

Chapter 1 : Abnormal Involuntary Movements. Dyskinesias info. Patient | Patient

A categoric list of movements of the human body and the muscles involved can be found at list of movements of the human body. Abnormal motion [edit] The prefix hyper- is sometimes added to describe movement beyond the normal limits, such as in hypermobility, hyperflexion or hyperextension.

Newsletter What Causes Involuntary Movements? These movements can be anything from quick, jerking tics to longer tremors and seizures. You can experience these movements in almost any part of the body. An involuntary movement occurs when you move your body in an uncontrollable and unintended way. You can experience these movements in almost any part of the body, including the neck, face, and limbs. There are a number of types of uncontrollable movements and causes. Uncontrollable movements in one or more areas of the body may quickly subside in some cases. In others, these movements are an ongoing problem, and may worsen over time. What Are the Types of Uncontrollable Movement? There are several types of involuntary movements. Nerve damage, for instance, often produces small muscle twitches in the affected muscle. The main types of involuntary movements include the following: It originates in the brain and occurs with the use of neuroleptic drugs. Doctors prescribe these drugs to treat psychiatric disorders. People with TD often exhibit uncontrollable repetitive facial movements that can include: You should talk with your doctor to determine which treatment is right for you. Tremors Tremors are rhythmic movements of a particular body part. According to the Stanford School of Medicine , most people experience tremors in response to factors such as low blood sugar, alcohol withdrawal, and exhaustion. Myoclonus Myoclonus is characterized by quick, shock-like, jerking movements. Tics Tics are sudden, repetitive movements. Excessively shrugging the shoulders or flexing a finger is an example of a simple tic. The motor tics that occur as a result of this disorder may disappear for short periods of time. The affected individual may also be able to stifle them to some extent. Adult-onset tics may also be due to trauma or the use of certain drugs, such as methamphetamines. Athetosis This refers to slow, writhing movements. According to the Stanford School of Medicine , this type of involuntary movement most often affects the hands and arms. What Causes Uncontrollable Movement? There are several potential causes for involuntary movements. In general, involuntary movement suggests damage to nerves or areas of the brain that affect motor coordination. However, a variety of underlying conditions can produce involuntary movement. Kernicterus is now rarely seen in the United States due to routine bilirubin screening of all newborns. In Adults In adults, some of the most common causes of involuntary movements include:

Chapter 2 : Clicking or pain in your shoulder? That's a sign of trouble - The Globe and Mail

The whole technique of the pianist is built on a division of labor made up of different movements. One of the most important, and one that touches every part of the technique, is rotation of the forearm.

Louis, Illinois, United States Strength and Conditioning Tweet The shoulder joint is one of the most vulnerable joints in the human body. If your shoulders are healthy, you must be doing the right things to strengthen them. If not, you are either performing compromising movements or are negligent on your strengthening protocols. What follows are simple hands-on tests that can determine why your shoulders are in pain. A partner is recommended to assist with each test.

Impingement While seated, have a partner raise the arm of your sore shoulder to the front and overhead as far as possible. Your partner should use one hand on your arm and the other hand supporting your shoulder blade scapula. The space where your rotator cuff tendons and shoulder bursa reside the sub-acromial space becomes smaller when your arm is raised overhead and pushed to the limit. If pain is felt in your shoulder, the test is considered positive. The pain is likely caused by impingement of the tendons or bursa in that area of your shoulder.

Biceps Tendonitis Test While seated, raise your painful arm shoulder forward to the front. While holding your arm out straight in front of you, turn your palm up e. You partner should then push your arm down, while you attempt to resist. But proper assessment and movement tests to determine specific pain can narrow it down to specific injury issues. The Labrum tear test has two parts: Begin by lying on your back on a flat, elevated surface e. Move your arm out to the side perpendicular to the torso. Flex your elbow to a ninety-degree angle. Your partner should slowly rotate your arm so your hand moves toward your ear with the partner pushing as far as possible. Maintain the ninetydegree elbow flexion. You may feel your shoulder is unstable and potentially wants to move out of place - or relocate - especially when your shoulder is in extreme external rotation. If this is the case, have your partner gently press on the front of your shoulder to relocate the joint. The shoulder blade scapula connects to the collarbone clavicle at this joint. While seated, have your partner place one hand at the front of your shoulder joint and one hand at the rear. The partner should slowly, but firmly press on both sides of your shoulder to compress the AC joint. In addition, pain while raising the arm upward and while sleeping are also indications of an AC joint separation. While you relax the arm, the partner lets your arm drop. If your arm drops involuntarily and you are unable to maintain that parallel position you may have a rotator cuff tear. Some may compensate for a torn rotator cuff by elevating the scapula toward the ear. Be vigilant of this when performing the rotator cuff tear test. The supraspinatus is located on the upper part of the shoulder joint and is involved in abduction arm raising. While seated or standing, lift the sore arm forward and to the side about thirty to 45 degrees. Pronate your wrist so the palm of your hand faces down to the floor as if you were trying to empty a glass of water. In this position your partner should gently push your arm down. If pain or weakness prevents you from maintaining your arm position, you may have a supraspinatus tear.

Frozen Shoulder A frozen shoulder is also known as adhesive capsulitis. It occurs slowly over time and can limit functional use of your arm. A frozen shoulder manifests in pain and tightness. This makes it difficult to reach overhead, press a dumbbell, or scratch your back. A frozen shoulder diagnosis is made by observing the specific shoulder moving through a range of motion. Stand in front of a mirror. A partner should observe you while moving the arm and shoulder. The partner should be noting the range and quality of motion of the shoulder joint. Slowly raise both arms to the front and overhead. If you suffer from frozen shoulder, your painful arm may only come up to a point just past parallel with the floor. Additionally, as your scapula elevates towards your ear, you will feel general pain in the shoulder. From this position, slowly lower the arm down, and then slowly lift the arm out to the side. Note the range of motion that occurs. A final test for frozen shoulder is to stand with both arms at the sides and the elbows flexed at ninety degrees. Externally rotate the arms outward. If the frozen shoulder syndrome is present, the painful arm will not rotate outward in comparison to the healthy shoulder.

Assessing Your Shoulder Health Shoulder joint injuries can be head-scratchers. There are multiple articulations movements at the shoulders, making it a challenge to directly pinpoint an injury. The aforementioned tests are simple protocol anyone can use to determine the possible cause of shoulder joint injuries. You may discover

one specific issue e. Either way, multi-dimensional shoulder joint articulations can be problematic. It is imperative to strengthen all participating muscles and shoulder articulations to enhance shoulder joint health due to the vulnerability of the body part.

Chapter 3 : Swimming Techniques: Arm Movements - How to Swim the Front Crawl | Sikana

Your forearm extends from the elbow to the wrist. In each of the joints above and below the forearm are tendons that help these joints move and keep your bones and muscles functioning. When you suffer from forearm tendinitis, you have inflammation in the tendons that connect your elbow to your.

Subacromial Decompression Upper Arm Pain Upper arm pain refers to pain that is felt anywhere from just below the shoulder joint to just above the elbow. It may be a problem in the muscles, tendons or bones, or even referred pain from elsewhere such as the neck or heart. It may be a sign of wear and tear, postural problems or an injury. Here we will look at the most common causes of upper arm pain and how they present, how to tell the difference between them and how to know if it is something serious. We will then go on to look at the best treatment options. This is a common cause of pain in the upper arm caused by damage to one of the tendons of the rotator cuff - a group of muscles that surround the shoulder joint and control the movement and stability of the shoulder

Onset: May be gradual due to wear and tear over time from repetitive friction, or sudden with an injury such as falling on to an outstretched arm or picking up something heavy

Symptoms: Lying on the affected arm, lifting or twisting the arm

Treatment: Rest from aggravating activities, rotator cuff exercises to strengthen and stretch the shoulder and steroid injections. In severe cases, surgery may be required

Recovery: Rotator cuff tears are often slow to heal and it can take a few months to fully recover. If symptoms persist for more than 6 months, surgery may be recommended

Find Out More: A break or crack in the upper arm bone known as a fractured shaft of humerus. It may be anything from a small hairline fracture to a complex fracture where the bone has completely broken into two or more pieces

Onset: Sudden onset from a direct blow to the upper arm, e. In most cases there is an obvious event that caused the fracture. If this is not the case, there may be an underlying pathology that has weakened the bone making it more likely to break e. Severe upper arm pain - often described as a sharp pain, deformity if the fracture has displaced there may be a bulge where the bone is out of place , shortening of the arm, bruising, swelling, minimal arm movement

Aggravating Factors: Any arm movement, pressure over the fracture site

Treatment: Minor fractures may be treated by immobilising the arm in a cast for weeks. Major fractures will require surgery to realign the bones and fix them back together using either a metal rod or a metal plate and screws

Recovery: It usually takes around weeks for the bone to knit back together and then the same length of time again for it to strengthen. However, in elderly patients healing is often slower. You will need physical therapy to regain strength and movement in the arm as stiffness and weakness is a common problem. This is a collective term for anything that reduces the amount of space in part of the shoulder, known as the subacromial space, which places pressure and friction on the rotator cuff. Gradual onset that gets progressively worse over time. Most frequently develops in middle age

Symptoms: Shoulder and upper arm pain, usually on the outside of the arm which may extend down to the elbow, often described as feeling like toothache. Painful arc with shoulder movement as shown in picture and weakness. Shoulder movement is not usually restricted initially, but over time, stiffness may develop due to lack of use

Aggravating Factors: Reaching and lifting above your head, lying on your side, reaching behind your back, getting dressed

Treatment: Thickening and tightening of the joint capsule, a fluid filled sac that surrounds the glenohumeral shoulder joint

Onset: Often no obvious cause but it can develop after a shoulder injury or surgery

Symptoms: There are three phases to a frozen shoulder, each with different symptoms - shoulder and upper arm pain that gets gradually worse phase 1 then increasing restriction of shoulder movement phase 2 in what is known as a capsular pattern " lateral rotation most limited, then flexion and medial rotation least affected. The pain gradually subsides but stiffness remains for a number of months phase 3. The pain is often worse at night

Aggravating Factors: Arm movement, particularly above head height or twisting movements

Treatment: Initially focuses on pain management e. Once the pain has settled, an exercise programme is followed to strengthen and stretch the shoulder to regain full movement. If symptoms fail to improve after six months, surgery may be recommended

Recovery: It can take up to 2 years to fully recover from a frozen shoulder. Each phase can last for a number of months

Find Out More: Inflammation and thickening tendonitis , or a tear, of the long head of biceps tendon. It is often associated with

other shoulder problems such as impingement and arthritis. People who do lots of heavy lifting overhead are at increased risk of biceps injuries

Onset: May develop gradually over time from overuse, or suddenly with an injury such as a fall or lifting heavy weights

Symptoms: Tendonitis – achy upper arm muscle pain, mostly at the front, especially when the arm is overhead. Tendon tear – sudden, sharp upper arm pain, sometimes accompanied by an audible pop, and bruising from the mid upper arm to the elbow. The upper arm pain may in both cases extend down to the elbow

Aggravating Factors: Heavy lifting, raising your arm above your head

Treatment: Rest, ice, injections and exercises. In persistent cases of tendonitis, or severe tendon tears, surgery may be required, after which you will need to wear a sling initially and then work on a rehab programme of strengthening and stretching exercises

Recovery: It usually take months to fully recover from a biceps injury

Other Causes of Upper Arm Pain In some instances, upper arm pain may actually be a symptom of a problem elsewhere:

A condition where the blood supply to the heart is restricted which can cause upper arm pain. The pain usually gets worse with activity and eases with rest

Heart Attack: Where a blood clot blocks the blood supply to the heart. This is a medical emergency. If your upper arm pain, usually in the left arm, is accompanied by chest pain may feel like a squeezing sensation or pressure , shortness of breath, nausea, light-headedness or sweating call for an ambulance immediately

Nerve Problems Pressure on the nerves that run from the neck across the shoulder and down the arm can cause pain in the upper arm. The nerve may get pinched where it exits the spine or anywhere along its path which leads to pain. You can find out more about the causes of upper arm pain by clicking on the link above. If the pain is more across the front of the shoulder and chest, it may indicate a problem with your collarbone - visit the collar bone pain section for help working out what is going on. Most cases of upper arm pain benefit from strengthening and stretching exercises - visit the shoulder exercises section for a whole range of exercises that might help. If none of these is sounding quite like your pain, it may be that there is something else going on such as bursitis or a problem in the shoulder joint itself. Go to [Shoulder Pain Guide New!](#)

Chapter 4 : Upper control arm movement | Mustang Forums at StangNet

The glenohumeral joint, also known as the shoulder joint, is a ball-and-socket joint that connects the upper arm to the shoulder blade. This joint allows free movement of the arm so that it can rotate in a circular fashion.

In any given year, 20 to 30 per cent of the population will experience some shoulder pain. In my physiotherapy practice, shoulder pain and injury account for about 30 per cent of the caseload. Excessive shoulder mobility is a common contributor to pain and injury. The ample mobility in our shoulders allows us to do some amazing things with our arms, but doing those things without injury requires a certain muscular control for stability. The mobility and stability requirements of the shoulder are forever at odds. It is estimated that 30 to 50 per cent of people have some degree of looseness, but this number is higher in people experiencing shoulder pain. Instead, the presence and degree of instability are identified by a history and some carefully performed hands-on tests. Shoulder blade position and movement are also difficult to observe on diagnostic imaging. The shoulder blade "floats" on the rib cage with only muscular attachments. The flexibility and strength of these muscles have to be balanced to allow the optimal movement relationship between the arm and the shoulder blade. An impaired movement relationship and instability are factors behind most shoulder injuries, including impingement – another common clinical diagnosis that is difficult to appreciate with imaging. Impingement syndrome is pinching or entrapment of the important rotator cuff tendons, small muscles meant to stabilize the shoulder joint. If you undergo a diagnostic ultrasound or an MRI, you might receive a diagnosis of rotator cuff tendinitis or bursitis, but that does not describe why the problem arose or how to fix it and prevent it from happening again. Many people report occasional clicking in the shoulder and pain with certain movements. You should never experience clicking or pain. The more strenuous the activity, the more important your technique becomes. This applies not only to overhead sports such as swimming and tennis but to everyday movements like reaching, lifting and carrying. The difference between good and bad technique is subtle, the analysis of which requires a keen eye, but here is the gist of it. The shoulder is a ball-and-socket joint, with a relatively large ball and a smaller flat socket, analogous to a golf ball on a tee. Throughout overhead arm movement, the ball and socket need to be centred. Many people, especially those with loose shoulders, allow the ball to sit forward on the socket, where impingement happens more easily. To centre the ball on the socket, you need to pull the ball back very slightly without pulling back the shoulder blade. Usually people learn this technique fairly quickly, but incorporating it into everyday life requires practice. Story continues below advertisement Story continues below advertisement Optimal shoulder blade movement also takes practice. When this happens, the shoulder blade tilts backward a bit and rotates outward about one degree for every two degrees that the upper arm moves. The right movement can have an enormous impact on symptoms. It is not uncommon for someone with shoulder pain from instability, impingement and rotator cuff tendinitis to have nearly full, pain-free overhead arm movement after a single physiotherapy session where they practise the correct technique. But it can take weeks of practice to master this movement during everyday activities. Your physiotherapist can demonstrate a host of stretching and strengthening exercises to help facilitate this good movement. If you have shoulder pain, this type of treatment can make all the difference in getting you back to your favourite activities. The correct movement technique can also help prevent shoulder injuries and optimize athletic performance. Health Advisor contributors share their knowledge in fields ranging from fitness to psychology, pediatrics to aging. An elite squash player and former national champion sprint canoeist, Vanderleest has developed special interests in training programs and injury prevention. You can follow him on Twitter JDvanderLeest.

There are 3 stages to your arm movements: catching the reach, the underwater downswing and the return. First of all: reaching your arm out in front. Start by extending your arm in front of you.

Tremor when skeletal muscle is at rest. Tremor when skeletal muscle holding in on position against gravity. Tremor when in process of voluntary contraction of muscle. Physical Exam Test Observe at rest. Observe while assign patient to do mental work may increase. Ask patient to extend arms and hold in mid air. Finger to nose, rapid alternating movements or heel to shin. There can be overlap between these categories. Conversely, severe essential tremor will be present at rest. Myoclonus Myoclonus may be benign as in hypnopompic and hypnagogic jerks or disabling. Myoclonic jerks may occur with voluntary movement action myoclonus or as a result of a stimulus startle or reflex myoclonus. Unlike tics, myoclonus is not suppressible. Myoclonus is often associated with CNS pathology, hypoxic damage e. Is can also be seen in severe uremia and certain toxins sometimes referred to as reversible myoclonus. Early manifestations are mild and may be unnoticed or attributed to restlessness. See the Abnormal Gaits Page for description and demonstration of the Choriform gate. It is most common among female patients, years old. Rare in the US but more common in developing countries. Acute onset, choreiform movements, extreme restlessness. May reoccur, especially in pregnancy chorea gravidarum. May present at any time in life. Similar presentation is noted in McLeod syndrome - an X-linked disorder associated with reactivity to Kell antigens, typically older patients. It is important to rule out HD. Such tics may be repressed for short periods of time or even become absent for days to weeks. Onset is most common before the age of 15 years and often lessens or even resolves in adulthood. Dystonia Dystonia exists in a broad spectrum from a contraction of a single muscle group to a disabling dysfunction of multiple groups. Commonly, dystonia is initiated by voluntary motion action dystonia but may later become sustained and extend to other body regions. Classically, stress or fatigue worsen dystonia, relaxation or sensory stimulation reduce it. Commonly, onset begins in foot or arm before progressing to other limbs, head, and neck. Focal Dystonias This is the most common type of dystonia, commonly presenting in the 4th to 6th decade of life, affecting females more than males. Frequently misdiagnosed as psychiatric or orthopedic conditions. May deviate head laterally torticollis , anteriorly anterocollis , or posteriorly retrocollis. Sometimes associated with dystonic tremor and secondary cervical radiculopathy. Secondary Dystonias Most commonly caused by medications see below , brain lesions, or brainstem pathology. Most such dystonias are segmental in distribution. Less commonly, peripheral nerve injury may cause dystonia. Dystonic Storm Dystonic storm is an acute, generalized dystonic contraction that may include vocal cords or laryngeal muscles, leading to potentially fatal respiratory obstruction. Patients with a history of dystonia and subject to acute stress such as surgery are in jeopardy. Potential complications include rhabdomyolysis and renal failure. Dystonic storm is best managed in the ICU. Drug-Induced Movement Disorders Acute Most acute hyperkinetic drug reactions result in dystonia, typically generalized in children and focal in adults. Amphetamines, methylphenidate, and cocaine are known to cause chorea, tics, and stereotyped behaviors. Most subacute reactions result in akathisia. Most often, TD presents with choriform movements of the mouth, tongue, and lips. Lower risk of TD is conferred by youth and use of atypical antipsychotics. Increased risk is conferred by advanced age, toothlessness, and organic cerebral dysfunction. Roughly one third of TD cases resolve within 3 months of discontinuing the offending drug. Most other patients slowly improve over a course of years. Tardive dystonia often persists after offending medication is discontinued and is refractory to therapy. Onset usually occurs days to weeks after exposure to medication. It might also be precipitated by discontinuation of antiparkinsonian medications. Psychogenic Disorders Psychogenic movement disorders are common and may mimic any of the conditions described above. Affected patients are most often female and debilitated by their condition. Particularly somatoform, conversion disorder, malingering, and factitious disorder are associated with psychogenic movements. Clinical features suggestive of a psychogenic cause: Movement patterns inconsistent with known movement disorder. Variability of movements often increasing with attention and distractibility from movements often decreasing when patient is asked to perform another task. Many organic

movement disorders commonly worsen when patient is distracted and improve with attention. Upper limb tremor is most commonly psychogenic. Variable tremor frequency is consistent with a psychogenic cause. Diagnosis is made based on the above in conjunction with failure to find an organic disease process Learn the various categories and causes of involuntary movements Related to Involuntary Movements.

Chapter 6 : How to Self-Diagnose Your Shoulder Pain | Breaking Muscle

Variation 6 V-dip For this exercise, you're doing a traditional bodyweight dip, but you're shifting all your weight to one side as you extend your arms. Start centered on a dip platform with your legs below you and your torso straight up and down.

It is made up of three bones: The acromioclavicular joint connects the upper part of the shoulder blade the acromion to the collarbone. The glenohumeral joint, also known as the shoulder joint, is a ball-and-socket joint that connects the upper arm to the shoulder blade. This joint allows free movement of the arm so that it can rotate in a circular fashion. Although the shoulder is the most moveable joint in the body, it is unstable because the ball the humerus is larger than the socket the glenoid that holds it. To maintain stability, the bones of the shoulder are held in place by muscles, tendons, and ligaments. Tendons are tough cords of tissue that attach muscles to bone, and ligaments attach bones to each other for stability. The rotator cuff is made up of four muscles and their tendons, which act to hold the upper arm humerus to the socket of the shoulder glenoid fossa. The rotator cuff also provides mobility and strength to the shoulder joint. Two sac-like structures, called bursae, allow smooth gliding between the bone, muscle, and tendon. They also cushion and protect the rotator-cuff structures from the upper part of the scapula the acromion. What causes shoulder pain? According to the AAOS about 23, people have shoulder replacement surgery each year. Shoulder problems may arise because of injury to the soft tissues of the shoulder, overuse or underuse of the shoulder, or even because of damage to the tissues. Shoulder problems result in pain, which may be localized to the joint or travel to areas around the shoulder or down the arm. Damage to the shoulder joint may result in instability of the joint, and pain is often felt when raising the arm or when soft tissues are trapped between the bones impingement. Impingement is particularly common in sports activities that involve repetitive overhead arm motions, such as pitching baseballs. You may have a shoulder injury if: Your shoulder lacks strength to perform your daily activities. Another common cause of shoulder pain is arthritis. OA can occur without a shoulder injury, but this seldom happens since the shoulder is not a weight-bearing joint like the knee or hip. Instead, shoulder OA commonly occurs many years following a shoulder injury, such as a dislocation, that has led to joint instability and damage, allowing OA to develop. Your Treatment Options for Shoulder Pain Following an orthopaedic evaluation of your shoulder, your doctor will review and discuss the results with you. Based on his or her diagnosis, your treatment options may include: Medication Shoulder joint fluid supplements injections that provide temporary pain relief Total shoulder joint replacement When joint pain and stiffness become severe enough to affect your daily life and comfort, and when that pain is not relieved by other treatment options, shoulder replacement may be recommended. About Shoulder Replacement Replacement of an arthritic or injured shoulder is less common than knee or hip replacement. However, shoulder replacement typically offers all the same benefits as those procedures including joint pain relief and the restoration of more normal joint movement. In shoulder replacement surgery, the artificial shoulder joint can have either two or three parts, depending on the type of surgery required. The humeral component metal The humeral head component metal The glenoid component plastic replaces the surface of the socket There are two types of shoulder replacement procedures: Partial shoulder replacement is performed when the glenoid socket is intact and does not need to be replaced. In this procedure, the humeral component is implanted, and the humeral head is replaced. Total shoulder replacement is performed when the glenoid socket is damaged and needs to be replaced. All three shoulder joint components are used in this procedure. Certain parts of your shoulder joint are removed and replaced with a plastic or metal device called a prosthesis, or artificial joint. The artificial shoulder joint can have either two or three parts, depending on the type of surgery required. The humeral component metal is implanted in the humerus, or upper arm bone. The humeral head component metal replaces the humeral head at the top of the humerus. The glenoid component plastic replaces the surface of the glenoid socket, or shoulder socket.

Chapter 7 : Shoulder and Arm

Pronation/Supination Pronation and supination are a pair of unique movements possible only in the forearms and hands, allowing the human body to flip the palm either face up or face down. The muscles, bones, and joints of the human forearm are specifically arranged to permit these unique and important rotations of the hands.

There are several varieties of dyskinesia which have different clinical appearances, underlying causes and treatments. Tremor, chorea, dystonia and myoclonus are examples of types of dyskinesia which have different mechanisms and modalities of treatment. Cerebrovascular diseases are a common cause of secondary movement disorders. Post-stroke movement disorders include Parkinsonism and a wide range of hyperkinetic movement disorders, including chorea, ballism, athetosis, dystonia, tremor, myoclonus, stereotypies and akathisia. Classification Athetosis Sinuous, slow, involuntary writhing movements affecting the fingers, hands, toes and feet. The arms, legs, neck and tongue may also be affected. Management can be difficult but treatment options include medications eg, diazepam, haloperidol, tetrabenazine , surgery and retraining techniques. Chorea Continuous jerky movements in which each movement is sudden and the resulting posture is held for a few seconds. This usually affects the head, face or limbs. The focus may move from one part of the body to another at random. Other causes of chorea include: Insidious onset with motor, cognitive and psychiatric abnormalities. There is no treatment. Mainly associated with acute rheumatic fever. It is now rare. It usually presents in children aged years, initially with psychological symptoms of behavioural disturbance followed by generalised chorea; it usually recovers in months. Penicillin for rheumatic fever and diazepam, haloperidol or tetrabenazine for chorea. Vascular chorea - eg, stroke, polycythaemia and Moyamoya disease. Hormonal disorders - eg, hyperthyroidism, hypoparathyroidism with hypocalcaemia. Pregnancy chorea gravidarum , oral contraceptives and hormone replacement therapy. Paraneoplastic syndromes - eg, small cell carcinoma of the lung, renal cell carcinoma, ovarian cancer and lymphoma.

Chapter 8 : Upper Arm Pain: Causes, Diagnosis & Treatment

For example, forearm pain can make it difficult to type on a keyboard or grip an item with the hand. Fast facts on forearm pain: The forearm is the area between the wrist and the elbow of the arm.

Takeaway Forearms are integral to hand and arm movement, so pain in this region can be highly disruptive to daily life. Forearm pain can result from a number of different causes, each requiring a different treatment approach. The forearms are composed of the radius and ulna bones, which span the length of the forearm to intersect at the wrist joint. The location means that the forearm is intrinsically involved in a range of everyday arm or hand movements. As a result of this, injury or discomfort in the forearm can have a wide-ranging impact on mobility and interfere with daily functioning. For example, forearm pain can make it difficult to type on a keyboard or grip an item with the hand. Fast facts on forearm pain: The forearm is the area between the wrist and the elbow of the arm. In most cases, a person can manage forearm pain with rest and structured activity. Some groups of people may be at particularly high risk of forearm pain. What are the causes? Forearm pain may be caused by injury, nerve entrapment, or arthritis. The forearm contains several superficial, immediate, and deep muscles. Like most body parts, its structures are connected by tendons and ligaments. Forearm pain can occur for a variety of reasons including: An acute trauma, such as a fall, can cause a fracture in one of the forearm bones or damage to the ligaments and tendons Overuse: Some sports, such as tennis and certain types of weightlifting, put a high degree of pressure on muscles in the forearm and can cause them to strain. Excessive use of computers can also cause muscle strain in the forearm, which is known as a repetitive strain injury RSI. Pains caused by RSI are becoming increasingly common in the workplace given the growth of computer-based labor. When nerves become compressed, it can cause pain, numbness, or a tingling feeling in and around the affected region. Nerve entrapment can be caused by a range of different syndromes affecting the forearm. The most common of which is carpal tunnel syndrome. Arthritis can occur in the wrist or elbow, causing a dull ache in the forearm. Certain medical conditions, such as angina , can cause pain in the forearm. The type of pain can vary depending on the cause. For example, nerve entrapment can cause shooting pains whereas arthritis of the elbow can cause a dull ache in the forearm. Overuse injuries, such as RSI, can induce both types of pain. Treatment The type of treatment will depend on the cause of the forearm pain and its severity. Home treatments In the case of an injury such as tendon damage, nerve entrapment, or overuse, a person can usually administer treatment at home using the following techniques: Reducing activity involving the forearm will help the injured tendon, ligament, muscle, bone, or nerve to recover. A person should rest periodically rather than remaining inactive for sustained periods. However, a person with a sports-related forearm pain should avoid the sport until the pain has entirely subsided. A person can take Ibuprofen or other anti-inflammatory drugs to manage pain. In cases whereby movement is very painful, a person may require a splint or sling to restrict movement and minimize pain. Hot or cold therapy: The use of an ice pack can help to reduce inflammation and pain. A person may also try heat therapy after the swelling has gone down, which will also ease the pain. Exercises and stretches Treatment is often accompanied by exercises and stretches designed to rehabilitate and strengthen the forearm slowly. However, a person should only start doing exercises or stretches after consulting with a doctor to avoid aggravating the injury. Wrist extension A wrist extension exercise may be recommended to help treat forearm pain. This exercise helps to stretch the forearm muscles: Standing upright, extend the injured arm in front of you with palm parallel to the floor. Using the opposite hand, pull the wrist back toward the body. Pull the wrist back until feeling a stretch in the forearm but without feeling any pain Hold the position for 20 seconds. Elbow extension Stretching the pronator muscle can help to improve flexibility and reduce pain in the forearm: Sitting upright, place the elbow on a table or chair arm. Using the opposing hand, gently push the forearm down towards the table or floor. When feeling a stretch but without any pain, hold the position for 15 seconds.

Chapter 9 : Anatomical Terms of Movement - Flexion - Rotation - TeachMeAnatomy

Symptoms: Severe upper arm pain - often described as a sharp pain, deformity (if the fracture has displaced there may be a bulge where the bone is out of place), shortening of the arm, bruising, swelling, minimal arm movement.

The use, distribution or reproduction in other forums is permitted, provided the original author s or licensor are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms. Abstract Contribution of synergistic muscles toward specific movements over multi joint systems may change with varying position of distal or proximal joints. Purpose of this study is to reveal the relationship of muscular coordination of brachioradialis and biceps brachii during elbow flexion with respect to hand position and biomechanical advantages and disadvantages of biceps brachii. A group of 16 healthy subjects has been advised to perform 20 repetitions of single elbow flexion movements in different hand positions pronated, neutral, and supinated. Normalized to MVC the sEMG amplitudes of both muscles contributing to elbow flexion movements were compared in pronated, supinated, and neutral hand position over elbow joint angle. Significant differences in the contribution of brachioradialis were found in pronated hand position compared to supinated and neutral hand position while the muscular activity of biceps brachii shows no significant changes in any hand position. In conclusion, a statistical significant dependency of the inter-muscular coordination between biceps brachii and brachioradialis during elbow flexion with respect to hand position has been observed depending on a biomechanical disadvantage of biceps brachii. Biomechanics and muscular features contributing to human movement patterns are thereby combined to control inter-muscular coordination and optimally recruit the responsible muscles. Moreover, insights into neural commands and a better understanding of motor control and muscular coordination can contribute to improve diagnosis and treatment of both, neuromuscular dysfunction and resulting orthopedic conditions, or vice versa. The elbow joint is a highly complex joint assembled by three different single joints Amis and Miller, As a connection between upper arm and forearm a special focus has to be set on the forearm complex which consists of two bony parts, radius and ulna. This joint complex offers the possibility to move in two degrees of freedom, flexion and extension as well as pronation and supination. During elbow flexion the forearm is moved toward the upper arm rotating around the elbow joint center. There are different muscles involved in elbow flexion which are superficially biceps brachii and brachioradialis as well as deeper brachialis. Both superficial flexors are also involved in other functions and movements of connecting joints e. The function of brachioradialis and its contribution to elbow flexion as well as pronation and supination has been and is still discussed with diverging results Jackson, ; Sullivan et al. One hypothesis of Jackson is, that brachioradialis changes its contribution to elbow flexion with hand position which has been proved through experiments Jackson, ; Praagman et al. Additionally, a speed dependent activation of brachioradialis with higher contribution in elbow flexion in higher velocity is stated de Sousa et al. Purpose of this study is to reveal the relationship of inter-muscular coordination of biceps brachii and brachioradialis during elbow flexion movements with respect to hand position. A special focus is set on biomechanical advantages and disadvantages of biceps brachii influencing an optimized recruitment strategy of both muscles. Based on the results of Boland et al. But there may be a reasonable explanation of an occurring difference due to the biomechanical disadvantage of biceps brachii in pronated hand position. Material and methods Subjects A sample of data of 16 healthy subjects [4 female and 12 male, age No subject had any known symptoms of neuromuscular disorders or orthopedic surgery or affections in the upper extremity. Subjects avoided strenuous exercises in the day prior to the measurement. All subjects were informed about the experimental protocol and the potential risks of the study and gave written consent before their participation. Study protocol The measurements took place as non-clinical basic science study in a motion analysis laboratory. The elbow flexion movement was repeated 20 times for each hand position separately in single trials from full extension approx. There was a resting time of s after each trial to avoid fatigue. Subjects were measured in standing position with shoulder neither flexed nor abducted. Elbow joint angles were determined by a biomechanical model using the marker setup described

above Williams et al. Infrared light reflecting markers 9 mm diameter were placed on six anatomical landmarks of the upper extremity acromion, olecranon, radial styloid process, ulnar styloid process, epicondyle lateral, epicondyle medial. Markers were attached using double-sided adhesive tape. Joint centers of elbow and wrist are estimated as the midpoint between both epicondyles and styloid processes, respectively. Three rigid linked markers, called triplets, were placed on the upper body segments thorax, upper arm, forearm, hand. Through the exact position of recorded segment marker triplets relative to computed elbow joint center, determined on static calibration trials, all joint angle positions are synchronously measured to the sEMG recordings of biceps brachii and brachioradialis Rau et al. Through the recording of the whole kinematic chain compensatory movements in the shoulder joint and wrist which may also influence the sEMG amplitude.