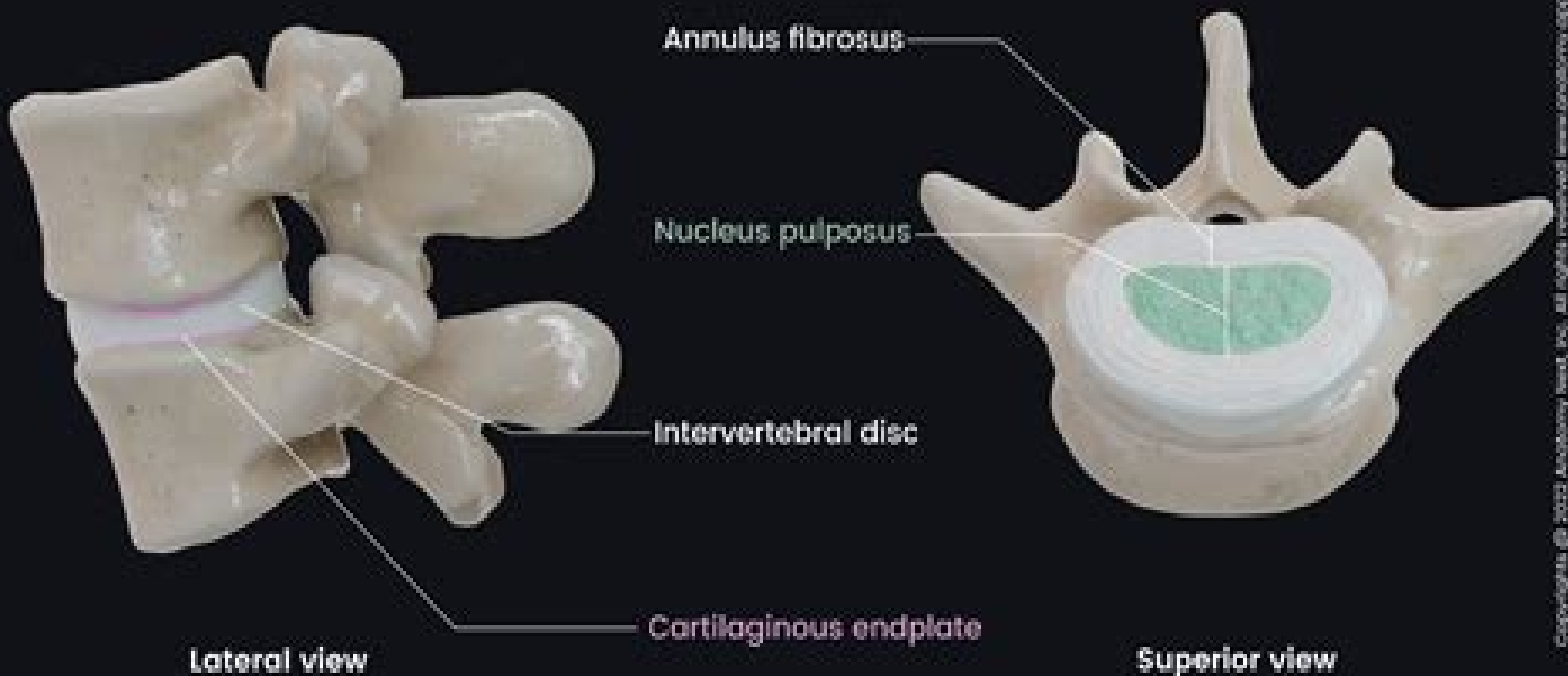


# Intervertebral disc



# The Intervertebral Disc

**Gregory D. Cramer, Susan A. Darby**



## **The Intervertebral Disc:**

The Intervertebral Disc Irving M. Shapiro, Makarand V. Risbud, 2013-09-02 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 The Biology of the Intervertebral Disc

Peter Ghosh, 1988 **The Intervertebral Disc** Anthony F. De Palma, Richard H. Rothman, 1970 **Biology Of Invertebral Disc** Peter Ghosh, 2019-06-04 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 **The Biology of the Intervertebral Disc** PETER. GHOSH, 2019-05-31 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

*The Intervertebral Disc* Francis Keith Bradford, Roy Glen Spurling, 1945 *Basic Science of Spinal Diseases* Alok D Sharan, Simon Y Tang, Alexander R Vaccaro, 2013-06-30 This book is a comprehensive guide to the basic science of spinal diseases for trainees and clinicians Divided into four sections the authors begin with detailed discussion on the anatomy physiology and pathophysiology of the intervertebral disc The following sections examine the science of spinal instrumentation and spinal interventions Clinical chapters are structured in a uniform format beginning with the presentation of a clinical case followed by detailed discussion and supporting evidence Each case ends with challenging questions to direct further investigation This book is a highly useful compilation of research work from recognised surgeons from the USA and The Netherlands specialising in the fields of physiology biology biomechanics and mechanobiology Key points Comprehensive guide to the basic science of spinal diseases Based on research work of specialists in physiology biology biomechanics and mechanobiology US and Dutch author and editor team Includes nearly 240 full colour images and illustrations **The Lumbar Intervertebral Disc** Frank M. Phillips, Carl Lauryssen, 2011-01-01 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 Lumbar Intervertebral

Disc Degeneration, an Issue of Orthopedic Clinics Dino Samartzis, Kenneth M. C. Cheung, Kenneth J. Chang, 2011

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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

**Cells and Biomaterials for Intervertebral Disc Regeneration** Sibylle Grad, 2010 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

**Advances in Intervertebral Disc Disease in Dogs and Cats** James Fingerroth, William Thomas, 2015-02-23 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

**Basic and Clinical Anatomy of the Spine, Spinal Cord, and ANS - E-Book** Gregory D. Cramer, Susan A. Darby, 2005-05-25 This one of a kind text describes the specific anatomy and neuromusculoskeletal relationships of the human spine with special emphasis on structures affected by manual spinal techniques A comprehensive review of the literature explores current research of spinal anatomy and neuroanatomy bringing practical applications to basic science A full chapter on surface anatomy includes tables for identifying vertebral levels of deeper anatomic structures designed to assist with physical diagnosis and treatment of pathologies of the spine as well as

evaluation of MRI and CT scans High quality full color illustrations show fine anatomic detail Red lines in the margins draw attention to items of clinical relevance clearly relating anatomy to clinical care Spinal dissection photographs as well as MRIs and CTs reinforce important anatomy concepts in a clinical context Revisions to all chapters reflect an extensive review of current literature New chapter on the pediatric spine discusses the unique anatomic changes that take place in the spine from birth through adulthood as well as important clinical ramifications Over 170 additional illustrations and photos enhance and support the new information covered in this edition

Clinical Anatomy of the Lumbar Spine and Sacrum Nikolai Bogduk, 2005-01-01 Bogduk aims to provide a foundation of knowledge upon which an understanding of the various treatment and therapy techniques of the different specialities involved can be built This edition includes discussion of the sacrum and sacro iliac joint

**Gene and Cell Delivery for Intervertebral Disc Degeneration** Raquel Madeira Gonçalves, Mario Adolfo Barbosa, 2018-04-27 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

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