DOWNLOAD PDF CLINICAL ANATOMY AND MANAGEMENT OF THORACIC SPINE PAIN

Chapter 1 : Clinical Anatomy and Management of Thoracic Spine Pain - [PDF Document]

*The text has been organized into four sections so that the information required by the reader can be easily accessed: * Section 1: the reasoning behind the text * Section 2: the clinical anatomy, pathology and biomechanics of the thoracic spine * Section 3: spinal clinical neuroanatomy of the thoracic spine * Section 4: diagnosis and management.*

Examination by selective tension objective examination Treatment of thoracic lesions Contraindications to thoracic manipulation Indications for thoracic manipulation Thoracic manipulation techniques Thoracic traction SUMMARY Thoracic pain is commonly encountered and provides a challenge in diagnosis, since referred pain from visceral problems can mimic pain of somatic origin, and vice versa. Disc lesions are considered by some to be a comparatively rare cause of thoracic pain, probably due to the supportive nature of this relatively stiff area brought about by the sternal and vertebral articulations of the ribs. While this might be so for the mid-thoracic region, lower thoracic disc lesions may be more common than previously thought. This chapter sets out to explain the anatomy of the thoracic spine and highlights the somatic structures which are a common cause of pain. Pain patterns are discussed and the non-mechanical causes of thoracic back pain are presented to aid diagnosis and appropriate management. The clinical examination procedure is outlined and interpreted, the contraindications are emphasized and the treatments used in orthopaedic medicine are described, with notes on the indications for their use. ANATOMY There are 12 thoracic vertebrae which gradually increase in size from above down, marking a transition between cervical and lumbar vertebrae. A typical thoracic vertebra is easily recognized by its costal facets, its heart-shaped superior surface and waisted vertebral body Fig. The vertebral canal in the thoracic region is round and smaller than that found in either the cervical or lumbar spine. Short pedicles pass almost directly backwards and thick, broad laminae overlap each other from above down. Reprinted by permission of Elsevier Ltd. The slope of the long spinous processes gradually increases downwards with the 5th to 8th spinous processes overlapping each other. The 8th spinous process is the longest, while the 12th is shorter, horizontal and similar to the lumbar spinous processes. Long, rounded, club-like transverse processes are directed posterolaterally and slightly superiorly. Except for the 11th and 12th vertebrae, oval, anterior facets lie at the tips of all transverse processes. These facets articulate with the tubercles of the corresponding ribs. Flat articular processes project superiorly and inferiorly to form the thoracic zygapophyseal joints. Their direction facilitates the movement of rotation, which is coupled with side flexion, while also permitting a range of flexion and extension. Rotation is a particular feature of the thoracic spine and is facilitated by the direction of the articular facets and rotation of the fibres in the intervertebral discs. The shearing movement common to lumbar discs does not occur so readily in the thoracic spine Kapandji The 12th thoracic vertebra is a transitional vertebra with the upper surface being typical of a thoracic vertebra but the lower surface having lumbar characteristics for articulation with L1. A dramatic change of direction of the plane of the zygapophyseal joints occurs over one level at the thoracolumbar junction permitting rotational stresses between T11 and T12 which are disallowed between T12 and L1. The thoracic intervertebral joints consist of the vertebral body above and below and the intervertebral disc. These joints are supported by anterior and posterior longitudinal ligaments, supraspinous, interspinous and intertransverse ligaments and the ligamentum flavum that connects adjacent laminae internally. Further support is gained by the costovertebral joints and ligaments which directly involve the intervertebral disc. The bony anatomy, including the primary kyphotic curve, and the surrounding ligamentous structures related to the costovertebral joints may have a stabilizing effect on the intervertebral disc, making displacement less likely in this region. The rib cage also exerts a stabilizing effect by restricting movement, particularly in the upper segment where the ribs are firmly attached anteriorly and posteriorly. Movement in the thoracic spine is limited. This is due in part to the thoracic disc height relative to vertebral body height being less than in the cervical or lumbar spines with the ratio of disc diameter to height 2â€”3 times greater than in the lumbar spine. The acute angle of orientation of the annular fibres and the relatively small nucleus in the thoracic spine

contribute to this lack of mobility. Little has been written about the structure and function of the thoracic disc, so it is not covered in depth here. Twelve pairs of ribs normally attach posteriorly to the thoracic spine. The upper seven pairs are termed true ribs and attach anteriorly to the sternum. The lower five pairs consist of false and floating ribs, the false ribs attaching to the costal cartilage above. A typical rib consists of a shaft and anterior and posterior ends. It is the posterior end that concerns us here. The posterior end of the rib typically has a head, neck and tubercle and articulates with the thoracic vertebrae, forming the posterior rib joints. The head of the rib is divided into two demifacets by a horizontal ridge that is attached to the disc via an intra-articular ligament. The lower facet articulates with its corresponding vertebra; the upper facet articulates with the vertebra above. The tubercle of the rib is at the junction of the neck with the shaft and articulates with the transverse process of the corresponding vertebra. Just lateral to the tubercle the rib turns to run inferiorly forwards; this point is the angle of the rib. A cervical rib may be present as an extension of the costal elements of the seventh cervical vertebra. It generally passes forwards and laterally into the posterior triangle of the neck where it is crossed by the lower trunk of the brachial plexus and the subclavian vessels. Compression of these structures may produce motor and sensory signs and symptoms. Posterior rib joints Two joints, the costovertebral and costotransverse joints, attach the rib firmly to the vertebral column Fig. These assist stabilization of the intervertebral joint while being relatively unstable themselves. Minor subluxations of these joints may be responsible for the mechanical pattern of signs and symptoms associated with a thoracic pain. This minor instability may also account for the ease with which subluxations occur and can be reduced in this region. Costovertebral and costotransverse joints, horizontal section. The costovertebral joint is a synovial joint formed between the head of the rib and two adjacent vertebral bodies, except at the first, 11th and 12th ribs, where a joint is formed with a single vertebral body. The joint surfaces are covered by articular cartilage and surrounded by a fibrous capsule. The capsule is thickened anteriorly by the radiate ligament while the posterior aspect of the capsule blends with the nearby denticulation of the posterior longitudinal ligament. An intra-articular ligament divides the joint and attaches the transverse ridge of the rib head to the intervertebral disc. The costotransverse joint joins the upper 10 ribs to the transverse processes of their corresponding vertebra. The joint is surrounded by a fibrous capsule that is reinforced posteriorly by the lateral costotransverse ligament. The joint is further stabilized by the costotransverse ligament which joins the transverse process to the neck of the rib, and the superior costotransverse ligament which connects the rib to the transverse process of the vertebra above. Movements occur concurrently at the costovertebral and costotransverse joints and are determined by the shape and direction of the articular facets. Three thin musculotendinous layers occupy the intercostal space between adjacent ribs and may become symptomatic due to strain Fig. The external intercostal muscle is the most superficial, with fibres running in an oblique direction downwards and forwards. The internal intercostal muscle lies beneath with fibres running in the opposite direction, and the thinnest and deepest layer is formed by the innermost intimi intercostal muscle, which is thin and possibly absent, with fibres running in the same direction as the internal intercostal muscle. Differential diagnosis at the thoracic spine Orthopaedic medicine treatment techniques for the thoracic spine are aimed at reducing a mechanical lesion, i. Minor subluxation of the posterior rib joints Subluxation of one or other of the posterior rib joints is a common cause of thoracic pain. The articulating surfaces of these joints are relatively shallow and unstable, rendering them susceptible to minor subluxations. The relatively trivial incidents that provoke thoracic mechanical pain and the relative ease with which it is reduced leads us to this hypothesis. Differential diagnosis of thoracic pain is difficult because of the numerous conditions that refer pain to the area and the lesions that mimic mechanical pain. Patients present with a sudden onset of pain; the precipitating event is usually trivial and they often feel a pop or click. More gradual onset can be associated with working in rotated postures. The pain presents a typical mechanical picture of pain aggravated by movement and posture and eased by rest. On examination there is a non-capsular pattern of limited movement involving one rotation more than the other and these simple mechanical lesions usually respond rapidly to manipulation. Provided that there are no contraindications present see below , the manipulative techniques

described in this chapter can be applied. The usual postural and management advice should also be given to prevent recurrence, which is also a typical feature. Thoracic disc lesions It is important to reduce a thoracic disc displacement because of the potential for the displaced fragment to compromise the spinal cord. The thoracic vertebral canal is relatively small; therefore central prolapse poses the most threat. In a review of the literature, Oppenheim et al reported an estimated annual incidence of one case of thoracic disc herniation per 1 million population. It is primarily a condition of middle age, occurring between the third and fifth decade, and affects the lower thoracic levels more frequently. This is probably because the lower thoracic spine is free of the restriction of the rib cage, making it more mobile, and the transition to the non-rotational lumbar spine produces greater torsional stresses here. Positive diagnosis of a thoracic disc lesion is difficult. There is no regular pattern to the history, signs and symptoms, as found at the cervical and lumbar spine, and it is not possible to produce a clinical model on which to base differential diagnosis. Wilke et al reported a case of shoulder pain associated with a lower thoracic disc herniation. Central disc prolapse is most likely to compress the spinal cord and produce signs of myelopathy which include progressive paraparesis, increased reflexes, decreased sensation and bladder dysfunction. Although thoracic disc herniations are rare, Ozturk et al highlight the potential danger of their being missed as they could possibly result in the progressive myelopathy and paralysis mentioned above. A posterolateral prolapse produces segmental signs and symptoms. To support the possible confusion arising from thoracic referred pain, Ozturk et al presented a case study of a patient with left flank pain, compatible with urinary system disorder. The cause of the pain could not be identified until magnetic resonance imaging MRI revealed a left T10â€”T11 lateral disc herniation with associated nerve root compression. They warn that thoracic disc herniation should be considered in the differential diagnosis of patients with pain more likely to be associated with visceral disorders, especially if basic diagnostic studies do not reveal the cause. Previous attempts to identify and treat the pain led to extensive radiographic, pharmacological, endoscopic and surgical interventions. Pain control was poor despite implantation of a continuous intrathecal morphine infusion pump. A focused physical examination eventually raised the suspicion of thoracic disc disease, which was confirmed with computed tomography. Disruption of the T7â€”T8 disc with protrusion into the vertebral canal and displacement of the spinal cord was identified. A microsurgicaI thoracic discectomy was performed and immediately the pain began resolving with the patient being pain-free and off all medication within several weeks. The onset may be sudden and severe or insidious and slowly progressive. They suggest it may give four classical presentations: Chest pain may be constant or intermittent and may be central, localized or diffuse. A band-like dermatomal chest pain is not uncommon and abdominal referral may occur. If accompanied by cord compression, complaints of bladder involvement, lower limb paraesthesia and gait disturbance can be reported and findings may include spastic muscle weakness, hyperreflexia and a positive Babinski sign. Radiculopathies involving T1 share similarities with those occurring at C8, with numbness and weakness in the hand and pain in the arm and medial forearm. Disc lesions at the T2 and 3 levels are even less common and there are few reports in the literature of the features of involvement of T3â€”T8; symptoms of nerve root involvement at these levels may produce intercostal neuralgia. If there is involvement of the dura mater or dural nerve root sleeve, their mobility will be impaired and signs provoked on flexion of the cervical spine and scapular approximation. T9â€”T11 may produce a dermatomal pattern of pain and can include the abdomen and groin, often being confused with visceral symptoms.

DOWNLOAD PDF CLINICAL ANATOMY AND MANAGEMENT OF THORACIC SPINE PAIN

Chapter 2 : Orthopedic Management of the Lumbar, Thoracic, and Cervical Spine | Clinical Gate

Understanding thoracic spine pain is complex and demands the sharing of ideas and knowledge to improve the management of patients. This text highlights the value of a multidisciplinary approach to the complexity of thoracic spine pain.

The prevalence of the condition pain is unknown and may be under-diagnosed. In this well written article, Dr Blau discusses the need to become aware of this modality as a means to address mid-back pain. He presents evidence in support of thoracic facet joint pain as a diagnostic entity and reviews the differential diagnosis as well as the technical aspects of performing the procedure. Rosenthal, MD The thoracic spine may be an under-served pain generator equally in men and women. Per Dreyfuss, the relative incidence of cervical, thoracic, and lumbar pain in a Netherlands pain clinic was 5: Manchikanti et al concluded from to there was exponential growth in the performance of facet joint interventions. But what pain specialist does not hear, on a daily basis, about pain under the shoulder blade or pain at the bra line. Perhaps it is our prioritizing of the neck and low back that puts the thoracic spine on the back burner. Perhaps it is our perception that thoracic pain is less important, less common, or less debilitating that it is overlooked. Perhaps it is the daunting differential diagnosis of thoracic pain that distracts us from the simplicity of treating thoracic facet pain. Pain management techniques have been evaluated for utility and are showing promise in the thoracic spineâ€”not only for diagnostic but also therapeutic capability. Atluri in established that evidence for a diagnosis of thoracic facet joint pain is with controlled comparative local anesthetic blocks at level I or II Conservative modalities and conventional treatments such as heat, cold, anti-inflammatories, bracing, physical therapy, acupuncture, Pilates, yoga, and chiropractic can be applied adjunctively. A close up sketch showing the course and relations of typical thoracic medial branches. Further confounding the search for thoracic facet-mediated pain is the overlapping, redundant patterns of competing structures in and around the thoracic spine see Figures 3 through 8. Dreyfuss et al provoked normal thoracic facets and produced a partial pain pattern map. One notes how these potential pain generator patterns overlap. To complicate the diagnostic challenge, the more precise anatomic location of the thoracic medial branches has been dissected and displayed. The shared location of trigger points with medial branch nerves suggests many of the so-called trigger point injections that I served up in the past were probably medial branch blocks. Anterior and Lateral Disc Protrusions in the Thoracic Spine Returning to Mcinerney et al and his study in of thoracic disc herniations, a cursory review of my office charts produced at least twenty examples where thoracic MRIs were interpreted as unremarkable by the radiologist yet I was able to discern obvious anterior and lateral protrusions. These responses were obtained by the nursing staff independently post- procedure with open-ended questions. The apparent reason for the frequency of anterolateral disc protrusions in the thoracic spine is the reversed or kyphotic curve compared to the lordotic neck and low back where the pressure on the thoracic disc is now anterior rather than posterior. The thoracic anterior longitudinal ligament prevents the disc from protruding straight forward so it protrudes laterally. The interest of the radiologist is directed posteriorly to where the nerves are. It is in the interest of the pain management specialist to note the disc protrusionâ€”whether posterior or anteriorâ€”as it implies disc space narrowing, facet compression and inflammation posteriorly. If the patient gets excellent immediate temporary relief from intraarticular facet injection then confirmatory medial branch block is indicated. If the patient gets excellent immediate temporary relief from confirmatory medial branch block then medial branch neurotomy is indicated. Some physicians prefer to go first directly to medial branch block. It has been suggested that thoracic facet injections are not painful and sedation is unnecessary. I would recommend having sedation available. Thoracic joints, if inflamed, can be painful during injection. Smith et al in concluded that systemic review provided no significant evidence of the influence of sedationâ€”either with midazolam or fentanylâ€”in the evaluation of cervical and lumbar facet joint pain with controlled nerve blocks with an indicated evidence of Level II Thoracic Pain and Interventions. Mcinerney J and Ball P. The

DOWNLOAD PDF CLINICAL ANATOMY AND MANAGEMENT OF THORACIC SPINE PAIN

Pathophysiology of Thoracic Disc Disease. A Year Evaluation from to Chua WH and Bogduk N. American J of Neuroradiology. Cervical discography clinical implications from 12 years of experience. Thoracic Zygapophyseal Joint Pain Patterns; a study in normal volunteers. Thoracic costoransverse joint pain patterns: Clinical Anatomy of the Thoracic Dorsal Rami. Interventional Techniques in the Management of Chronic Pain: Smith H and Chopra P. January 4, 1.

Chapter 3 : Long Thoracic Nerve Anatomy and Significance | Bone and Spine

Features: The four sections include an introduction, clinical anatomy, pathology, and biomechanics of the thoracic spine, diagnosis of thoracic spine pain, and management of thoracic spine pain. Each section was written by an experienced academic clinician, and information specifically from the fields of anatomy, physiology, epidemiology.

It is important to try to gain an understanding of the person and his attitudes, fears, thoughts and reactions, both conscious and unconscious, and how these have changed with the illness. As Dr Kaplan says, a more accurate remedy is prescribed by understanding the patient than by an encyclopaedic knowledge of the Materia Medica. But how can we better understand the patient? The major part of the book enlarges on how to create the bond of understanding between practitioner and patient, the qualities needed to elicit the information required and how to really listen with genuine empathy and understanding. The author discusses the unconditional acceptance of the patient. He discusses and shares with readers the insights, skills and techniques which have been invaluable to him in the homoeopathic consultation, including an under- standing of the value of psychotherapy and counselling. The book is about how to achieve the ultimate state of being the receiver, in this case the homoeopath, so that nothing stands between the real person, the patient and his needs, and the ability to receive this information and respond appropriately and rewardingly with the prescription of the correct remedy. Although this book is really written for homoeopaths and homoeopathic students who will learn a great deal from reading it, there is much to be learned by physiotherapists too, especially those of us working with complementary therapies. It is about the art of the personal relationship which underlies the science of the therapy. Dr Kaplan trained originally as an allopathic doctor but found himself disillusioned with the training and practice of medicine. The importance of the quality of the interrelationship between homoeopath and patient in the homoeopathic conversation, and the resulting accurate prescribing gave Dr Kaplan the satisfaction he had been looking for. We are left with a strong impression of an inspiring man who discovered that he was unfulfilled and unable to achieve the reward of truly helping people only as a doctor. The benefits of his subsequent career and methods are now available to us all in this interesting and well-written book. The series aims to bring a multidisciplinary approach to the management of mechanical spinal pain and, in common with the other two volumes, this work has contributions from therapists and academic clinicians across a spectrum of related fields and a variety of countries. The principal theme of the text is the sources of thoracic spine pain, with a primary emphasis on mechanical causes. The editors cite their primary aim as the presentation of a comprehensive review and analysis of thoracic spine pain and its management, including the associated cervico- thoracic and thoracic-lumbar junctions. However the former is not explored here to the same extent as the latter, especially with respect to patho-anatomy. This spinal region is covered more comprehensively in the companion Cervical Spine Pain volume. Secondly they aspire to inter-disciplinary communication between the different therapeutic schools, through illustration of the more common manual therapy approaches. To help meet this aim the target audience for the book is all students of manual therapy including experienced clinicians, in order to facilitate the devel- opment of knowledge of thoracic spine pain. Presentation is a strength of the text, the quality of illustration and referencing making it easy to follow. Organisation of the material is logical, with division essentially into two parts, each of two designated sections: An emerging area of increasing clinical interest is that of the interrelationship of the thoracic spine and the autonomic nervous system. Chapter 8 explores thoracic neural anatomy in detail and clearly presents the close involvement of the sympathetic pathway, the thoracic spine and related structures. It derives potential links between pain in and from this region and the SNS. In keeping with the rest of the book, this is viewed from the biomedical model perspective. Diagnosis of thoracic spine pain is dealt with in the four chapters of section 3; the fourth, chapter 12, presents very good information and illustration of what multiple relevant pathologies show in a variety of imaging modes. In the final section of the book chiropractors, osteopaths and a physiotherapist each denote

assessment issues and describe the therapeutic interventions they advocate, with varying levels of detail. The text is an excellent review and illustration of underpinning clinical and basic sciences relevant to thoracic spine pain. It presents reasoned and referenced man- agement strategies from the different disciplines and would be a useful addition to either department or university libraries. The exercises are presented as a five-day exercise programme, with seven different exercises each day, grad- ually becoming more demanding and strsenuous. Each exercise is described by name, starting position, movement and effect, with large clear photographs of Sharron Davies, former Olympic swimmer, gold medal athlete and now TV presenter, performing the exercises. Readers are introduced to the causes of back pain, postural as well as traumatic, and to the effects of gravity and body weight on discs and joints. Mr Summers states that the only safe and effective back exercises are those carried out when the body is in the horizontal plane; that stretching removes pain and restores function, dissolving the stiffness which starts the discomfort; and helps to decompress discs, prising them free. He presents the exercises as safe, simple, and ultra-friendly; but does suggest that they may not be suitable for all people, that prior consultation with a doctor about the appropriateness of this exercise routine may be necessary, and that the routine should be stopped if the reader experiences pain or dizziness. Taken overall, there is a lot of useful material in this book, which is easy to follow, with clear instructions and photographs. However, there are some inner range extension exercises, bridging exercises and sustained curled flexion which may be totally inappropriate for some patients with cervical or lumbar facet joint problems, or vulnerable discs. There is also no reference to core stability in the spine and pelvis, which evidence suggests is fundamental to the maintenance of a functional pain-free back. Blanket recommendation to all our patients may be inappropriate, and as professionals, tacit endorsement of the Backstretcher products would need to be avoided. The workbook is available in high street bookshops, and is attractive and probably appropriately priced.

Chapter 4 : Lynton Giles (Author of Clinical Anatomy And Management Of Cervical Spine Pain)

Articles from British Journal of Sports Medicine are provided here courtesy of BMJ Group.

This article discusses the most common thoracic pain causes, symptoms, risk factors, and treatments for finding relief. Frequently thoracic back pain has a benign musculoskeletal origin, but may indicate a more serious underlying problem. Weakness or paralysis Loss of bowel or bladder control Prior history of cancer Recent significant trauma such as a fall from a height or motor vehicle accident How many people suffer from thoracic spine pain? Back pain, itself, is a very pervasive condition. Finding out how many people suffer from thoracic, or thorax pain, can be difficult. This is because there are different definitions of what thoracic pain is for different patients. According to a review quoted by Patient. Thoracic Pain Causes There are many probable causes of thoracic spine pain. Many of these occur due to daily habits, repetitive movements, or weaknesses in back muscles. Diseases of the spinal column like a compression fracture, tumor, and scoliosis can also cause more thoracic pain. Must Watch Video â€" Thoracic Back Pain Causes Thoracic spondylosis is the result of abnormal wear and tear that causes gradual narrowing of the disc space and deformed bone growth bone spurs. This combination leads to increased pressure on surrounding tissue and nerves causing pain, and possibly weakness, numbness in the arms or shoulders, and even headaches. Arthritis , disc herniations, and other forms of pain that affect the discs of the spine may also cause thoracic spine pain. Additional risk factors for thoracic pain include the following: Age of 40 years or greater History of injury Deformities scoliosis or kyphosis , arthritis, or narrowing of the spine Poor posture or excessive sitting Heavy physical work Poor physical condition and lack of exercise How To Relieve Thoracic Back Pain The most common treatments for thoracic back pain symptoms are non-prescription medications such as non-steroidal anti-inflammatory drugs or acetaminophen, especially for more acute cases of thoracic pain. For more chronic cases of pain, we recommend the following. As with all pain conditions, finding relief is often an effort that includes the mind and body. Focusing just on the pain itself is often ineffective for finding pain relief. Instead, we find that pain relief is best found by creating a comprehensive treatment plan that encourages the use of multiple treatment options, with a team of healthcare professionals helping to tackle your pain. For example, you can: Treatment options for chronic thoracic pain If you suffer from chronic and severe thoracic pain, more interventional treatment options may be appropriate for your symptoms. Chiropractic care is a noninvasive treatment option that has been shown to safe for the majority of patients, and is particularly beneficial for back pain patients. Epidural steroid injections are also commonly used to treat degenerative and arthritic joint conditions, such as those caused by disc herniations. The procedure involves injecting a combination of a corticosteroid and local anesthetic under x-ray guidance into the epidural space, which is the space around the spinal cord. The steroids act at nerve roots as they branch from the spinal cord by decreasing inflammation and irritation. Facet blocks are an injection of local anesthetic and steroid into the facet joint under X-ray guidance. This procedure is effective in treating arthritic pain of originating from the facet joints. Spine surgery may also be necessary for certain extreme cases of thoracic spine pain. You can read more about these reasons in the linked article. Conclusion Though rare, there are some conditions affecting the middle and upper back area that may require more than simple medication and exercise.

DOWNLOAD PDF CLINICAL ANATOMY AND MANAGEMENT OF THORACIC SPINE PAIN

Chapter 5 : The thoracic spine | Clinical Gate

Clinical Anatomy and Management of Cervical Spine Pain The Clinical Anatomy and Management of Back Pain Series This series of three books brings together a truly multidisciplinary approach to the management of mechanical spinal pain.

Thoracic, radiculopathy , thoracic pain, diabetic and thoracic and radiculopathy, thoracic and radiculopathy and physical and therapy, thoracic and radiculopathy Engine: The term radiculopathy refers to the whole complex of symptoms that can be caused by a nerve root pathology, such as: Radicular pain indicates a single symptom: In a lot of cases the diagnosis of thoracic radiculopathy is overlooked. Thoracic radiculopathy has been infrequently reported and described as uncommon. Radiculopathy typically is a mechanical root compression due to diabetes mellitus , degenerative spine changes such as disc herniation and spondylosis. Depending on which nerve root is affected, the loss of sensation will occur in a segmental pattern across the thorax. Sometimes the patient also will complain from lower limb pain, vague abdominal or chest pain and axial pain. Thoracic radiculopathy can be suggested when there is an abdominal wall bulging, due to weakness of the abdominal wall muscle. Look out for other symptoms of muscles weakness. Diabetic thoracic polyradiculopathy causes chronic abdominal pain, but there are four disorders who could be confused with diabetic thoracic polyradiculopathy: The electrodiagnostic evaluation of suspected thoracic radiculopathy should include needle EMG of thoracic paraspinal muscles. Associated intercostal and abdominal musculature may be additional muscles that can help in the diagnosis. Since there are a lot of generators of thoracic pain see the list below , differentiating these differential diagnoses will be difficult. A study reported a 53 years old woman who presented with bilateral groin pain and severe numbness. Magnetic resonance imaging revealed bilateral cystic mass in the intervertebral foramen between 12th thoracal and 1st lumbar vertebrae. The cystic lesions were removed after bilateral exposure of ThL1 foramens. A year-old man complaint of back pain radiating to the right abdomen. Neurological examination revealed mild sensory deficit at the right side of the abdomen at the T9â€”10 level. Magnetic resonance imaging and computed tomography demonstrated ossification of the ligamentum flavum at the right T9â€”10 level. Conservative treatment was not effective to this patient, but a surgical intervention was effective and the pain disappeared immediately. However this has not been seen frequently, it should be considered as a differential diagnosis. Needle EMG of thoracic paraspinal, abdominal and intercostal muscles can be preformed to help the diagnosis. Fibrillations and positive sharp waves in the paraspinal muscle can provide information about the level at which a problem is located. It is also used to differentiate between diabetic thoracic radiculopathy and other intraabdominal and intrathoracic diseases. This was also used in the study of Scott M. Physical examination is not the best way to evaluate thoracic radiculopathy , unlike the lumbosacral and cervical radiculopathies the affected muscles cannot be tested isolated. Therefore the examination will rather be used to exclude other diagnoses then to determine a thoracic radiculopathy. But those are already discussed in: Medical Management Conservative treatment anti-infl. Acute symptoms can be treated similar to those of a cervical and lumbar radiculopathy. When there are symptoms of progressive myelopathy, neuromuscular comprimise or when incapacitating symptoms continue to exist other treatment is advised. These include anterior transternal and transthoracic , posterior pediculofacetectomy and lateral costotrans versectomy and lateral extracavitary approaches. With proper patient selection and the identification of symptomatic structural pathology are paramount for the success of all thoracic spinal surgical procedures. We should conclude that for surgical procedures proper patient selection and identification of symptomatic structural pathology is needed. We should avoid open surgery because of the high chance of complications and only use it when conservative and less invasive procedures fail. Endoscopic thoracic laminoforaminoplasty has also been used for the treatment of thoracic radiculopathy. The study has used 12 patients and with this surgical treatment seven patients showed marked improvement in pain scores. Visual Analog Scale and Oswestry Disability Index has been used and there was

a significant difference between pre and post surgical data. Their conclusion was that endoscopic laminoforaminoplasty offers an alternative to fusion or conventional laminotomy with similar success rates. Patients additionally benefit from a decrease risk of complications, short hospital stay, and faster recovery. Physical modalities of the therapy include: These forms of therapy give a short-term symptomatic relief but will have no effect on the long-term development. Managing the subacute and chronic symptoms of thoracic radiculopathy consists of spinal extension exercises. Unfortunately there are none or few clinical studies about the effectiveness of conservative treatment interventions for thoracic radiculopathy. At present, no evidence exists for thoracic radiculopathy. For a short-term relief of complaints you can use: But unfortunately there exists no evidence for long-term relief of the patient his complaints. Key Research add links and reviews of high quality evidence here case studies should be added on new pages using the case study template Resources.

Chapter 6 : Clinical Evaluation Archives | Bone and Spine

Clinical Anatomy and Management of Thoracic Spine Pain Physiotherapy September /vol 87/no 9 Subject matter included in the first part of the book comprises anatomy, pathology, biomechanics, neuro- anatomy, clinical medicine, pain control, radiology, neurosurgery, orthopaedics, chiropractic, osteopathy and physiotherapy.

Chapter 7 : The Clinical Anatomy and Management of Thoracic Spine Pain - L. G. F. Giles - Google Books

Thoracic spine pain is multifaceted and it demands the sharing of ideas and knowledge to improve the management offered to patients. This text highlights the value of a team approach to appreciating the complexity of thoracic spine pain and a range of treatment approaches.

Chapter 8 : Thoracic radiculopathy - Physiopedia

In a recent text, the thoracic spine was described as an enigma due to the limited research and clinical focus on this region of the spine (Singer and Giles). Consistent with this, The Thorax.

Chapter 9 : Thoracic Pain - Conditions - Pain Doctor

The Thoracic Spine. fact that posture, physical activity, a deep breath or a cough. may also influence visceral pain in the thorax or abdomen.