DOWNLOAD PDF TRAUMATIC AND NON-TRAUMATIC EMERGENCIES OF THE BRAIN, HEAD AND NECK

Chapter 1 : Traumatic and Nontraumatic Emergencies of the Brain, Head, and Neck | Clinical Gate

CHAPTER 1 Traumatic and Nontraumatic Emergencies of the Brain, Head, and Neck Glenn D. Barest, Asim Z. Mian, Rohini N. Nadgir, Osamu Sakai Create a list of the disorders of the brain, head, and neck that might commonly be expected to present to an emergency department (ED) and describe the typical imaging features.

Treatment Swelling of the brain within the skull can put undue pressure on the surrounding tissues. In a mild case of TBI, symptoms normally go away without treatment. However, repeated, mild TBIs can be dangerous or fatal. This is why it is essential to rest and avoid further exposure until a doctor gives the go-ahead. More severe cases will require hospitalization, possibly with intensive care. This will involve ensuring the airway is open, providing ventilation and oxygen, and maintaining blood pressure. Medications may be used to help control symptoms. This can help prevent agitation and excess muscle activity and contribute to pain relief. Opioids may be used. These increase urine output and reduce the amount of fluid in tissue. These are administered intravenously. Mannitol is the most commonly used diuretic for TBI patients. A person who has experienced moderate to severe TBI may have seizures for up to a week after the incident. Medication may help prevent further brain damage that may result from a seizure. During a coma, a person needs less oxygen. Sometimes, a coma may be deliberately induced coma if the blood vessels are unable to supply adequate amounts of food and oxygen to the brain. Surgery Surgery may be necessary in some cases. Internal bleeding can cause partly or fully clotted blood to pool in some part of the brain, worsening the pressure on the brain tissue. Emergency surgery can remove a hematoma from between the skull and the brain, reducing pressure inside the skull and preventing further brain damage. Repairing a skull fracture: Any part of the skull that is fractured and pressing into the brain will need to be surgically repaired. Skull fractures that are not pressing into the brain normally heal on their own. The main concern with a skull fracture is that forces strong enough to cause it may have caused further, underlying damage. Creating an opening in the skull: This can relieve the pressure inside the skull if other interventions have not worked. Long-term treatment A person who experiences a severe TBI may need rehabilitation. Depending on the extent and type of their injury, they may need to relearn how to walk, talk, and carry out other everyday tasks. This may include treatment in a hospital or in a specialized therapy center. It can involve a physical therapist, an occupational therapist, and others, depending on the type of injury. Tips for recovery Tips that can aid recovery: Avoid activities that could cause another blow or jolt to the head. Follow the instructions of healthcare professionals. Do not take drugs that the physician has not approved. Do not return to normal activities, including driving and sports participation, until the doctor agrees. Get plenty of rest. Types There are two major types of TBI: In open TBI, the skull is broken. In a close TBI, it is not. A direct impact trauma that may or may not involve a loss of consciousness. This is the most common type of TBI. It is often mild, but it can be fatal. When a direct blow causes localized bleeding in the brain, possibly resulting in a blood clot. When tears occur in the brain structure due to shearing by the skull. When a sharp object enters the brain. Causes TBIs can result from a range of incidents, from falls to collisions in sport. TBI is caused by a severe jolt or blow to the head, or a head injury that penetrates and disrupts normal brain function. The human brain is protected from jolts and bumps by the cerebrospinal fluid around it. The brain floats in this fluid inside the skull. A violent blow or jolt to the head can push the brain against the inner wall of the skull, which can lead to the tearing of fibers and bleeding in and around the brain. Responsible for 47 percent of reported cases, notably in children aged up to 14 years and adults aged over 65 years Motor vehicle accidents: These accounted for 14 percent of cases, especially in the 15 to year age group. Being struck by or colliding with an object: Other causes include domestic violence and work-related and industrial accidents. Complications Apart from the immediate dangers, a TBI can have long-term consequences and complications. These may occur during the first week after the injury. TBIs do not appear to increase the risk of developing epilepsy , unless there have been major structural brain injuries. Meningitis can occur if there is a rupture in the meninges, the membranes around the brain. A rupture can allow bacteria to

get in. If the infection spreads to the nervous system, serious complications can result. If the base of the skull is affected, this can impact the nerves of the face, causing paralysis of facial muscles, double vision , problems with eye movement, and a loss of the sense of smell. People with moderate to severe TBI may experience some cognitive problems, including their ability to:

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Chapter 2 : Traumatic Brain Injury Information Page | National Institute of Neurological Disorders and Strok

Chapter 2: General Principles in Treating Facial, Head, and Neck Trauma Understanding the general principles of trauma repair in the face, head, and neck region is very important to achieving optimal outcome for the patient.

Loss of interest in favorite toys or activities When to see a doctor Always see your doctor if you or your child has received a blow to the head or body that concerns you or causes behavioral changes. Seek emergency medical care if there are any signs or symptoms of traumatic brain injury following a recent blow or other traumatic injury to the head. The terms "mild," "moderate" and "severe" are used to describe the effect of the injury on brain function. A mild injury to the brain is still a serious injury that requires prompt attention and an accurate diagnosis. Request an Appointment at Mayo Clinic Causes Traumatic brain injury is usually caused by a blow or other traumatic injury to the head or body. The degree of damage can depend on several factors, including the nature of the injury and the force of impact. Common events causing traumatic brain injury include the following: Falls from bed or a ladder, down stairs, in the bath and other falls are the most common cause of traumatic brain injury overall, particularly in older adults and young children. Collisions involving cars, motorcycles or bicycles â€" and pedestrians involved in such accidents â€" are a common cause of traumatic brain injury. Gunshot wounds, domestic violence, child abuse and other assaults are common causes. Shaken baby syndrome is a traumatic brain injury in infants caused by violent shaking. Traumatic brain injuries may be caused by injuries from a number of sports, including soccer, boxing, football, baseball, lacrosse, skateboarding, hockey, and other high-impact or extreme sports. These are particularly common in youth. Explosive blasts and other combat injuries. Explosive blasts are a common cause of traumatic brain injury in active-duty military personnel. Traumatic brain injury also results from penetrating wounds, severe blows to the head with shrapnel or debris, and falls or bodily collisions with objects following a blast. Risk factors The people most at risk of traumatic brain injury include: Children, especially newborns to 4-year-olds Young adults, especially those between ages 15 and 24 Adults age 60 and older Males in any age group Complications Several complications can occur immediately or soon after a traumatic brain injury. Severe injuries increase the risk of a greater number and more-severe complications. Different states of consciousness include: A person in a coma is unconscious, unaware of anything and unable to respond to any stimulus. This results from widespread damage to all parts of the brain. After a few days to a few weeks, a person may emerge from a coma or enter a vegetative state. Widespread damage to the brain can result in a vegetative state. Although the person is unaware of surroundings, he or she may open his or her eyes, make sounds, respond to reflexes, or move. It is sometimes a transitional state from a coma or vegetative condition to greater recovery. When there is no measurable activity in the brain and the brainstem, this is called brain death. In a person who has been declared brain dead, removal of breathing devices will result in cessation of breathing and eventual heart failure. Brain death is considered irreversible. Some people with traumatic brain injury will develop seizures. The seizures may occur only in the early stages, or years after the injury. Recurrent seizures are called post-traumatic epilepsy. Fluid buildup in the brain hydrocephalus. Cerebrospinal fluid may build up in the spaces in the brain cerebral ventricles of some people who have had traumatic brain injuries, causing increased pressure and swelling in the brain. Skull fractures or penetrating wounds can tear the layers of protective tissues meninges that surround the brain. This can enable bacteria to enter the brain and cause infections. An infection of the meninges meningitis could spread to the rest of the nervous system if not treated. Several small or large blood vessels in the brain may be damaged in a traumatic brain injury. This damage could lead to a stroke, blood clots or other problems. Frequent headaches are very common after a traumatic brain injury. They may begin within a week after the injury and could persist as long as several months. Many people experience vertigo, a condition characterized by dizziness, after a traumatic brain injury. Sometimes, any or several of these symptoms might linger for a few weeks to a few months after a traumatic brain injury. This is currently referred to as persistent post-concussive symptoms. When a combination of

these symptoms last for an extended period of time, this is generally referred to as post-concussion syndrome. Traumatic brain injuries at the base of the skull can cause nerve damage to the nerves that emerge directly from the brain cranial nerves. Cranial nerve damage may result in: Paralysis of facial muscles or losing sensation in the face Loss of or altered sense of smell Loss of or altered sense of taste Loss of vision or double vision Swallowing problems.

Chapter 3 : Traumatic brain injury - Symptoms and causes - Mayo Clinic

Although most cases of neck pain are related to musculoskeletal trauma, there are some infrequent but potentially serious atraumatic causes for which the ED physician should consider in the differential diagnosis.

Because of this, other classification systems such as the one shown in the table are also used to help determine severity. Focal and diffuse brain injury CT scan Spread of the subdural hematoma single arrows , midline shift double arrows Systems also exist to classify TBI by its pathological features. Extra-axial lesions include epidural hematoma , subdural hematoma , subarachnoid hemorrhage , and intraventricular hemorrhage. With mild TBI, the patient may remain conscious or may lose consciousness for a few seconds or minutes. Domestic violence is another cause of TBI, [53] as are work-related and industrial accidents. Other factors in secondary injury are changes in the blood flow to the brain ; ischemia insufficient blood flow ; cerebral hypoxia insufficient oxygen in the brain ; cerebral edema swelling of the brain ; and raised intracranial pressure the pressure within the skull. Since the pterion is so weak, this type of injury can easily occur and can be secondary due to trauma to other parts of the skull where the impact forces spreads to the pterion. Diagnosis CT scan showing epidural hematoma arrow Diagnosis is suspected based on lesion circumstances and clinical evidence, most prominently a neurological examination , for example checking whether the pupils constrict normally in response to light and assigning a Glasgow Coma Score. X-rays are still used for head trauma, but evidence suggests they are not useful; head injuries are either so mild that they do not need imaging or severe enough to merit the more accurate CT. Prevention Protective sports equipment such as helmets can help to protect athletes from head injury. Since a major cause of TBI are vehicle accidents, their prevention or the amelioration of their consequences can both reduce the incidence and gravity of TBI. In accidents, damage can be reduced by use of seat belts, child safety seats [49] and motorcycle helmets, [75] and presence of roll bars and airbags. An increase in use of helmets could reduce the incidence of TBI. The essential concept of daily dietary supplementation with DHA, so that those at significant risk may be preloaded to provide protection against the acute effects of TBI, has tremendous public health implications. In particular, it has been demonstrated through multiple studies to significantly reduce neuronal losses and to improve cognitive and neurological outcomes associated with these traumatic events. Acetylcysteine has been safely used to treat paracetamol overdose for over forty years and is extensively used in emergency medicine. Treatment It is important to begin emergency treatment within the so-called " golden hour " following the injury. In the acute stage the primary aim of the medical personnel is to stabilize the patient and focus on preventing further injury because little can be done to reverse the initial damage caused by trauma. Other methods to prevent damage include management of other injuries and prevention of seizures. Sedatives , analgesics and paralytic agents are often used. Failing to maintain blood pressure can result in inadequate blood flow to the brain. While they can be treated with benzodiazepines , these drugs are used carefully because they can depress breathing and lower blood pressure. Surgery can be performed on mass lesions or to eliminate objects that have penetrated the brain. Mass lesions such as contusions or hematomas causing a significant mass effect shift of intracranial structures are considered emergencies and are removed surgically. Once medically stable, people may be transferred to a subacute rehabilitation unit of the medical center or to an independent rehabilitation hospital. Physiatrists or neurologists are likely to be the key medical staff involved, but depending on the person, doctors of other medical specialties may also be helpful. Allied health professions such as physiotherapy , speech and language therapy , cognitive rehabilitation therapy , and occupational therapy will be essential to assess function and design the rehabilitation activities for each person. Treatment of neuropsychiatric symptoms such as emotional distress and clinical depression may involve mental health professionals such as therapists , psychologists , and psychiatrists , while neuropsychologists can help to evaluate and manage cognitive deficits. The most effective research documented intervention approach is the activation database guided EEG biofeedback approach, which has

shown significant improvements in memory abilities of the TBI subject that are far superior than traditional approaches strategies, computers, medication intervention. Subarachnoid hemorrhage approximately doubles mortality. The Functional Independence Measure is a way to track progress and degree of independence throughout rehabilitation. Examples are hypotension low blood pressure , hypoxia low blood oxygen saturation , lower cerebral perfusion pressures and longer times spent with high intracranial pressures. Factors thought to worsen it include abuse of substances such as illicit drugs and alcohol and age over sixty or under two years in children, younger age at time of injury may be associated with a slower recovery of some abilities. Complications of traumatic brain injury The relative risk of post-traumatic seizures increases with the severity of traumatic brain injury. Improvement of neurological function usually occurs for two or more years after the trauma. For many years it was believed that recovery was fastest during the first six months, but there is no evidence to support this. It may be related to services commonly being withdrawn after this period, rather than any physiological limitation to further progress. The results of traumatic brain injury vary widely in type and duration; they include physical, cognitive, emotional, and behavioral complications. TBI can cause prolonged or permanent effects on consciousness, such as coma, brain death , persistent vegetative state in which patients are unable to achieve a state of alertness to interact with their surroundings , [] and minimally conscious state in which patients show minimal signs of being aware of self or environment. Development of diabetes insipidus or an electrolyte abnormality acutely after injury indicate need for endocrinologic work up. Signs and symptoms of hypopituitarism may develop and be screened for in adults with moderate TBI and in mild TBI with imaging abnormalities. Children with moderate to severe head injury may also develop hypopituitarism. Screening should take place 3 to 6 months, and 12 months after injury, but problems may occur more remotely. About one in five career boxers is affected by chronic traumatic brain injury CTBI , which causes cognitive, behavioral, and physical impairments. It commonly manifests as dementia , memory problems, and parkinsonism tremors and lack of coordination. Typical challenges identified by families recovering from TBI include: In addition, families may exhibit less effective functioning in areas including coping, problem solving and communication. Psychoeducation and counseling models have been demonstrated to be effective in minimizing family disruption [] Epidemiology Causes of TBI fatalities in the US [] TBI is a leading cause of death and disability around the globe [2] and presents a major worldwide social, economic, and health problem.

Chapter 4 : Traumatic brain injury: Causes, symptoms, and diagnosis

Clinical assessment. History. This should include timing of the onset of symptoms. Non-traumatic neck pain is always of concern, and the covert causes must be considered, including meningitis, spinal infection and metastatic deposits within the spine.

Long-term systemic administration of steroids Diabetes mellitus 6 Malnutrition Cancer In a series of 14 cases of cervical osteomyletis over 4 years in Detroit, all were in iv heroin users7. While bacteraemia may be the main vector, it is also possible that direct infection from misplaced jugular injection may be the mode of infection. Similarly, ascending infection along the psoas sheath has been implicated in lumber disciitis and osteomyelitis in intravenous drug users. Early investigation with xrays may show no defect, but the ESR and CRP are likely to be raised, and a bone scintigraphy is likely to be abnormal8. Learning Bite Repeated presentations in a patient injecting opiates, with neck pain and fever should alert the clinician to the possibility of cervical disc or vertebral infection. Inflammatory markers and bone scintigraphy may reveal the condition at an early stage 8. Metastases Metastatic deposits create a similar radiological appearance to the lytic appearances of infection, and in many cases are completely covert ie there is no known history of carcinoma. Diagnostics Plain radiograph Where plain radiography is indicated, three films are taken of the cervical spine: This combination allows for good visualisation of the entire cervical spine. The x-rays can be interpreted using the ABCD system. Sometimes the initial x-rays do not fully visualise the cervical spine. In these circumstances, there will be local variances as to how to progress. Initially, repeating the films with someone pulling caudally on the arms may suffice, but it may be necessary to take different views before proceeding to CT if images are still inadequate. The most common views taken are Swimmers view and oblique views. You should also ensure that there is adequate exposure of the spinous processes and the soft tissues anterior to the vertebral bodies. Four lines should be drawn: Anterior aspect of the vertebral body this marks the line of the anterior longitudinal ligament Posterior aspect of the vertebral body this marks the line of the posterior longitudinal ligament and is the anterior limit of the spinal canal Spino-laminar line the junction of the laminae and the spinous processes. This is also the posterior limit of the spinal canal Spinous process line Bones Each bone should be fully assessed for injury or structural abnormalities. The odointoid process, in particular, should be scrutinised for fractures. These occur most commonly at the base. Be aware of the possibility of Mach effect resembling a fracture first image. This effect occurs when superimposition of normal structures give the appearances of a fracture. Most typically, this occurs when the base of the skull gives the appearance of an odontoid base fracture. Work around the outline of the odontoid process. The second image shows a peg fracture. Next assess the body of C2, then assess the integrity of C1. There should be no more than 12mm between a line drawn from the tip of the basion anterior edge of foramen magnum to the tip of the dens The body of C2 should have a visible ring on the lateral view the Harris ring, as shown9. This may be incomplete between the 5 and 7 oclock position in the normal x-ray. However, if there is disruption elsewhere, then this should raise suspicion for a fracture. Cartilage Although cartilage itself is not visible on plain imaging, the cartilaginous spaces should be assessed for uniformity. Special note should be made of the following: This should be similar at all levels. The distance between the anterior margin of the odontoid process and the posterior portion of the arch of C1 should be no greater than 3mm in the adult spine. Assess for uniformity at each level. There should be uniformity of the distance between the odontoid process and the ring of C1. Asymmetry may occur secondary to rotation, but the lateral masses should be closely inspected for any mal-alignment. Dense soft tissues The paravertebral soft tissues should be examined for any oedema or haematoma. The soft tissue between the larynx and the spine should be examined for swelling or distortion, indicating the possibility of infection, or an underlying fracture. In flexion, there may be an apparent increase in the soft tissue anterior to C1 and C2. This may be most marked in young children due to the laxity of the soft tissues in this age group and in some cases due to crying. In spontaneous neck pain,

therefore, if spondylitic change, the presence of metastases or osteomyelitis is being considered, CT is the preferred investigation. In one series, CT and MR imaging were used in positive diagnoses. CT missed 18 of these, but was preferable in the evaluation of meningioma and separation of tumour from oedema As CT takes less time it is preferable in very young or elderly individuals. MRI scanning In MRI scanning the spin and precession of hydrogen ion nuclei in the presence of a magnetic field become aligned, but this alignment will alter when they are subjected to radiofrequency pulses. As a consequence their energy level rises, but on withdrawal of the pulse, they return to their lower energy state and emit energy, which can be detected. Different tissue types display differing emission patterns. In addition, the emission patterns can be influenced by differing patterns within the radiofrequency pulse. These various patterns deliver weightings that can highlight materials with differing characteristics, e. T1 weighting is characterised by an increased signal from fatty tissue and a lower signal from fluid, giving a more structural view. In particular, bony destruction or infiltration with loss of fatty tissue is highlighted. T2 weighting produces images containing deep muscle tones and bright fluid, and can be very helpful in spinal views. It is a particularly useful modality useful to investigate cord or disc lesions. Here is a normal T2 weighted cervical spine image. Diffusion weighted imaging uses the mobility of water molecules as a means of describing structure associated with impairment of molecular movement due to tissue characteristics. Increasingly, it is commonly used for the diagnosis of ischaemic stroke. MRI can provide images in almost any plane, and is the imaging modality of choice in spinal cord disease. It can be facilitated by both T1 and T2 weighted protocols, depending on the structures under scrutiny. T2 weighting is particularly useful for visualising the cord and nerve roots, so highlighting any expanding lesion or impingement from adjacent structures. T1 images will yield more information concerning bone substance and marrow any destruction or infiltration being revealed by a reduced signal. It is a T2 weighted image. Myelography Myelography consists of an injection of contrast medium into the cervical space with fluoroscopic guidance followed by xrays. A CT or MR may be performed after myelographic material has been placed. The material is typically water-based, which has replaced oil-based fluids. A CT myelogram is most useful for patients who cannot undergo MRI eg those with pacemakers or cochlear implants or for those in whom MRI provides limited information eg those with extensive metal in the spine.

Chapter 5 : Spinal cord injury - Symptoms and causes - Mayo Clinic

Manually stabilize the patient' head, assess distal circulation, motor, and sensory function, and apply an appropriately sized cervical collar. -Extricating a seated patient involves manually stabilizing the patient's head in the neutral, in-line position, assessing the patient's distal circulation, motor, and sensory function then placing an.

Central nervous system Central nervous system The spinal cord extends downward from the base of your brain. Spinal cord injuries may result from damage to the vertebrae, ligaments or disks of the spinal column or to the spinal cord itself. A traumatic spinal cord injury may stem from a sudden, traumatic blow to your spine that fractures, dislocates, crushes or compresses one or more of your vertebrae. It also may result from a gunshot or knife wound that penetrates and cuts your spinal cord. Additional damage usually occurs over days or weeks because of bleeding, swelling, inflammation and fluid accumulation in and around your spinal cord. A nontraumatic spinal cord injury may be caused by arthritis, cancer, inflammation, infections or disk degeneration of the spine. Your brain and central nervous system The central nervous system comprises the brain and spinal cord. The spinal cord, made of soft tissue and surrounded by bones vertebrae , extends downward from the base of your brain and is made up of nerve cells and groups of nerves called tracts, which go to different parts of your body. The lower end of your spinal cord stops a little above your waist in the region called the conus medullaris. Below this region is a group of nerve roots called the cauda equina. Tracts in your spinal cord carry messages between the brain and the rest of the body. Motor tracts carry signals from the brain to control muscle movement. Sensory tracts carry signals from body parts to the brain relating to heat, cold, pressure, pain and the position of your limbs. Damage to nerve fibers Whether the cause is traumatic or nontraumatic, the damage affects the nerve fibers passing through the injured area and may impair part or all of your corresponding muscles and nerves below the injury site. A chest thoracic or lower back lumbar injury can affect your torso, legs, bowel and bladder control, and sexual function. A neck cervical injury affects the same areas in addition to affecting movements of your arms and, possibly, your ability to breathe. Common causes of spinal cord injuries The most common causes of spinal cord injuries in the United States are: Auto and motorcycle accidents are the leading cause of spinal cord injuries, accounting for almost half of new spinal cord injuries each year. A spinal cord injury after age 65 is most often caused by a fall. Overall, falls cause more than 15 percent of spinal cord injuries. Around 12 percent of spinal cord injuries result from violent encounters, often involving gunshot and knife wounds. Sports and recreation injuries. Athletic activities, such as impact sports and diving in shallow water, cause about 10 percent of spinal cord injuries. Alcohol use is a factor in about 1 out of every 4 spinal cord injuries. Cancer, arthritis, osteoporosis and inflammation of the spinal cord also can cause spinal cord injuries. Risk factors Although a spinal cord injury is usually the result of an accident and can happen to anyone, certain factors may predispose you to a higher risk of sustaining a spinal cord injury, including: Spinal cord injuries affect a disproportionate amount of men. In fact, females account for only about 20 percent of traumatic spinal cord injuries in the United States. Being between the ages of 16 and Being older than Falls cause most injuries in older adults. Engaging in risky behavior. Diving into too-shallow water or playing sports without wearing the proper safety gear or taking proper precautions can lead to spinal cord injuries. Motor vehicle crashes are the leading cause of spinal cord injuries for people under Having a bone or joint disorder. A relatively minor injury can cause a spinal cord injury if you have another disorder that affects your bones or joints, such as arthritis or osteoporosis. Complications At first, changes in the way your body functions may be overwhelming. However, your rehabilitation team will help you develop the tools you need to address the changes caused by the spinal cord injury, in addition to recommending equipment and resources to promote quality of life and independence. Areas often affected include: Your bladder will continue to store urine from your kidneys. However, your brain may not be able to control your bladder as well because the message carrier the spinal cord has been injured. The changes in bladder control increase your risk of urinary tract infections. The changes also may

cause kidney infections and kidney or bladder stones. Although your stomach and intestines work much like they did before your injury, control of your bowel movements is often altered. Below the neurological level of your injury, you may have lost part of or all skin sensations. This can make you more susceptible to pressure sores, but changing positions frequently â€" with help, if needed â€" can help prevent these sores. A spinal cord injury may cause circulatory problems ranging from low blood pressure when you rise orthostatic hypotension to swelling of your extremities. These circulation changes may also increase your risk of developing blood clots, such as deep vein thrombosis or a pulmonary embolus. Another problem with circulatory control is a potentially life-threatening rise in blood pressure autonomic hyperreflexia. Your rehabilitation team will teach you how to address these problems if they affect you. Your injury may make it more difficult to breathe and cough if your abdominal and chest muscles are affected. These include the diaphragm and the muscles in your chest wall and abdomen. Your neurological level of injury will determine what kind of breathing problems you may have. If you have a cervical and thoracic spinal cord injury, you may have an increased risk of pneumonia or other lung problems. Medications and therapy can help prevent and treat these problems. Some people with spinal cord injuries experience one of two types of muscle tone problems: Weight loss and muscle atrophy are common soon after a spinal cord injury. Limited mobility may lead to a more sedentary lifestyle, placing you at risk of obesity, cardiovascular disease and diabetes. A dietitian can help you eat a nutritious diet to sustain an adequate weight. Physical and occupational therapists can help you develop a fitness and exercise program. Sexuality, fertility and sexual function may be affected by a spinal cord injury. Men may notice changes in erection and ejaculation; women may notice changes in lubrication. Physicians specializing in urology or fertility can offer options for sexual functioning and fertility. Some people experience pain, such as muscle or joint pain, from overuse of particular muscle groups. Nerve pain can occur after a spinal cord injury, especially in someone with an incomplete injury. Coping with all the changes a spinal cord injury brings and living with pain causes some people to experience depression. Prevention Following this advice may reduce your risk of a spinal cord injury: Car crashes are one of the most common causes of spinal cord injuries. Wear a seat belt every time you drive or ride in a car. Make sure that your children wear a seat belt or use an age- and weight-appropriate child safety seat. To protect them from air bag injuries, children under age 12 should always ride in the back seat. Check water depth before diving. Use a step stool with a grab bar to reach objects in high places. Add handrails along stairways. Put nonslip mats on tile floors and in the tub or shower. For young children, use safety gates to block stairs and consider installing window guards. Take precautions when playing sports. Always wear recommended safety gear. Avoid leading with your head in sports. Use a spotter for new moves in gymnastics.

Chapter 6 : Non-Traumatic Emergencies

mon pediatric head and neck emergencies and congenital abnormali- brain abscess, meningitis, and mucocele (8). but also may result from penetrating trauma.

Chapter 7 : ICD Diagnosis Code S Traumatic subarachnoid hemorrhage

Traumatic brain injury (TBI), a form of acquired brain injury, occurs when a sudden trauma causes damage to the brain. TBI can result when the head suddenly and violently hits an object, or when an object pierces the skull and enters brain tissue.

Chapter 8 : Traumatic Brain Injury | TBI | MedlinePlus

Acute Non-Traumatic Weakness: 4 Checklist â˜• Assess airway, breathing, and circulation â˜• Characterize the weakness by detailed exam â˜• Build an initial differential diagnosis of the cause of weakness.

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Chapter 9 : Non-Traumatic Neck Pain - RCEMLearning

A national sample of emergency department visits for playground-related traumatic brain injuries among persons aged â‰¤14 years was studied, finding 21 persons affected with this condition from to