

anatomy of the thoracic outlet

anatomy of the thoracic outlet is a complex and vital aspect of human anatomy that involves the region where the neck meets the thorax. This area is crucial for the passage of nerves, blood vessels, and muscles that connect the upper limbs to the rest of the body. Understanding the anatomy of the thoracic outlet is essential for medical professionals and anyone interested in human physiology as it plays a significant role in various clinical conditions, such as thoracic outlet syndrome. This article will delve into the intricate structures within the thoracic outlet, its functions, common disorders associated with it, and the importance of maintaining its health.

- Overview of the Thoracic Outlet
- Anatomical Structures of the Thoracic Outlet
- Functions of the Thoracic Outlet
- Common Disorders Related to the Thoracic Outlet
- Diagnosis and Treatment of Thoracic Outlet Disorders
- Importance of Thoracic Outlet Health

Overview of the Thoracic Outlet

The thoracic outlet is the anatomical space located between the neck and the thorax, bounded by various structures that include bones, muscles, and connective tissue. It serves as a conduit for vital nerves and blood vessels that travel to the upper limbs and head. Understanding the thoracic outlet's anatomy helps in diagnosing and treating conditions that affect this area. The thoracic outlet is primarily divided into three components: the anterior, middle, and posterior scalene muscles, which play a crucial role in its structure.

Anatomical Structures of the Thoracic Outlet

The thoracic outlet comprises several important anatomical structures, including muscles, nerves, and blood vessels. Each of these components contributes to the overall function of the thoracic outlet.

Muscles of the Thoracic Outlet

Several key muscles are involved in the thoracic outlet anatomy, including:

- **Anterior Scalene Muscle:** This muscle originates from the cervical vertebrae and inserts

onto the first rib, playing a critical role in elevating the rib cage during respiration.

- **Middle Scalene Muscle:** Similar to the anterior scalene, this muscle also originates from the cervical vertebrae and assists in stabilizing the first rib.
- **Posterior Scalene Muscle:** This muscle aids in the movement of the second rib and provides support to the cervical spine.

Nerves and Blood Vessels

The thoracic outlet is also home to several important nerves and blood vessels:

- **Brachial Plexus:** This network of nerves arises from the spinal cord and is responsible for motor and sensory innervation to the upper limb.
- **Subclavian Artery and Vein:** These vessels supply blood to the upper limb and drain blood from it, respectively, making them crucial for circulation.

Functions of the Thoracic Outlet

The thoracic outlet serves multiple functions essential for upper body movement and physiology. Its primary role is to facilitate the passage of nerves and blood vessels from the thorax to the upper limbs. Additionally, the thoracic outlet plays a significant part in respiratory mechanics, particularly during deep inhalation when the scalene muscles assist in elevating the first and second ribs.

Common Disorders Related to the Thoracic Outlet

Thoracic outlet syndrome (TOS) is a common condition that arises when the structures of the thoracic outlet become compressed, leading to a variety of symptoms. There are three main types of TOS:

Types of Thoracic Outlet Syndrome

- **Neurogenic TOS:** This is the most common form, caused by compression of the brachial plexus, resulting in pain, numbness, and weakness in the arm.
- **Venous TOS:** This occurs due to compression of the subclavian vein, leading to swelling, discoloration, and heaviness in the arm.
- **Arterial TOS:** The least common type, caused by compression of the subclavian artery, which may lead to coldness and pallor in the hand.

Diagnosis and Treatment of Thoracic Outlet Disorders

Diagnosing thoracic outlet syndrome typically involves a comprehensive clinical evaluation, including a patient history and physical examination. Diagnostic imaging, such as X-rays, MRI, or ultrasound, may also be utilized to assess the anatomical structures and identify any abnormalities.

Treatment Options

The treatment for thoracic outlet syndrome can vary based on the type and severity of the condition. Common treatment options include:

- **Physical Therapy:** Aimed at improving posture, strengthening muscles, and increasing flexibility to relieve symptoms.
- **Medications:** Nonsteroidal anti-inflammatory drugs (NSAIDs) or corticosteroids may be prescribed to reduce inflammation and pain.
- **Surgery:** In severe cases, surgical intervention may be necessary to decompress the thoracic outlet and alleviate symptoms.

Importance of Thoracic Outlet Health

Maintaining the health of the thoracic outlet is crucial for overall upper body function. Poor posture, repetitive movements, and trauma can lead to thoracic outlet syndrome and other disorders. Awareness of the symptoms and risk factors associated with thoracic outlet conditions is essential for prevention and timely intervention. Regular exercise, ergonomic adjustments, and awareness of body mechanics can help protect the thoracic outlet and its associated structures from injury.

Conclusion

Understanding the anatomy of the thoracic outlet is vital for recognizing its significance in upper body function and its role in various medical conditions. As a complex region, it encompasses essential muscles, nerves, and blood vessels, all of which work together to facilitate movement and circulation. Awareness of potential disorders affecting this area can lead to better diagnostic and therapeutic strategies, ultimately enhancing the quality of life for those affected by thoracic outlet syndrome and related conditions.

Q: What is the thoracic outlet syndrome?

A: Thoracic outlet syndrome is a condition that occurs when the structures in the thoracic outlet become compressed, leading to symptoms such as pain, numbness, and weakness in the upper

extremities. There are three main types: neurogenic, venous, and arterial TOS, each caused by different types of compression.

Q: What are the symptoms of thoracic outlet syndrome?

A: Symptoms of thoracic outlet syndrome can include pain in the neck or shoulder, tingling or numbness in the fingers, weakness in the hand, swelling in the arm, and coldness or discoloration of the hand, depending on the type of TOS.

Q: How is thoracic outlet syndrome diagnosed?

A: Diagnosis of thoracic outlet syndrome typically involves a thorough patient history, physical examination, and may include imaging studies such as X-rays, MRI, or ultrasound to visualize the anatomical structures and identify any compression or abnormalities.

Q: What treatment options are available for thoracic outlet syndrome?

A: Treatment options for thoracic outlet syndrome can include physical therapy to strengthen and stretch the muscles, medications to reduce pain and inflammation, and in some cases, surgery to relieve compression of the nerves or blood vessels in the thoracic outlet.

Q: Can thoracic outlet syndrome be prevented?

A: Prevention of thoracic outlet syndrome includes maintaining good posture, avoiding repetitive overhead activities, and engaging in regular exercise to strengthen the muscles supporting the thoracic outlet. Awareness of ergonomics can also help reduce the risk of developing this condition.

Q: What anatomical structures are found in the thoracic outlet?

A: The thoracic outlet contains several key anatomical structures, including the anterior, middle, and posterior scalene muscles, the brachial plexus nerves, and the subclavian artery and vein, all of which are essential for upper limb function.

Q: Is thoracic outlet syndrome common?

A: While thoracic outlet syndrome is not extremely common, it can occur and is often associated with certain risk factors such as repetitive movements, trauma, or anatomical variations. Awareness and early diagnosis are important for effective management.

Q: What role do the scalene muscles play in the thoracic outlet?

A: The scalene muscles play a crucial role in the thoracic outlet by stabilizing the first and second ribs and assisting in the mechanics of breathing. They are also involved in the potential compression of structures within the thoracic outlet.

Q: Can lifestyle changes help manage thoracic outlet syndrome?

A: Yes, lifestyle changes such as maintaining good posture, engaging in strengthening exercises, and avoiding repetitive overhead activities can help manage symptoms of thoracic outlet syndrome and prevent its occurrence.

Q: What is the prognosis for individuals with thoracic outlet syndrome?

A: The prognosis for individuals with thoracic outlet syndrome is generally favorable, especially with early diagnosis and appropriate treatment. Many individuals experience significant relief from symptoms and can return to normal activities with proper management.

[Anatomy Of The Thoracic Outlet](#)

Find other PDF articles:

<https://explore.gcts.edu/algebra-suggest-010/pdf?trackid=xYf07-4112&title=what-is-a-term-in-algebra.pdf>

anatomy of the thoracic outlet: *Thoracic Outlet Syndrome* Karl A. Illig, Robert W. Thompson, Julie Ann Freischlag, Dean M. Donahue, Sheldon E. Jordan, Ying Wei Lum, Hugh A. Gelabert, 2021-01-25 This extensively revised edition is an essential reference for physicians involved in the diagnosis, referral and treatment of the thoracic outlet syndrome (TOS). TOS is made up of a constellation of problems resulting from pathology at the thoracic outlet in the neck. Busy specialty practice sees multiple affected patients in every clinic, but TOS can often be difficult to diagnosis. Thoracic Outlet Syndrome explores all possible ancillary care issues surrounding this complex condition, including rehabilitation, disability, natural history and medicolegal issues, and aims to stimulate research, discussion and a sense of community between professionals involved in this area. Vascular and thoracic surgeons, neurosurgeons, neurologists, psychiatrists and psychologists, physical therapists, occupational medicine specialists and pain specialists will find this book a must read for successful treatment, referral and diagnosis of TOS in clinical practice.

anatomy of the thoracic outlet: The Ischemic Extremity Heron E. Rodriguez, James S. T. Yao, 2010

anatomy of the thoracic outlet: *Rehabilitation of the Hand and Upper Extremity, E-Book* Terri

M. Skirven, A. Lee Osterman, Jane Fedorczyk, Peter C. Amadio, Sheri Felder, Eon K Shin, 2020-01-14 Long recognized as an essential reference for therapists and surgeons treating the hand and the upper extremity, *Rehabilitation of the Hand and Upper Extremity* helps you return your patients to optimal function of the hand, wrist, elbow, arm, and shoulder. Leading hand surgeons and hand therapists detail the pathophysiology, diagnosis, and management of virtually any disorder you're likely to see, with a focus on evidence-based and efficient patient care. Extensively referenced and abundantly illustrated, the 7th Edition of this reference is a must read for surgeons interested in the upper extremity, hand therapists from physical therapy or occupational therapy backgrounds, anyone preparing for the CHT examination, and all hand therapy clinics. - Offers comprehensive coverage of all aspects of hand and upper extremity disorders, forming a complete picture for all members of the hand team—surgeons and therapists alike. - Provides multidisciplinary, global guidance from a Who's Who list of hand surgery and hand therapy editors and contributors. - Includes many features new to this edition: considerations for pediatric therapy; a surgical management focus on the most commonly used techniques; new timing of therapeutic interventions relative to healing characteristics; and in-print references wherever possible. - Features more than a dozen new chapters covering Platelet-Rich Protein Injections, Restoration of Function After Adult Brachial Plexus Injury, Acute Management of Upper Extremity Amputation, Medical Management for Pain, Proprioception in Hand Rehabilitation, Graded Motor Imagery, and more. - Provides access to an extensive video library that covers common nerve injuries, hand and upper extremity transplantation, surgical and therapy management, and much more. - Helps you keep up with the latest advances in arthroscopy, imaging, vascular disorders, tendon transfers, fingertip injuries, mobilization techniques, traumatic brachial plexus injuries, and pain management—all clearly depicted with full-color illustrations and photographs.

anatomy of the thoracic outlet: Thoracic Outlet Syndrome, An Issue of Thoracic Surgery Clinics , E-Book Dean Donahue, Hugh G. Auchincloss, 2020-12-04 This issue of *Thoracic Surgery Clinics*, guest edited by Drs. Dean Donahue and Hugh G. Auchincloss, is devoted to Thoracic Outlet Syndrome. Drs. Donahue and Auchincloss have assembled expert authors to review the following topics: Embryology and Anatomy of the Thoracic Outlet; Evaluation of Patients with Neurogenic Thoracic Outlet Syndrome; Reoperation for Persistent or Recurrent Neurogenic Thoracic Outlet Syndrome; Surgical Technique: Supraclavicular First Rib Resection; Evaluation and Management of Venous Thoracic Outlet Syndrome; How Common is Thoracic Outlet Syndrome?; Surgical Technique: Minimally Invasive First Rib Resection; Radiographic Evaluation of Thoracic Outlet Syndrome; Evaluation and Management of Arterial Thoracic Outlet Syndrome; and more!

anatomy of the thoracic outlet: Moore's Vascular and Endovascular Surgery E-Book Wesley S. Moore, 2018-06-06 Using an easy-to-read, user-friendly format and hundreds of review questions that facilitate effective studying, *Vascular and Endovascular Surgery: A Comprehensive Review*, 9th Edition, contains the essential information you need for exam success and daily reference. Dr. Wesley Moore and a team of international experts cover everything from foundational concepts to the latest developments in the field, with each specialist providing a complete summary of a particular area of expertise. Extensive updates throughout the text keep you current with all that's new in this rapidly expanding field. - Presents indications, techniques, and results of the spectrum of open vascular operations including carotid endarterectomy, repair of abdominal aortic aneurysm, aorto-femoral bypass, and infra-inguinal bypass, as well as management of varicose veins and deep venous occlusive disease. - Contains hundreds of review questions for self-assessment and exam preparation, enhancing your study with superb, easy-to-follow illustrations: line drawings, photographs, duplex ultrasound, magnetic resonance angiography, CT angiography, and catheter-based contrast angiography. - Discusses key topics such as catheter-based intervention, including endovascular repair of thoracic and abdominal aortic aneurysm, aorto-iliac and femoral-popliteal-tibial occlusive disease, and carotid artery stenting. - Features five new chapters: Congenital Arterial Malformations; Atherectomy and Arterial Closure Devices; Carotid Body Tumors; Building a Hybrid Operating Suite including Robotic Capability; and Management of Venous Leg

Ulcers. - Provides up-to-date coverage of the increasingly important role of endovascular intervention in the vascular surgeon's practice. - Details the latest medical management of vascular disease including treatment of hypertension, risk factor modification, and the use of anti-platelets, anti-coagulants, and statins. - Expert Consult™ eBook version included with purchase. This enhanced eBook experience allows you to search all of the text, figures, and references from the book on a variety of devices.

anatomy of the thoracic outlet: Rehabilitation of the Hand and Upper Extremity, 2-Volume Set E-Book Terri M. Skirven, A. Lee Osterman, Jane Fedorczyk, Peter C. Amadio, 2011-02-10 With the combined expertise of leading hand surgeons and therapists, *Rehabilitation of the Hand and Upper Extremity*, 6th Edition, by Drs. Skirven, Osterman, Fedorczyk and Amadio, helps you apply the best practices in the rehabilitation of hand, wrist, elbow, arm and shoulder problems, so you can help your patients achieve the highest level of function possible. This popular, unparalleled text has been updated with 30 new chapters that include the latest information on arthroscopy, imaging, vascular disorders, tendon transfers, fingertip injuries, mobilization techniques, traumatic brachial plexus injuries, and pain management. An expanded editorial team and an even more geographically diverse set of contributors provide you with a fresh, authoritative, and truly global perspective while new full-color images and photos provide unmatched visual guidance. Access the complete contents online at www.expertconsult.com along with streaming video of surgical and rehabilitation techniques, links to Pub Med, and more. Provide the best patient care and optimal outcomes with trusted guidance from this multidisciplinary, comprehensive resource covering the entire upper extremity, now with increased coverage of wrist and elbow problems. Apply the latest treatments, rehabilitation protocols, and expertise of leading surgeons and therapists to help your patients regain maximum movement after traumatic injuries or to improve limited functionality caused by chronic or acquired conditions. Effectively implement the newest techniques detailed in new and updated chapters on a variety of sports-specific and other acquired injuries, and chronic disorders. Keep up with the latest advances in arthroscopy, imaging, vascular disorders, tendon transfers, fingertip injuries, mobilization techniques, traumatic brachial plexus injuries, and pain management See conditions and treatments as they appear in practice thanks to detailed, full-color design, illustrations, and photographs. Access the full contents online with streaming video of surgical and rehabilitation techniques, downloadable patient handouts, links to Pub Med, and regular updates at www.expertconsult.com. Get a fresh perspective from seven new section editors, as well as an even more geographically diverse set of contributors.

anatomy of the thoracic outlet: Rutherford's Vascular Surgery, 2-Volume Set Jack L. Cronenwett, K. Wayne Johnston, 2010-03-09 *Rutherford's Vascular Surgery* - the most acclaimed comprehensive reference in its field - presents definitive, state-of-the-art guidance on every aspect of vascular health care, equipping you to make the best clinical decisions and optimize outcomes. Extensively revised by many new, international authors - led by Drs. Jack Cronenwett and K. Wayne Johnston - and now published in association with the Society for Vascular Surgery, this 7th Edition provides the authoritative answers that surgeons, interventionalists, and vascular medicine specialists need to provide effective care for vascular surgery patients. Consult this title on your favorite e-reader with intuitive search tools and adjustable font sizes. Elsevier eBooks provide instant portable access to your entire library, no matter what device you're using or where you're located. Get answers you can depend on. Now published in association with the Society for Vascular Surgery, *Rutherford's* delivers the world's most trusted information on all major areas of vascular health care, written by international experts, with up-to-date bibliographies and annotated recommended references. Overcome any clinical challenge with in-depth sections on Fundamental Considerations, Patient Evaluation, Atherosclerotic Risk Factors, Perioperative Care, Bleeding and Clotting, Complications, Venous Disease, Lymphedema, Arteriovenous Anomalies, Hemodialysis Access, Miscellaneous Technique, Grafts and Devices, Cerebrovascular Disease, Lower Extremity Arterial Disease, Upper Extremity Arterial Disease, Arterial Aneurysms, Renal and Mesenteric Disease, and Trauma and Acute Limb Ischemia. Choose the best management option for each patient

with discussions of operative, endovascular, and non-operative approaches for vascular conditions. Access the complete contents of Rutherford's Vascular Surgery online at www.expertconsult.com - with monthly updates from the Journal of Vascular Surgery and the European Journal of Vascular and Endovascular Surgery, plus videos of procedures, an image library, review questions, and more. Master the latest developments, techniques, and approaches with thorough updates on endovascular applications, vascular access, imaging, non-operative management, and much more. View clinical and physical findings and operative techniques more vividly with a new full-color layout and more full-color images.

anatomy of the thoracic outlet: *Anatomic Exposures in Vascular Surgery* R. James Valentine, Gary G. Wind, 2003 Revised, updated, and expanded for its Second Edition, this classic anatomic reference is an indispensable guide for the vascular surgeon planning an operation. It contains 568 drawings by a noted illustrator depicting the complex anatomy of the vasculature and surrounding structures, and demonstrating the ideal exposure techniques. Concise legends and text describe the anatomy in relation to the surgical approach. This edition includes more extensive descriptions of cranial nerve anatomy, more anatomic variants, and new surgical approaches such as suboccipital approach to the vertebral artery, retroperitoneal approach to mesenteric vessels, posterior approach to crural arteries, and harvesting the superficial femoral vein. Compatibility: BlackBerry(R) OS 4.1 or Higher / iPhone/iPod Touch 2.0 or Higher / Palm OS 3.5 or higher / Palm Pre Classic / Symbian S60, 3rd edition (Nokia) / Windows Mobile(TM) Pocket PC (all versions) / Windows Mobile Smartphone / Windows 98SE/2000/ME/XP/Vista/Tablet PC

anatomy of the thoracic outlet: *Vascular and Endovascular Surgery at a Glance* Morgan McMonagle, Matthew Stephenson, 2013-02-06 Following the popular and accessible at a Glance format, Vascular and Endovascular Surgery at a Glance demystifies the important concepts of vascular disease and vascular surgery. Featuring in-depth details of common vascular topics, to rarer presentations, this is an ideal guide for those interested in a variety of subjects relating to this rapidly expanding area. This is a must-read for any specialist at all levels who has an on-going commitment to vascular disease management and medical education. Vascular and Endovascular Surgery at a Glance: • Comprehensively covers the key concepts and core practical procedures with superb illustrations • Is a brilliant companion to the emerging curriculum for specialist vascular training • Is an excellent source of information and management guidelines for interdisciplinary specialties • Includes a companion website at www.ataglanceseries.com/vascular featuring a wide range of interactive multiple choice questions This title forms a succinct overview of vascular disease management, giving salient points relevant to general surgery examinations, for those requiring an in-depth yet manageable introduction to vascular diseases, and for those entering this prevalent field as a stand-alone specialty.

anatomy of the thoracic outlet: *Green's Operative Hand Surgery E-Book* Scott W. Wolfe, William C. Pederson, Scott H. Kozin, Mark S. Cohen, 2021-12-03 Widely recognized as the gold standard reference in the field, Green's Operative Hand Surgery, 8th Edition, provides complete coverage of the surgical and nonsurgical management of the full range of upper extremity conditions. In a clearly written and well-illustrated format, it contains both foundational content for residents and fellows as well as new approaches, case-based controversies, and outcomes-based solutions for practitioners. Drs. Scott W. Wolfe, William C. Pederson, Scott H. Kozin, and Mark S. Cohen, along with new, international contributing authors, provide expert perspectives and preferred methods for all aspects of today's hand, wrist, and elbow surgery. - Contains thoroughly revised and updated indications and techniques to treat the full spectrum of upper extremity disorders. - Highlights the latest advances and approaches, such as wide-awake local anesthesia no tourniquet (WALANT) hand surgery, nerve transfer techniques, tendon transfer and tendon avulsion repairs, skin grafting techniques, and more. - Offers nearly 140 innovative and high-resolution videos (99 are NEW) that provide real-life, step-by-step guidance on key procedures. - Provides state-of-the-art information on wrist arthritis, hand trauma, new arthroplasties, targeted muscle reinnervation, wrist instability surgeries, fracture management, rehabilitation, congenital disorders,

orthotic interventions, and more. - Includes newly updated, high-resolution illustrations, images, and photos throughout. - Presents case-based controversies and unique solutions, plus current views on what works and what does not, based on recent science and outcome measures. - Enhanced eBook version included with purchase. Your enhanced eBook allows you to access all of the text, figures, and references from the book on a variety of devices.

anatomy of the thoracic outlet: Rutherford's Vascular Surgery and Endovascular Therapy, 2-Volume Set, E-Book Anton N. Sidawy, Bruce A. Perler, 2022-06-04 Encyclopedic, definitive, and state-of-the-art in the field of vascular disease and its medical, surgical, and interventional management, Rutherford's Vascular Surgery and Endovascular Therapy offers authoritative guidance from the most respected and innovative global thought leaders and clinical and basic science experts of our time. The thoroughly revised 10th Edition, published in association with the Society for Vascular Surgery and authored by multidisciplinary and international contributors, is an outstanding reference for vascular surgeons, vascular medicine specialists, interventional radiologists and cardiologists, and their trainees who depend upon Rutherford's in their practice. Under the expert editorial guidance of Drs. Anton N. Sidawy and Bruce A. Perler, it is quite simply the most complete and most reliable resource available on the art and science of circulatory diseases. - Incorporates fundamental vascular biology, diagnostic techniques, and decision making as well as medical, endovascular, and surgical treatment of vascular disease. - Features numerous concise and comprehensive diagnostic and therapeutic algorithms vital to patient evaluation and management. - Covers all vascular imaging techniques, offering a non-invasive evaluation of both the morphology and hemodynamics of the vascular system. - Employs a full-color layout, images and online videos, so readers can view clinical and physical findings and operative techniques more vividly. - Contains fully updated and more concise chapters with a focused format and summary for each that provides a quick access to key information—ideal for consultation as well as daily practice. - Includes expanded coverage of the business of vascular surgery, including a new section on the use of technology platforms and social media, and new chapters on telemedicine, the development and operation of outpatient dialysis centers and multispecialty cardiovascular centers, vascular information on the internet, and much more. - Provides new content on key topics such as endovascular treatment of complex aortic disease, acute vascular occlusion in the pediatric population, outpatient vascular care, and anatomic surgical exposures for open surgical reconstructions. - Enhanced eBook version included with purchase. Your enhanced eBook allows you to access all of the text, figures, and references from the book on a variety of devices.

anatomy of the thoracic outlet: Rutherford's Vascular Surgery and Endovascular Therapy, E-Book Anton N Sidawy, Bruce A Perler, 2018-04-03 Through nine outstanding editions, Rutherford's Vascular Surgery and Endovascular Therapy has been the gold standard text in this fast-changing, complex field. Published in association with the Society for Vascular Surgery, this state-of-the-art reference by Drs. Anton N. Sidawy and Bruce A. Perler is a must-have for vascular surgeons, interventionalists, vascular medicine specialists, and trainees, as well as general surgeons, interventional radiologists, and cardiologists that depend upon Rutherford's in their practice. It offers authoritative guidance from the most respected and innovative global thought leaders and clinical and basic science experts in the diagnosis and treatment of circulatory disease. Incorporates medical, endovascular, and surgical treatment, as well as diagnostic techniques, decision making, and fundamental vascular biology. Features all vascular imaging techniques, offering a non-invasive evaluation of both the morphology and hemodynamics of the vascular system. Provides unparalleled insight from multidisciplinary leaders worldwide, who share their expertise on the most appropriate contemporary and future treatment of circulatory disease. Employs a full-color layout and images so you can view clinical and physical findings and operative techniques more vividly. Includes 40 new chapters incorporating a shorter, more focused format with a summary for each chapter that provides a quick access to key information – ideal for consultation situations as well as daily practice. Some of these chapters are organized in new sections dedicated to open operative exposure and vessel dissection techniques, diabetic foot, Pediatric Vascular Disease, and practice

management issues; areas in the specialty that clinicians frequently face but seldom detailed in other vascular texts nor in earlier Rutherford editions. Covers hot topics such as endovascular therapy of aortic arch and thoracoabdominal aortic aneurysm disease, including the evolving management of aortic dissections. Expert Consult™ eBook version included with purchase. This enhanced eBook experience allows you to search all of the text, figures, and references from the book on a variety of devices.

anatomy of the thoracic outlet: *Anatomic Exposures in Vascular Surgery* Gary G. Wind, R. James Valentine, 2013-01-21 Revised, updated, and expanded for its Third Edition, *Anatomic Exposures in Vascular Surgery*, is an indispensable guide for the vascular surgeon planning an operation. This classic anatomic reference contains over 550 drawings by a renowned surgeon and illustrator depicting the complex anatomy of the vasculature and surrounding structures, and demonstrating the ideal exposure techniques. The original illustrations will be presented in full color to fully convey three-dimensional concepts of anatomic relationships of the blood vessels and their surrounding structures, which will help to guide surgical decision-making in vascular surgery. Concise legends and text describe the anatomy in relation to the surgical approach. The book is organized by body region, and chapters are divided into anatomic overview and surgical approach sections, which allows the book to be used for extensive study or quick review, depending on the needs of the reader. New sections to this edition include forearm compartment syndrome, forearm fasciotomy, and vascular exposure of the lumbar spine. New concepts regarding surgical approaches to the blood vessels are updated in each chapter along with up-to-date references.

anatomy of the thoracic outlet: *Manual of Botulinum Toxin Therapy* Daniel Truong, Dirk Dressler, Mark Hallett, Christopher Zachary, 2014-01-23 Fully updated throughout, the second edition of the *Manual of Botulinum Toxin Therapy* provides practical guidance on the use of Botox in a wide variety of disorders. New chapters have been added on the use of botulinum toxin in wound healing, in focal hand dystonia and in thoracic outlet syndrome, as well as others. There are new chapters on the use of botulinum toxins in conjunction with ultrasound guidance. Using clear line-drawings the *Manual* describes the relevant injection sites for each condition and gives comparative dosage tables for the various formulations of toxins used in different muscle groups. Throughout the emphasis is on technique and the book can be used as both a teaching aid and in bedside guidance. The manual will be of use to neurologists, otolaryngologists, urologists, ophthalmologists, dermatologists, internists, pain management specialists, rehabilitation specialists and plastic surgeons, and any other clinicians discovering the potential of botulinum toxin.

anatomy of the thoracic outlet: **Compressive Neuropathies of the Upper Extremity** Dean G. Sotereanos, Loukia K. Papatheodorou, 2020-03-27 Presenting step-by-step procedures written by experts in the field, this comprehensive clinical guide discusses the diagnosis (electrodiagnostic and ultrasound) and management of compressive neuropathies of the upper extremity. Compressive (or compression) neuropathy, also known as entrapment neuropathy or trapped nerve, is a common condition of the upper extremity in which the nerves of the arm – median, ulnar and radial being the most common – are compressed, causing pain and discomfort as well as possible pathological and anatomical changes. Carpal and cubital tunnel syndrome are the most well-known and treated, with nerve release and decompression surgeries being the usual treatment, though the variety of neuropathies and management strategies goes beyond these conditions. Chapters included describe in detail the latest, cutting-edge management strategies for the various manifestations of compressive neuropathy of the hand and wrist – carpal tunnel syndrome, cubital tunnel syndrome, ulnar nerve syndrome, radial tunnel syndrome, pronator teres syndrome, Wartenberg's syndrome, thoracic outlet syndrome and suprascapular neuropathy – as well as revision carpal and cubital tunnel surgical treatment options. Plentiful intraoperative photos and detailed illustrations, along with clinical case material and pearls and pitfalls, make this the ideal resource for orthopedic, hand and plastic surgeons aiming for the most optimal outcomes.

anatomy of the thoracic outlet: **Vascular Surgery** Piergiorgio Settembrini, Alberto M. Settembrini, 2021-10-14 *Vascular Surgery: A Clinical Guide to Decision-making* is a concise but

comprehensive resource for operating vascular surgeons and clinicians. It serves as an essential reference manual, particularly to young vascular surgeons, for consulting the basic scientific knowledge of pathogenesis of various illnesses, as well as how to approach them in a clinical setting. Adopting a translational approach, this book dissects the background of vascular pathology and links it to application in surgical techniques, as well as providing practical tips and tricks for surgical maneuvers. With insights and suggestions from various experienced and skilled vascular surgeons, this book covers a range of topics including the origin of diseases, clinical presentation, and therapeutic options, from medical therapy to surgical or endovascular approach. Each chapter also reviews international cutting-edge research in the vascular field and its clinical application, illuminating future developments in the field. With the contributions of first-class vascular surgeons, this book also covers uncommon and advanced case studies while exploring the pros and cons of each intervention option, helping practitioners make informed decisions when facing difficult cases. This unique reference also helps young surgeons to make quick decisions in challenging cases, such as how to choose between open and endo treatment. - Presents indications, techniques and results for various vascular surgery procedures completed with an overview about pros and cons of a treatment, allowing readers to make a quick decision when facing peculiar clinical cases - Adopts a translational approach, dissecting the background knowledge of vascular pathology and linking it to application in surgical techniques, along with a summary tips and tricks regarding surgical maneuvers - A global involvement from experienced vascular surgeons in the field, covering surgical techniques and important research from around the world, devising the future developments of the field

anatomy of the thoracic outlet: Clinical Orthopaedic Rehabilitation: A Team Approach
E-Book Charles E Giangarra, Robert C. Manske, 2017-01-04 Evidence suggests a direct correlation between the quality of postoperative orthopaedic rehabilitation and the effectiveness of the surgery. Clinical Orthopaedic Rehabilitation, 4th Edition, helps today's orthopaedic teams apply the most effective, evidence-based protocols for maximizing return to function following common sports injuries and post-surgical conditions. Charles Giangarra, MD and Robert Manske, PT continue the commitment to excellence established by Dr. S. Brent Brotzman in previous editions, bringing a fresh perspective to the team approach to rehabilitation. - Every section is written by a combination of surgeons, physical therapists, and occupational therapists, making this respected text a truly practical how-to guide for the appropriate initial exam, differential diagnosis, treatment, and rehabilitation. - Treatment and rehabilitation protocols are presented in a step-by-step, algorithmic format with each new phase begun after criteria are met (criteria-based progression, reflecting current best practice). - Revised content brings you up to date with new evidence-based literature on examination techniques, classification systems, differential diagnosis, treatment options, and criteria-based rehabilitation protocols. - Extensive updates throughout include new chapters on: medial patellofemoral ligament, shoulder impingement, pec major ruptures, thoracic outlet syndrome, general humeral fractures, foot and ankle fractures, medial patellofemoral ligament reconstruction, the arthritic hip, athletic pubalgia, and labral repair and reconstruction. - Easy-to-follow videos demonstrate rehabilitation procedures of frequently seen orthopaedic conditions and commonly used exercises, and new full-color images complement the highly visual nature of the text.

anatomy of the thoracic outlet: Haimovici's Vascular Surgery Enrico Ascher, 2012-06-20 To improve the diagnosis and management of patients with vascular disease turn to the most authoritative and trusted reference for 36 years and counting . . . The role of the vascular surgeon has evolved. Vascular surgeons now perform minimally invasive vascular procedures and provide comprehensive care in addition to open surgery. Haimovici's Vascular Surgery, now in its 6th edition, has been extensively updated to provide you with: Expert perspectives on how the vascular surgery field has evolved so you continue to stay on the leading edge of this dynamic field Concise and practical advice about what these changes and new areas of practice mean to you - the practitioner and trainee in the fields of vascular surgery, interventional cardiology and

interventional radiology Fundamental principles and best practices to treat traditional and new modalities that are now part of the vascular surgeons purview What's new in this edition? Full-color photographs and illustrations Complete coverage of the latest diagnostic imaging modalities, including intravascular ultrasound and computed tomography Expanded information on the most effective minimally invasive treatment options, including those for diseases of the carotid artery, lower extremity and abdominal aorta Full coverage of non-surgical techniques that vascular surgeons may add to their repertoire. Time-saving feature exclusive to the 6th edition To help you identify actionable information quickly, each chapter now highlights the most relevant clinical information. Apply what you learn to your own practice immediately.

anatomy of the thoracic outlet: Neck and Arm Pain Syndromes E-Book Cesar Fernandez de las Penas, Joshua Cleland, Peter A. Huijbregts, 2011-04-12 The first of its kind, Neck and Arm Pain Syndromes is a comprehensive evidence- and clinical-based book, covering research-based diagnosis, prognosis and management of neuromusculoskeletal pathologies and dysfunctions of the upper quadrant, including joint, muscle, myofascial and neural tissue approaches. It uniquely addresses the expanding role of the various health care professions which require increased knowledge and skills in screening for contra-indications and recognizing the need for medical-surgical referral. Neck and Arm Pain Syndromes also stresses the integration of experiential knowledge and a pathophysiologic rationale with current best evidence. - the only one-stop guide for examination and treatment of the upper quadrant supported by accurate scientific and clinical-based data - acknowledges the expanding direct access role of the various health professions both at the entry-level and postgraduate level - addresses concerns among clinicians that research is overemphasized at the expense of experiential knowledge and pathophysiologic rationale - multiple-contributed by expert clinicians and researchers with an international outlook - covers diagnosis, prognosis and conservative treatment of the most commonly seen pain syndromes in clinical practice - over 800 illustrations demonstrating examination procedures and techniques

anatomy of the thoracic outlet: Comprehensive Vascular and Endovascular Surgery John W. Hallett, 2009-01-01 Comprehensive Vascular and Endovascular Surgery, 2nd Edition, edited by John W. Hallett, Jr., MD, FACS, Joseph L. Mills, MD, Jonothan Earnshaw, DM, FRCS, Jim A. Reekers, MD, PhD, and Thom Rooke, MD delivers in-depth, clinically focused coverage of all aspects of vascular surgery in an exceptionally well-designed single reference. Each disease chapter follows the same consistent format, for quick consultation and better comprehension. The revised 2nd Edition features several new chapters, increased endovascular treatment coverage, and updated data from the latest trials...bringing you the newest advances from the field. More than 1,000 photographs, line drawings and tables-including many revised illustrations now in color-depict key concepts and procedures. With its practical user friendly approach-and online access through Expert Consult functionality-this resource offers convenient access to complete guidance. Presents the work of a team of nearly 80 internationally respected vascular surgeons and interventional radiologists who focus on the issues and challenges you face in everyday practice. Uses a highly structured, templated format in each chapter to quickly and consistently deliver information on basic science, clinical presentation, non-invasive testing, medical management, surgical management, complications, outcome, and follow up-making information easy to access and understand. Includes Key Points boxes in every chapter that allow for quick reference and efficient study. Features over 1,000 photographs, line drawings, charts and tables that make important information easy to comprehend. Integrates clinical information with basic science making the material relevant to everyday practice. Covers treatment and interventions from an evidence-based perspective, whenever possible. Provides short, clinical vignettes in the same style as those found on oral exams. Provides online access to the text via expertconsult.com where you can perform quick searches of the complete contents, download all of the images, further your study with bonus review and self assessment questions, and follow links to PubMed abstracts for convenient consultation whwere and when you need it most. Offers new chapters on vascular diagnosis, graft infections, aortic dissection, and visceral aneurysms for greater coverage of the field. Includes a significant increase in

endovascular treatment coverage in many of the chapters, reflecting the growing need for experience in these procedures. Presents current data from DREAM and EVAR 1 and 2 trials. Features a revised artwork program-including many revised illustrations and former black and white images now in color-for an enhanced visual understanding of concepts. Includes bonus review and self assessment questions accompany the online version. Your purchase entitles you to access the web site until the next edition is published, or until the current edition is no longer offered for sale by Elsevier, whichever occurs first. Elsevier reserves the right to offer a suitable replacement product (such as a downloadable or CD-ROM-based electronic version) should access to the web site be discontinued.

Related to anatomy of the thoracic outlet

Human Anatomy Explorer | Detailed 3D anatomical illustrations There are 12 major anatomy systems: Skeletal, Muscular, Cardiovascular, Digestive, Endocrine, Nervous, Respiratory, Immune/Lymphatic, Urinary, Female Reproductive, Male Reproductive,

Human body | Organs, Systems, Structure, Diagram, & Facts human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human

TeachMeAnatomy - Learn Anatomy Online - Question Bank Explore our extensive library of guides, diagrams, and interactive tools, and see why millions rely on us to support their journey in anatomy. Join a global community of learners and

Human anatomy - Wikipedia Human anatomy can be taught regionally or systemically; [1] that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such

Human body systems: Overview, anatomy, functions | Kenhub This article discusses the anatomy of the human body systems. Learn everything about all human systems of organs and their functions now at Kenhub!

Open 3D Model | AnatomyTOOL Open Source and Free 3D Model of Human Anatomy. Created by Anatomists at renowned Universities. Non-commercial, University based. To learn, use and build on

Anatomy - MedlinePlus Anatomy is the science that studies the structure of the body. On this page, you'll find links to descriptions and pictures of the human body's parts and organ systems from head

Human Anatomy Explorer | Detailed 3D anatomical illustrations There are 12 major anatomy systems: Skeletal, Muscular, Cardiovascular, Digestive, Endocrine, Nervous, Respiratory, Immune/Lymphatic, Urinary, Female Reproductive, Male Reproductive,

Human body | Organs, Systems, Structure, Diagram, & Facts human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human

TeachMeAnatomy - Learn Anatomy Online - Question Bank Explore our extensive library of guides, diagrams, and interactive tools, and see why millions rely on us to support their journey in anatomy. Join a global community of learners and

Human anatomy - Wikipedia Human anatomy can be taught regionally or systemically; [1] that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such

Human body systems: Overview, anatomy, functions | Kenhub This article discusses the anatomy of the human body systems. Learn everything about all human systems of organs and their functions now at Kenhub!

Open 3D Model | AnatomyTOOL Open Source and Free 3D Model of Human Anatomy. Created by Anatomists at renowned Universities. Non-commercial, University based. To learn, use and build on

Anatomy - MedlinePlus Anatomy is the science that studies the structure of the body. On this page, you'll find links to descriptions and pictures of the human body's parts and organ systems from head

Human Anatomy Explorer | Detailed 3D anatomical illustrations There are 12 major anatomy systems: Skeletal, Muscular, Cardiovascular, Digestive, Endocrine, Nervous, Respiratory, Immune/Lymphatic, Urinary, Female Reproductive, Male Reproductive,

Human body | Organs, Systems, Structure, Diagram, & Facts human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human

TeachMeAnatomy - Learn Anatomy Online - Question Bank Explore our extensive library of guides, diagrams, and interactive tools, and see why millions rely on us to support their journey in anatomy. Join a global community of learners and

Human anatomy - Wikipedia Human anatomy can be taught regionally or systemically; [1] that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such

Human body systems: Overview, anatomy, functions | Kenhub This article discusses the anatomy of the human body systems. Learn everything about all human systems of organs and their functions now at Kenhub!

Open 3D Model | AnatomyTOOL Open Source and Free 3D Model of Human Anatomy. Created by Anatomists at renowned Universities. Non-commercial, University based. To learn, use and build on

Anatomy - MedlinePlus Anatomy is the science that studies the structure of the body. On this page, you'll find links to descriptions and pictures of the human body's parts and organ systems from head

Human Anatomy Explorer | Detailed 3D anatomical illustrations There are 12 major anatomy systems: Skeletal, Muscular, Cardiovascular, Digestive, Endocrine, Nervous, Respiratory, Immune/Lymphatic, Urinary, Female Reproductive, Male Reproductive,

Human body | Organs, Systems, Structure, Diagram, & Facts human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human

TeachMeAnatomy - Learn Anatomy Online - Question Bank Explore our extensive library of guides, diagrams, and interactive tools, and see why millions rely on us to support their journey in anatomy. Join a global community of learners and

Human anatomy - Wikipedia Human anatomy can be taught regionally or systemically; [1] that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such

Human body systems: Overview, anatomy, functions | Kenhub This article discusses the anatomy of the human body systems. Learn everything about all human systems of organs and their functions now at Kenhub!

Open 3D Model | AnatomyTOOL Open Source and Free 3D Model of Human Anatomy. Created by Anatomists at renowned Universities. Non-commercial, University based. To learn, use and build on

Anatomy - MedlinePlus Anatomy is the science that studies the structure of the body. On this page, you'll find links to descriptions and pictures of the human body's parts and organ systems from head

Human Anatomy Explorer | Detailed 3D anatomical illustrations There are 12 major anatomy systems: Skeletal, Muscular, Cardiovascular, Digestive, Endocrine, Nervous, Respiratory, Immune/Lymphatic, Urinary, Female Reproductive, Male Reproductive,

Human body | Organs, Systems, Structure, Diagram, & Facts human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human

TeachMeAnatomy - Learn Anatomy Online - Question Bank Explore our extensive library of guides, diagrams, and interactive tools, and see why millions rely on us to support their journey in anatomy. Join a global community of learners and

Human anatomy - Wikipedia Human anatomy can be taught regionally or systemically; [1] that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific

systems, such

Human body systems: Overview, anatomy, functions | Kenhub This article discusses the anatomy of the human body systems. Learn everything about all human systems of organs and their functions now at Kenhub!

Open 3D Model | AnatomyTOOL Open Source and Free 3D Model of Human Anatomy. Created by Anatomists at renowned Universities. Non-commercial, University based. To learn, use and build on

Anatomy - MedlinePlus Anatomy is the science that studies the structure of the body. On this page, you'll find links to descriptions and pictures of the human body's parts and organ systems from head

Human Anatomy Explorer | Detailed 3D anatomical illustrations There are 12 major anatomy systems: Skeletal, Muscular, Cardiovascular, Digestive, Endocrine, Nervous, Respiratory, Immune/Lymphatic, Urinary, Female Reproductive, Male Reproductive,

Human body | Organs, Systems, Structure, Diagram, & Facts human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human

TeachMeAnatomy - Learn Anatomy Online - Question Bank Explore our extensive library of guides, diagrams, and interactive tools, and see why millions rely on us to support their journey in anatomy. Join a global community of learners and

Human anatomy - Wikipedia Human anatomy can be taught regionally or systemically; [1] that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such

Human body systems: Overview, anatomy, functions | Kenhub This article discusses the anatomy of the human body systems. Learn everything about all human systems of organs and their functions now at Kenhub!

Open 3D Model | AnatomyTOOL Open Source and Free 3D Model of Human Anatomy. Created by Anatomists at renowned Universities. Non-commercial, University based. To learn, use and build on

Anatomy - MedlinePlus Anatomy is the science that studies the structure of the body. On this page, you'll find links to descriptions and pictures of the human body's parts and organ systems from head

Human Anatomy Explorer | Detailed 3D anatomical illustrations There are 12 major anatomy systems: Skeletal, Muscular, Cardiovascular, Digestive, Endocrine, Nervous, Respiratory, Immune/Lymphatic, Urinary, Female Reproductive, Male Reproductive,

Human body | Organs, Systems, Structure, Diagram, & Facts human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human

TeachMeAnatomy - Learn Anatomy Online - Question Bank Explore our extensive library of guides, diagrams, and interactive tools, and see why millions rely on us to support their journey in anatomy. Join a global community of learners and

Human anatomy - Wikipedia Human anatomy can be taught regionally or systemically; [1] that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such

Human body systems: Overview, anatomy, functions | Kenhub This article discusses the anatomy of the human body systems. Learn everything about all human systems of organs and their functions now at Kenhub!

Open 3D Model | AnatomyTOOL Open Source and Free 3D Model of Human Anatomy. Created by Anatomists at renowned Universities. Non-commercial, University based. To learn, use and build on

Anatomy - MedlinePlus Anatomy is the science that studies the structure of the body. On this page, you'll find links to descriptions and pictures of the human body's parts and organ systems from head

Human Anatomy Explorer | Detailed 3D anatomical illustrations There are 12 major anatomy systems: Skeletal, Muscular, Cardiovascular, Digestive, Endocrine, Nervous, Respiratory,

Immune/Lymphatic, Urinary, Female Reproductive, Male Reproductive,

Human body | Organs, Systems, Structure, Diagram, & Facts human body, the physical substance of the human organism, composed of living cells and extracellular materials and organized into tissues, organs, and systems. Human

TeachMeAnatomy - Learn Anatomy Online - Question Bank Explore our extensive library of guides, diagrams, and interactive tools, and see why millions rely on us to support their journey in anatomy. Join a global community of learners and

Human anatomy - Wikipedia Human anatomy can be taught regionally or systemically; [1] that is, respectively, studying anatomy by bodily regions such as the head and chest, or studying by specific systems, such

Human body systems: Overview, anatomy, functions | Kenhub This article discusses the anatomy of the human body systems. Learn everything about all human systems of organs and their functions now at Kenhub!

Open 3D Model | AnatomyTOOL Open Source and Free 3D Model of Human Anatomy. Created by Anatomists at renowned Universities. Non-commercial, University based. To learn, use and build on

Anatomy - MedlinePlus Anatomy is the science that studies the structure of the body. On this page, you'll find links to descriptions and pictures of the human body's parts and organ systems from head

Related to anatomy of the thoracic outlet

What is thoracic outlet syndrome, and what does it mean for Markelle Fultz? (ABC News6y) According to ESPN's Adrian Wojnarowski, Philadelphia 76ers guard Markelle Fultz has been diagnosed with neurogenic thoracic outlet syndrome and is expected to miss three to six weeks as he undergoes

What is thoracic outlet syndrome, and what does it mean for Markelle Fultz? (ABC News6y) According to ESPN's Adrian Wojnarowski, Philadelphia 76ers guard Markelle Fultz has been diagnosed with neurogenic thoracic outlet syndrome and is expected to miss three to six weeks as he undergoes

What to expect from thoracic outlet syndrome procedures (Medical News Today1y) If nonsurgical treatments do not relieve a person's thoracic outlet syndrome symptoms, a doctor may suggest surgery to relieve compression in the thoracic outlet. Surgery may include a first rib

What to expect from thoracic outlet syndrome procedures (Medical News Today1y) If nonsurgical treatments do not relieve a person's thoracic outlet syndrome symptoms, a doctor may suggest surgery to relieve compression in the thoracic outlet. Surgery may include a first rib

Thoracic outlet syndrome: A review (clinicaladvisor.com5mon) Diagnosis of vTOS is made by a combination of clinical presentation and noninvasive studies. A duplex ultrasound of the subclavian vein in both the resting position and with the arm abducted to 90° is

Thoracic outlet syndrome: A review (clinicaladvisor.com5mon) Diagnosis of vTOS is made by a combination of clinical presentation and noninvasive studies. A duplex ultrasound of the subclavian vein in both the resting position and with the arm abducted to 90° is

Craning neck to look down at screens can lead to thoracic outlet syndrome (Local 12 WKRC Cincinnati2y) CINCINNATI (WKRC) - Everyone may want to pay attention to their posture while using a cell phone or computer. A potentially painful syndrome is now linked to 'tech neck.' A person's phone is not the

Craning neck to look down at screens can lead to thoracic outlet syndrome (Local 12 WKRC Cincinnati2y) CINCINNATI (WKRC) - Everyone may want to pay attention to their posture while using a cell phone or computer. A potentially painful syndrome is now linked to 'tech neck.' A person's phone is not the

Zack Wheeler injury update: Phillies pitcher out with venous thoracic outlet syndrome (USA Today1mon) Philadelphia Phillies pitcher Zack Wheeler will miss the remainder of the season after being diagnosed with venous thoracic outlet syndrome, the team announced Saturday. Wheeler had

a successful right

Zack Wheeler injury update: Phillies pitcher out with venous thoracic outlet syndrome (USA Today1mon) Philadelphia Phillies pitcher Zack Wheeler will miss the remainder of the season after being diagnosed with venous thoracic outlet syndrome, the team announced Saturday. Wheeler had a successful right

Phillies ace Zack Wheeler out for remainder of season with thoracic outlet syndrome

(Yahoo! Sports1mon) Philadelphia Phillies right-handed pitcher Zack Wheeler will officially miss the rest of the season with venous thoracic outlet syndrome (TOS), the team announced Saturday. Venous TOS occurs when at

Phillies ace Zack Wheeler out for remainder of season with thoracic outlet syndrome

(Yahoo! Sports1mon) Philadelphia Phillies right-handed pitcher Zack Wheeler will officially miss the rest of the season with venous thoracic outlet syndrome (TOS), the team announced Saturday. Venous TOS occurs when at

Phillies' Zack Wheeler diagnosed with venous thoracic outlet syndrome (CBS News1mon)

Days after a successful blood clot removal procedure, the Philadelphia Phillies said right-handed pitcher Zack Wheeler has been diagnosed with venous thoracic outlet syndrome. The Phillies said

Phillies' Zack Wheeler diagnosed with venous thoracic outlet syndrome (CBS News1mon)

Days after a successful blood clot removal procedure, the Philadelphia Phillies said right-handed pitcher Zack Wheeler has been diagnosed with venous thoracic outlet syndrome. The Phillies said

Phillies ace Zack Wheeler diagnosed with thoracic outlet syndrome, out for the rest of the season (Yahoo! Sports1mon) PHILADELPHIA (AP) — Phillies ace Zack Wheeler diagnosed with thoracic outlet syndrome, out for the rest of the season. The Rangers ended the season at .500 and fell short of the playoffs two years

Phillies ace Zack Wheeler diagnosed with thoracic outlet syndrome, out for the rest of the season (Yahoo! Sports1mon) PHILADELPHIA (AP) — Phillies ace Zack Wheeler diagnosed with thoracic outlet syndrome, out for the rest of the season. The Rangers ended the season at .500 and fell short of the playoffs two years

Back to Home: <https://explore.gcts.edu>