# DOWNLOAD PDF CHILDHOOD NEUROLOGIC PROBLEMS

## Chapter 1 : Childhood Neurological Disorders, US Board Certified Online Neurologist

*Some children may develop neurologic long-term consequences following encephalitis, including memory problems, behavioral changes, speech impairments, and epilepsy. Meningitis is caused by a bacterial or viral infection that inflames the meninges (membranes surrounding the brain and spinal cord).*

Overview of major pediatric neurological disorders Neuromuscular diseases Neuromuscular diseases are a leading cause of disability in children and frequently result from genetic abnormalities that alter the structure and function of muscles and nerves. Recent advances have led to the discoveries of genetic defects that cause several neuromuscular diseases, including those that affect muscle e. Most metabolic disorders are caused by the genetic deficiency of an enzyme needed to transform chemicals. For example, phenylketonuria, or "PKU," is caused by a deficiency of the enzyme phenylalanine hydroxylase, which converts the dietary amino acid, phenylalanine, into another amino acid, tyrosine. The deficiency of phenylalanine hydroxylase leads to the accumulation of a toxic level of phenylalanine and a deficiency of tyrosine, both of which can damage the developing brain and can cause developmental delay. Other adverse effects of metabolic diseases include seizures, movement disorders, poor growth, muscle weakness, fasting intolerance, and disproportionate illness with simple childhood infections or immunizations. The most severe metabolic diseases can be deadly if not treated immediately after birth, while others may cause progressive injury or lead to damaging metabolic crises under stressful conditions. Although metabolic diseases individually are rare, more than 1, metabolic diseases are recognized and collectively cause an important burden of illness and disability in children. Movement disorders Movement disorders are a group of neurological conditions characterized by abnormalities in the quality and quantity of spontaneous movements. They range from markedly reduced movement hypokinetic disorders to severe constant and excessive movement hyperkinetic disorders. These disorders affect the speed, quality and ease of movement, and do not lead to weakness or paralysis. In children specific diseases are less commonly identified and the disorders are often described by the type of movement observed, such as dystonia, choreoathetosis and hemiballismus. Children with intellectual disabilities become functional adults; they are able to learn, but do so slowly, and with difficulty. Mayo researchers are studying ways to understand their molecular mechanisms in order to develop better treatments. Basic neuroscience research in this area focuses on changes in synaptic plasticity and gene expression induced by trauma and neurotoxins. An important area of research is the mechanisms for the effect of lead and other toxins on the developing brain. Recent discoveries have identified mechanisms for effects of severe poisoning, such as brain swelling, as well as for more subtle but enduring effects on intelligence. Ongoing research Deborah Renaud, M. Disorders of cobalamin and folate metabolism. She is also interested in the use of magnetic resonance spectroscopy and xâ€”ray absorption spectroscopy as tools for the investigation of inherited metabolic disorders. Renaud is studying magnetic resonance spectroscopy MRS as a diagnostic tool for inherited metabolic disorders. In collaboration with colleagues in neuroradiology, computer analyses of MR spectra are performed to delineate new diagnostic patterns; to expand the biochemical profiles discernable by spectroscopy; and to better understand the biochemical disturbances present in known disorders. This "stateâ€”ofâ€”theâ€”art" technology utilizes xâ€”ray radiation to identify the concentration and chemical structure of biochemical substances present in intact cells. Chemical imaging of individual cells to determine the subcellular distribution can also be performed. The BIOXAS group has a particular interest in disorders of iron, sulfur and metal metabolism, both inherited and acquired, which are associated with neurological manifestations. He is characterizing the clinical features of childhoodâ€”onset RLS. Studies on the longâ€”term outcome of childhood RLS and clinical treatment trials are being planned. Kotagal is also studying narcolepsyâ€”cataplexy, a disabling disorder that affects both adults and adolescents. It leads to severe daytime sleepiness and frequent episodes of muscle weakness in response to emotional triggers. He is evaluating the effectiveness of openâ€”label treatment of this disorder with sodium oxybate. Children with epilepsy frequently manifest sleep complaints, especially difficulty falling asleep and staying asleep. There are no inâ€”depth studies about the nature of these sleep problems. Kotagal is evaluating prospectively the link

between sleep complaints and epilepsy using a questionnaire survey. The study aims to develop new clinical and laboratory markers of disease progression that will be helpful in designing and executing clinical trials of therapeutic agents. No biomarker currently exists for NPC; and assessment of horizontal saccadic eye movements, which was shown to be robust indicator of neurological dysfunction resulting from NPC in a clinical trial of miglustat see below , is only available in a few highly specialized centers. Dr Patterson is the principal investigator of an international, retrospective study of miglustat in NPC patients who did not participate in the clinical trial of this drug. Preliminary results support a beneficial effect of the agent. Dr Patterson is also planning a study of the epidemiology of lysosomal storage diseases in Olmsted County with colleagues in Medical Genetics. There are few reliable studies of this area, and this study will utilize the resources of Mayo Clinic to obtain populationâ€"based data, which is critical to planning diagnostic strategies and allocation of health care resources for this family of individually rare, but collectively common diseases. The myofibrillar myopathies MFMs have a characteristic morphological signature. At the light microscopic and immunocytochemical level they are associated with progressive myofibrillar destruction and the deposition of composite protein aggregates that immunoreact for desmin, alphaBâ€"crystallin, myotilin, dystrophin, CDC2 kinase, prion proteins, and other proteins. At the ultrastructural level, the myofibrillar degeneration begins at the Zâ€"disk. The elemental change is like that observed in minimulticore disease. The ultrastructural findings provide a clue that the MFMs are caused by mutations in Zâ€"disk related proteins. The investigation tests the hypothesis that mutations in Zâ€"disk related proteins cause MFM and that appropriate expression studies can provide insights into the pathogenesis of the disease. Mayo Clinic has a Peroxisomal Disorders program, a multidisciplinary clinical and research program for patients with peroxisomal biogenesis defects and Xâ€"linked adrenoleukodystrophy, including stem cell transplantation for boys with symptomatic Xâ€"linked adrenoleukodystrophy. Research advances Marc Patterson, M. He studied Niemannâ€"Pick type C disease NPC , an inherited neurodegenerative disorder characterized by an intracellular lipidâ€"trafficking defect with secondary accumulation of glycosphingolipids. Miglustat, a small iminosugar, reversibly inhibits glucosylceramide synthase, which catalyses the first committed step of glycosphingolipid synthesis. Miglustat is able to cross the bloodâ€"brain barrier, and is thus a potential therapy for neurological diseases. Patterson and his colleagues conducted a study to establish the effect of miglustat on several markers of NPC severity. They studied children older than 11 years who had NPC and randomly assigned them to receive either miglustat or standard care for 12 months. He found that Miglustat improved or stabilized several clinically relevant markers of NPC. This is the first agent studied in NPC for which there is both animal and clinical data supporting a disease modifying benefit. Tremor amplitude and frequency were quantified using accelerometry, and sEMG was examined for abnormal patterns consistent with various movement disorders. Accelerometric findings correlated with the clinical findings were most consistent with cerebellar outflow tremors. These quantitative methods may serve as ancillary measures of disease pathophysiology, markers of change over time, and methods to evaluate efficacy, and side MKeffects, of new treatments as they are developed. Epub Feb  He concluded that the PCRâ€"blot assay can detect extreme expansion mutations. Routine incorporation of this assay in clinical laboratories may reveal that infantileâ€"juvenile forms of SCA2 and SCA7 are more prevalent than previously recognized. Am J Med Genet. Patterson helped to identify new subtypes of congenital disorders of glycosylation. CDGs , which are metabolic deficiencies in glycoprotein biosynthesis that usually cause severe mental and psychomotor retardation. Two patients with these symptoms and similar abnormal Tf IEF patterns were analyzed by metabolic labeling of fibroblasts with [2â€"3H] mannose. In related studies, Dr Patterson and the Mayo team identified the first person in North America with CDG1b phosphomannose isomerase deficiency , and confirmed the effectiveness of oral mannose in treating this disorder. Data from this study contributed to an international investigation of the genomic structure of the MPI gene in order to simplify mutation detection. Eight seven novel different mutations were found in seven patients with confirmed phosphomannose isomerase deficiency. It can evolve from either episodic tensionâ€"type headache or episodic migraine, or can appear with no previous headache history. As with other primary headache disorders, treatment is based on the level of disability. Some children and adolescents cope well, but others are markedly disabled by their chronic

headaches. As in adults, children and adolescents with CDH are at risk for medication overuse. CDH is a diagnosis of exclusion, based on a thorough history, normal physical examination, and negative neuroimaging findings. Principles of treatment include identifying migrainous components of the headaches, which are treatable with drugs that are effective against migraine, stopping medication overuse, stressing normalcy, using rational pharmacotherapy, and addressing coâ€”morbid conditions. Successful outcomes often involve identifying an appropriate headache preventative, reintegration into school, and family participation in resetting realistic expectations. They described the neurologic, serologic, and radiographic findings associated with CNS AQP4 autoimmunity in childhood. They found that aquaporinâ€”4 autoimmunity is a distinctive recurrent and widespread inflammatory CNS disease in children. Their study is published in Neurology. Neurology Jul 8;71 2: Epub May Kuntz also joined colleagues to study lupus anticoagulantâ€”antiphospholipid syndrome. The team reports the clinical and laboratory findings in a 16â€”yearâ€—old boy with potent lupus anticoagulant who initially presented with recurrent epistaxis, hematuria, and gastrointestinal bleeding. Within 2 weeks after diagnosis, spontaneous subdural hematomas developed. During hemostatic therapy, including plasmapheresis and infusions of recombinant activated factor VII and activated prothrombin complex concentrate, an ischemic stroke developed. Subsequent multifocal recurrent ischemic strokes developed despite immunosuppression. This case shows that lupus anticoagulant or antiphospholipid antibodies can cause both hemorrhagic and thrombotic complications in the same patient and may, in some patients, have multiple target antigens eg, coagulation factors II, IX, XI. The study was published in the Journal of Pediatric Hematology Oncology. J Pediatr Hematol Oncol. The most important recent advance in the myofibrillar myopathies has been the discovery that mutations in Z band alternatively spliced PDZâ€”containing protein and filamin C, as well as mutations in desmin, alphaBâ€—crystallin and myotilin, result in similar pathologic alterations in skeletal muscle that are typical of myofibrillar myopathy. Despite the increasing genetic heterogeneity, the clinical and morphologic phenotypes are remarkably homogeneous. The typical clinical manifestation is slowly progressive proximal, distal or both proximal and distal limb muscle weakness. Cardiomyopathy can occur and is sometimes the presenting finding. Peripheral neuropathy also occurs in some patients. In every myofibrillar myopathy, there is abnormal accumulation of an array of proteins at ectopic sites as well as accumulation of degraded myofibrillar proteins forming large aggregates. The key issue now is to analyze the molecular mechanisms underlying the cascade of events that destroy the myofibrillar architecture and trigger the aberrant expression of multiple proteins. Her review found that several disease genes have recently been recognized in myofibrillar myopathies. So far, the disease proteins identified are components of or are molecular chaperones for the Zâ€”disk. In each case, the molecular defect leads to a stereotyped cascade of structural events in the muscle fiber. Selcen discovered that mutations in myotilin result in destructive changes in the muscle that starts at the Zâ€—disk, and causes myofibrillar myopathy MFM pathology. This discovery now leads to morphologic clues in the diagnosis of myotilinopathies.

## Chapter 2 : Neurological Disorders | Conditions and Treatments | UCSF Benioff Children's Hospital

*A neurological disorder is an ailment of the nervous system, which includes the brain, spinal cord and nerves. Depending upon the neurological injury, children with a neurological disorder may have difficulty with movement, speech, thinking, seeing or hearing.*

A dysfunction in any part of the brain or nervous system leads to neurological disorders that result in physical or psychological symptoms. Most of the brain cells are developed before birth but there are many nerve cells or neurons that are formed in infancy. Human brain is self-organizing. It selects information for its growth and development. The brain adapts itself to the environment. Experiencing environment with the senses of touch, smell, sight, taste and hearing forms connections in the brain. There are many neurological disorders. They have various causes, complications and symptoms. Symptoms appear depending on the area of brain that is affected. For example, cerebral palsy demonstrates more physical symptoms whereas ADHD have greater effects on human behaviour. Most of the neurological disorders appear during the early years of development and are diagnosed at birth. But some are diagnosed later as symptoms appear when a child misses developmental milestones or has an accident that leads to brain injury. Causes of Neurological Disorders The causes of neurological disorders in children are due to different reasons. Some of them include: Genetic Disorders Some of the children get neurological disorders through their genes by parents. Another possibility is gene mutations which occur at the time of fetal development. This also affects the development of the brain and the nervous system of the child. Neurotoxins Neurotoxins are harmful substances. They affect the brain development of the fetus during pregnancy. These toxins include alcohol, lead, mercury and certain food additives. They are passed down to the fetus through the placenta. This results in the newborn babies having intellectual or behavioural issues. Hypoxia Hypoxia is caused by damage to the brain due to low supply of oxygen. It may happen at the time of fetal development. Additionally, the complications at delivery may also lead to this disorder. As a result, the child has intellectual problems. Also the child suffers from other common neurological disorders, for instance, epilepsy. Postnatal Infections Some neurological disorders are caused due to postnatal infections in children. The most common of these infections are encephalitis and meningitis. Due to this, the children suffer from various symptoms such as memory issues, speech impairments, behavioral problems and other related problems. Injury Any injury to the brain or spinal cord can also be responsible for neurological disorders in children. The harshness of the disorders depends on the injury and the affected brain area. Common Neurological Disorders in Children Neurological disorders are very common among children nowadays. If you notice any such disorder in your child, do take him to a neurologist. Child neurologists are there in every city. For instance if you are living in Bangalore and looking for neurologist in the city just type in neurologist in Bangalore in Google search and you will find the best results! Some of the common neurological disorders in children are: Fetal Alcohol Syndrome This neurological disorder is caused when a pregnant woman consumes alcohol. The alcohol is passed onto the fetus and hence it is deprived of nutrients and oxygen. As a result, several organs are damaged. Some of its symptoms include hyperactivity, difficulty to be focused, lack of judgment, intellectual mutilation, learning disability and slow development related to speech, movement and social skills 2. Attention Deficit Hyperactivity Disorder ADHD This is one of the most common neurological disorders in children and can even continue until adolescents. Children in schools are regarded as naughty when they tend to forget things or daydream in the class. ADHD is a disorder that makes it difficult for a child to pay attention and control impulses. Such children are unable to finish their work and are regularly distracted. ADHD is caused due to hereditary factors, poor nutrition, substance abuse or brain injury. Epilepsy This disorder involves seizures. Epilepsy is caused due to genetic factors, developmental disorders, infectious diseases and injury caused to the brain prior to birth. Other symptoms of epilepsy are sudden unresponsiveness for a few seconds, being alert immediately after a seizure and forgetting a seizure episode. Cerebral Palsy The most common sign of cerebral palsy is late development. Infants are unable to sit, crawl and walk. This neurological disorder causes children to have difficulty in coordination and movements like standing, walking, eating and even talking. Autism Autism is a neurological disorder which is common

throughout the world. Children with autism look at the things around them in a different way as compared to other children of their age. There is no specific cause for autism, nevertheless, a number of environmental, behavioural and genetic factors may be responsible for this condition. An autistic child may have a speech impairment, challenged social and communication skills and emotional disorders. Dyslexia Dyslexia is a common learning disability in which children find it difficult to read correctly, spell, write and understand what is written. The exact cause of the condition is still not identified. Children with dyslexia can read to above average levels, if diagnosed early. Do not ignore any such disorder in your child and take him to a neurologist soon.

## Chapter 3 : Neurological Problem Symptoms, Causes and Effects - calendrierdelascience.com

*The specific causes of neurological problems vary, but can include genetic disorders, congenital abnormalities or disorders, infections, lifestyle or environmental health problems including malnutrition, and brain injury, spinal cord injury or nerve injury.*

Different people can experience the same mental disorders very differently. You should talk to your doctor if you notice a change in your behavior, thought patterns, or moods. The two major types of treatment for mental disorders are medication and psychotherapy. Different methods work better for different conditions. Many people find that a combination of the two is the most effective. What are the risk factors for brain disorders? Brain disorders can affect anyone. Risk factors are different for different types of brain disorders. Traumatic brain injury is most common in children under 4 years old, young adults between 15 and 25 years old, and adults 65 and older. Brain tumors can affect people at any age. Your personal risk depends on your genetics and your exposure to environmental risk factors like radiation. Older age and family history are the most significant risk factors for neurodegenerative diseases. Mental disorders are very common. About 1 in 5 American adults has experienced a mental health condition. Your risk may be higher if you: Your primary care physician or a neurological specialist can diagnose a brain disorder. Your doctor will likely perform a neurological exam to check your vision, hearing, and balance. Your doctor may also get images of your brain to help them make a diagnosis. Your doctor might also need to study fluid from your brain and spinal cord. This helps them find bleeding in the brain, infection, and other abnormalities. Mental health disorders are usually diagnosed based on an evaluation of your symptoms and history. The outlook for people with brain disorders depends on the type and severity of the brain disorder. Some conditions are easily treated with medication and therapy. For example, millions of people with mental disorders live perfectly normal lives. Other disorders, like neurodegenerative diseases and some traumatic brain injuries, have no cure. People with these conditions often face permanent changes in their behavior, mental abilities, or coordination. In these cases, treatment will try to help you manage your illness and retain as much independence as possible.

## Chapter 4 : Symptoms of Pediatric Neurological Disorders | calendrierdelascience.com

*The University of Michigan C.S. Mott Children's Hospital offers one of the nation's leading treatment programs for infants, children and adolescents with neurological problems (problems affecting the nervous system).*

Depending upon the neurological injury, children with a neurological disorder may have difficulty with movement, speech, thinking, seeing or hearing. Some neurological disorders in children are inherited and others are developed during pregnancy, during birth or later in childhood. Common neurological disorders in childhood include attention deficit hyperactivity disorder, autism, cerebral palsy, and traumatic brain injury. Characteristics Symptoms vary depending upon the type of neurological disorder. One common neurological disorder among children is attention deficit hyperactivity disorder, or ADHD. A child with ADHD has concentration difficulties and is restless. On the other hand, repetitive actions, restricted interests and impaired social and communication skills characterize autism. Children with autism usually have difficulty with social interaction, pretend play, speech and nonverbal communication, such as maintaining eye contact. Cerebral palsy is a group of disorders caused by brain damage that affects body movement and muscle tone. Children with cerebral palsy may experience difficulty with walking, eating, changing clothes or engaging in other common activities. Traumatic brain injury, or TBI, occurs when an external force damages the brain. Symptoms of TBI can vary depending upon the location and severity of the injury, and may include difficulties with movement, thinking, speech, seeing, or hearing. Etiology The causes of pediatric neurological disorders vary, as reported by the National Institute of Neurological Disorders and Stroke. Cerebral palsy and TBI arise from injury to the brain. Researchers believe that ADHD and autism are caused by a combination of genetic and environmental factors and are investigating the specific mechanisms that cause the disorders. Cerebral palsy develops in the womb, during childbirth or in early childhood. Autism typically appears before the age of 3 years. For a diagnosis of ADHD, symptoms must appear before the age of 7 years. The greatest number of TBIs occurs among adolescents and young adults. Prevalence According to a review of research in the January 30, , issue of Neurology, about 2 per 1, children are estimated to have autism. Cerebral palsy affects about 2 out of 1, children. ADHD is seen in about 34 out of 1, children. Treatment Neurological disorder treatment varies depending upon the type and severity of condition. Treatment may include medication, surgery, physical therapy, speech therapy, and psychotherapy. Devices, such as wheelchairs, braces, and eyeglasses, may be needed to assist the child with specific deficits.

## Chapter 5 : Neurological and mental disorders and diseases - Fogarty International Center @ NIH

*Some neurological disorders in children develop due to postnatal infections. The most common of these infections are encephalitis and meningitis - pathogenic infection. Here, encephalitis is the inflammation of brain whereas meningitis is a pathogenic infection.*

Neurological Disorders Main Document A neurological disorder is defined as any disorder of the body nervous system. Structural, biochemical or electrical abnormalities in the brain, spinal cord or other nerves can result in a range of symptoms. Examples of symptoms include paralysis, muscle weakness, poor coordination, loss of sensation, seizures, confusion, pain and altered levels of consciousness. The specific causes of neurological problems vary, but can include genetic disorders, congenital abnormalities or disorders, infections, lifestyle or environmental health problems including malnutrition, and brain injury, spinal cord injury or nerve injury. There are many recognized neurological disorders, some relatively common, but many rare. They may be assessed by neurological examination, and studied and treated within the specialties of neurology and clinical neuropsychology. Mental disorders, on the other hand, are "psychiatric illnesses" or diseases which appear primarily as abnormalities of thought, feeling or behavior, producing either distress or impairment of function. Neurological disorders affect the brain as well as the nerves found throughout the human body and the spinal cord. These three parts of the body work together and are referred to as the central nervous system that control everything in the body. Neurology is the medical science that deals with the nervous system and disorders that affect it. Conditions that are classed as mental disorders, or learning disabilities and forms of Intellectual disability, are not themselves usually dealt with as neurological disorders. Neurological disorders can be categorized according to the primary location affected, the primary type of dysfunction involved, or the primary type of cause. The broadest division is between central nervous system disorders and peripheral nervous system disorders. Neurological disorders can affect an entire neurological pathway or a single neuron. According to the University of California, San Francisco, there are more than neurological disorders that strike millions each year. These diseases and disorders inflict great pain and suffering on millions of patients and their families, and cost the U. For definitions of the parts that make up the brain see our glossary and Definitions of Human Brain Components For some interesting information on the human brain visit our reference page Human Brain Facts for answers, and facts pertaining to the brain. Alphabetical glossary and definitions of medical terms and health conditions. Children who are born without this membrane and also have other abnormalities, pituitary deficiencies and abnormal development of the optic disk have a disorder known as septo-optic dysplasia. Acid Lipase Disease - is a name used to describe two related disorders of fatty acid metabolism. These fatty substances, called lipids, include waxes, oils, and cholesterol. Acid Maltase Deficiency - Glycogen storage disease type II also called Pompe disease or acid maltase deficiency is a rare genetic disorder caused by a deficiency in the enzyme acid alpha-glucosidase GAA EC 3. Acquired Epileptiform Aphasia - Landau-Kleffner syndrome LKS is a rare, childhood neurological disorder characterized by the sudden or gradual development of aphasia the inability to understand or express language and an abnormal electro-encephalogram EEG. LKS affects the parts of the brain that control comprehension and speech. The disorder usually occurs in children between the ages of 5 and 7 years. Acute Disseminated Encephalomyelitis - is an immune mediated disease of brain. It usually occurs following a viral infection or vaccination, but it may also appear spontaneously. It is similar in some ways to multiple sclerosis, and is considered part of the Multiple sclerosis borderline. It is believed to be a result of damage to the nerve innervating a muscle of the eye known as the ciliary body. Alternately, the problem may be located at the ciliary ganglion, a kind of nerve junction structure from which the nerve to the ciliary body runs. The pupil is characteristically poorly reactive to light but slowly reactive to accommodation. Adrenoleukodystrophy - is one of a group of genetic disorders called the leukodystrophies that cause damage to the myelin sheath, an insulating membrane that surrounds nerve cells in the brain. People with ALD accumulate high levels of saturated, very long chain fatty acids VLCFA in the brain and adrenal cortex because they do not produce the enzyme that breaks down these fatty acids in the normal manner. The loss of

myelin and the progressive dysfunction of the adrenal gland are the primary characteristics of ALD. Agenesis of the Corpus Callosum - ACC is a rare birth defect congenital disorder in which there is a complete or partial absence of the corpus callosum. Agenesis of the corpus callosum occurs when the corpus callosum, the band of tissue connecting the two hemispheres of the brain, does not develop typically in utero. In addition to agenesis of the corpus callosum, other callosal disorders include hypogenesis partial formation , dysgenesis malformation of the corpus callosum, and hypoplasia underdevelopment of the corpus callosum. Agnosia - is a loss of ability to recognize objects, persons, sounds, shapes, or smells while the specific sense is not defective nor is there any significant memory loss. It is usually associated with brain injury or neurological illness, particularly after damage to the right parietal lobe. Aicardi Syndrome - is a rare genetic disorder. Aicardi syndrome is characterized by the following: Absence of the corpus callosum, either partial or complete the corpus callosum is the part of the brain which sits between the right and left sides of the brain and allows the right side to communicate with the left. Infantile spasms a form of seizures Lesions or "lacunae" of the retina of the eye that are very specific to this disorder. Other types of defects of the brain such as microcephaly , small brain ; enlarged ventricles; or porencephalic cysts a gap in the brain where there should be healthy brain tissue. Aicardi syndrome only affects females, and in very rare cases, males with Klinefelter syndrome XXY. The spectrum of neurological disorders is broad and involves the central nervous system, or CNS brain and spinal cord and the peripheral nervous system, or PNS nerves outside the brain and spinal cord, and related muscle. Alexander Disease - is a slowly progressing and fatal neurodegenerative disease. It is a very rare disorder which results from a genetic mutation and mostly affects infants and children, causing developmental delay and changes in physical characteristics. It is characterized by acute onset of severe convulsions leading to rapid intellectual and bodily breakdown. Other traits are blindness, deafness, myoclonus, spasticity, choroathetosis, cerebellar ataxia, growth retardation, plus terminal decortication. Manifests in early childhood and usually causes death within months. Alternating Hemiplegia - Alternating hemiplegia is a rare neurological disorder that develops in childhood, usually before the first 4 years. The disorder is characterized by recurrent but temporary episodes of paralysis on one side of the body. The UMN findings include hyperreflexia and spasticity. They result from degeneration of the lateral corticospinal tracts in the spinal cord. The LMN findings include weakness, atrophy, and fasciculations. ALS is eventually fatal because of respiratory muscle weakness. Anencephaly - is a condition present at birth that affects the formation of the brain and skull bones surrounding the head. Often, the brain lacks part or all of the cerebrum. There is no bony covering over the back of the head and there may also be missing bones around the front and sides of the head. Aneurysm - An aneurysm or anneurism is a localized, blood-filled dilation of a blood vessel caused by disease or weakening of the vessel wall. Aneurysms most commonly occur in arteries at the base of the brain and in the aorta the main artery coming out of the heart. The bulge in a blood vessel can burst and lead to death at any time. The larger an aneurysm becomes, the more likely it is to burst. Aneurysms can usually be treated. Angelman Syndrome - Symptoms of Angelman syndrome are learning disability, jerky movements, a tendency to seizures and a happy, sociable personality. Children with Angelman syndrome often do not learn to sit until around one year of age. The majority of children will learn to walk but with a stiff legged gait. Many children with Angelman syndrome have a facial appearance with a wide, smiling mouth, deep set eyes and prominent chin. These features become more prominent as children get older. Angiomatosis - refers to little knots of capillaries in various organs. These tend to be cavernous hemangiomas, which are sharply defined, sponge-like tumors composed of large, dilated, cavernous vascular spaces. Anoxia - Hypoxia is a pathological condition in which the body as a whole generalized hypoxia or region of the body tissue hypoxia is deprived of adequate oxygen supply. Hypoxia in which there is complete deprivation of oxygen supply, is referred to as anoxia. In the case of altitude sickness, where hypoxia develops gradually, the symptoms include headaches, fatigue, shortness of breath, a feeling of euphoria and nausea. In severe hypoxia, or hypoxia of very rapid onset, changes in levels of consciousness, seizures, coma and death occur. It is not a result of deficits in sensory, intellect, or psychiatric functioning. Depending on the area and extent of the damage, someone suffering from aphasia may be able to speak but not write, or vice versa, or display any of a wide variety of other deficiencies in language comprehension and production, such as being able to sing but not

speak. Aphasia may co-occur with speech disorders such as dysarthria or apraxia of speech. Apraxia - is a neurological disorder characterized by loss of the ability to execute or carry out learned purposeful movements, despite having the desire to and the physical ability to perform the movements. It is a disorder of motor planning which may be acquired or developmental, but may not be caused by in-coordination, sensory loss, or failure to comprehend simple commands. Arachnoid Cysts - represent benign cysts that occur in the cerebrospinal axis in relation to the arachnoid membrane and do not communicate with the ventricular system. They usually contain clear, colorless fluid that is most likely normal cerebrospinal fluid, but they rarely contain xanthochromic fluid. Arachnoid cysts also occur within the spinal canal, in which arachnoid cysts or arachnoid diverticula may be located subdurally or in the epidural space. Spinal arachnoid cysts are commonly located dorsal to the cord in the thoracic region. Arachnoiditis - is a neuropathic disease caused by the inflammation of the arachnoid, one of the membranes that surround and protect the nerves of the central nervous system, including the brain and spinal cord. The arachnoid can become inflamed because of an irritation from chemicals, infection from bacteria or viruses, as the result of direct injury to the spine, chronic compression of spinal nerves, or complications from spinal surgery or other invasive spinal procedures. It occurs in almost all children born with both spina bifida and hydrocephalus. The cerebellar tonsils are elongated and pushed down through the opening of the base of the skull blocking the flow of cerebrospinal fluid CSF. The brainstem, cranial nerves, and the lower portion of the cerebellum may be stretched or compressed. Arteriovenous Malformation - AVMs are defects of the circulatory system that are generally believed to arise during embryonic or fetal development or soon after birth. Although AVMs can develop in many different sites, those located in the brain or spinal cord can have especially widespread effects on the body. Most people with neurological AVMs experience few, if any, significant symptoms. The malformations tend to be discovered only incidentally, usually either at autopsy or during treatment for an unrelated disorder. AS is distinguished from the other ASDs in having no general delay in language or cognitive development. Coordination problems such as clumsy or awkward movements and unsteadiness, occurs in many different diseases and conditions. The spinal cord becomes thinner and nerve cells lose some of their myelin sheath, the insular covering on all nerve cells that helps conduct nerve impulses. Ataxia Telangiectasia - is a rare, childhood neurological disorder that causes degeneration in the part of the brain that controls motor movements and speech. Its most unusual symptom is an acute sensitivity to ionizing radiation, such as X-rays or gamma-rays.

## Chapter 6 : Category:Neurological disorders in children - Wikipedia

*Researchers in pediatric neurology at Mayo Clinic conduct clinical and basic science research into childhood neurological disorders to better understand the origins of epilepsy, learning disabilities and other neurological disorders; and develop new therapies and treatments.*

Willem Van Der Kamp, neurologist at the German Neuroscience Center, talks us through some of the most common paediatric neurological conditions, the signs to look out for and when to seek help for your child. While most neurological diseases are found in all age groups they sometimes present themselves differently in children; this can complicate the diagnostic process and make a difficult time more stressful for families. Neurological disorders are caused by a dysfunction in part of the brain or nervous system, and can result in physical and psychological symptoms, developmental delay and disorders in young people. The most common include headaches , autism , epilepsy , ADHD, cerebral palsy and brain injury. Headaches in childhood Usually thought of as a condition affecting adults, headaches including migraines , are actually very common in children and adolescents. In adolescents, the headache presentation is quite similar, however, in younger children the diagnosis can be more difficult. Young children are not able to express pain as well as older children and headaches may present manifest as crying, rocking, or hiding. Most are tension-type headaches brought on by stress, sleep problems, environmental or food triggers and around 5 percent are diagnosed as migraines. Some children as young as four experience migraines and the problem can be hereditary. Autism Spectrum Disorder Autism is a complex disorder affecting brain development and causes varying degrees of difficulty in social interaction, verbal and nonverbal communication and repetitive behaviors. ASD affects tens of millions of children worldwide and the rate is increasing rapidly. The most obvious symptoms appear between two to three years of age and boys are four to five times more likely to suffer from autism than girls. Signs and symptoms vary widely, as do its effects, however, every child on the autism spectrum has some degree of difficulty communicating verbally and non-verbally , relating to others and the world around them and thinking and behaving flexibly. Epilepsy Epilepsy is a neurological condition characterised by recurrent, unprovoked seizures that start in the brain. However, seizures can be caused by a number of other factors and one single seizure or fit does not necessarily indicate Epilepsy. Seizures can occur spontaneously or be triggered by things such as stress, excitement, boredom and tiredness. Anti-epileptic drugs can be used to control seizures and establishing good sleep patterns, as well as maintaining a healthy diet have also been shown to help manage the condition. Attention Deficit Disorder ADD It is common for young children to struggle with attention span and get distracted from certain tasks, however, Attention Deficit Disorder ADD is a specific condition that can lead to problems at home and school, making it harder for a child to learn and get along with others. The symptoms usually appear before the age of seven and as a general rule if these characteristics occur consistently and on an ongoing basis, regardless of the environment, then it is time to get help. Another thing to bear in mind is that the characteristics of ADHD present themselves differently depending on which of them predominate in individual cases. The disorder can cause children to be inattentive, but not hyperactive or impulsive; hyperactive and impulsive, but able to pay attention; inattentive, hyperactive, and impulsive this is the most common form of ADHD.

## Chapter 7 : A to Z List of Neurological Disorders - Disabled World

*Childhood Neurological Disorders. A list of childhood neurological disorders that are familiar and/or commonly encountered is given below and these disorders are also called as pediatric neurological disorders.*

Post traumatic event, illness or injury Some common sensory issues include: Being particularly sensitive to touch, sounds, movements, tastes and smells Dislike of particular clothing fabrics, waistbands, etc. Avoiding a number of foods Limited body awareness Poor development of personal care skills Poor attention and concentration Particularly high or low activity levels High or low pain threshold Early intervention is important in the management of children with suspected sensory impairments to help them interact with their environment in a more adaptive way as they develop. If you think your child may be experiencing sensory concerns, speak to your pediatrician or child neurologist who may refer you to an occupational therapist, physical therapist, or speech and language therapist. Once an assessment has been made, the professional will be able to consider which course of action will be most suitable to address any needs. This reality is no different for children with neurologic disorders. Children with special needs often miss out on leisure and play activities. Caregivers trying to access facilities for their child may find that many facilities are unsuitable, transport to and from the activity may be difficult, and issues regarding attitudes of staff and members of the public may arise. What can be done to maximize play opportunities and enjoyment for your child? Ensure your child engages in ordinary play. Your child will want you to be involved in their play, so ensure you make time to enjoy each other and have some silly play time. Spend some time observing and thinking about what your child enjoys most and arrange fun, stimulating play times that incorporate these things. Ensure a wide range of play activities to aid development for example turn-taking games, learning about food, play-dough and paint, music and movement games, and relaxation time such as reading a story. Provide opportunities for your child to play near a child who is doing something similar so they can learn from one another. Keep verbal instructions simple, using descriptive words such as long, short, big, small, etc. Use gestures and facial expressions to make it clear what you are doing. Encourage your child to talk about what they are doing. Choose suitable equipment and avoid over stimulation; limit the amount of materials and toys that are out at once. The Washington Access Fund has compiled a resource list designed to provide some helpful suggestions for toys, play and recreation for kids with disabilities. A child may have difficulty settling down at bedtime, wake frequently or very early, or may be anxious about being left alone at bedtime. If a child is not sleeping, it can have an impact on the entire household. It is important to get the support needed to help your child sleep well. Eating and drinking Eating a meal can be particularly challenging for children with disabilities. A lack of fine motor skills, sensory restrictions, and coordination difficulties are some of the many reasons that may delay the learning process. This can be frustrating for you and your child. This site is packed with fact sheets and resources to address aspects of eating and drinking: Challenges with motor skills It is possible that a child with a neurologic disorder may have challenges with motor skills. This could be their fine motor skills, such as being able to grasp a spoon or fasten buttons, or it could be their gross motor skills, which means they could have difficulty with larger movements such as crawling. To help with motor skills a child may see a physical therapist. They will assess your child and show you exercises and positioning which you can use at home. They may also recommend special equipment such as a standing frame to help develop specific skills. Your child may need to have an ongoing program tailored to their needs. Speak with your pediatrician or child neurologist about the possibility of a referral to a physical therapist. Toileting Many children with neurologic conditions can develop the skills needed for toilet training but may find them more of a challenge to learn. Children with severe conditions may never be able to use the toilet themselves, but you will still want to develop a routine. You should talk to your child neurologist or pediatrician if you need support with this. Home environment As your child grows up, you may find that you need to make changes to your home or acquire specifically designed or adapted pieces of equipment. An occupational therapist can also be helpful in making home modification recommendations. Safekids provides tips on how to keep the home safe for children with special needs: You may need to reduce your work hours or stop working to stay home and care

for your child. There is a range of financial support resources or programs to help with these additional costs. Benefits for Children with Disabilities â€" This booklet is written primarily for the parents and caregivers of children with disabilities and adults that have been disabled since childhood. It explains the Social Security and Supplemental Security Income SSI benefits a child with a disability might be eligible for and how the Social Security Administration evaluates disability claims for children. Apply for Disability Benefits â€" For achildren under age 18 â€" This resource explains how to apply for disability benefits for minors. It provides brochures and fact sheets that offer information to prepare you for the application process. Access the publication here: Speak with your pediatrician or child neurologist about how to access a social worker in your community to assist you in locating appropriate financial resources. School Years Choosing a school and childcare Caregivers of children with special needs have a right to choose which type of school they would like their child to attend. Options may include a local public or charter school, a private special needs school, or homeschooling. ChildCareAware provides an informational pamphlet on Choosing High-Quality Child Care for a Child with Special Needs Developing the senses What is experienced through the five senses of sight, hearing, taste, smell, and touch creates neural pathways in the brain. It is through stimulating the senses by varied experiences that learning and memory formation takes place. It is essential, therefore, for children to have such experiences throughout the period when their brains are developing. It is equally important, however, to be aware that some children with neurologic disorders may process sensory inputs in different ways or may not, as in the case of blindness or deafness, have sensory inputs. Information from your occupational therapist should be communicated to the school to ensure consistency across settings. The Indiana Resource Centre for Autism offers an informational resource: Providing opportunities to develop their identity and self-esteem. Helping your child understand that they have the right not to be subjected to discrimination, to assert that right, and to build their resilience. Helping your child to manage and deal with difficulties and setbacks. Providing an opportunity to be in control of a situation. Allowing the practice of coordination and movement skills. Enabling your child to meet other children and interact. Aiding the development of an active imagination and improving concentration. Providing bonding time for you and your child. Teaching your child crucial cultural and family values. The National Lekotek Center provides an array of services to improve the lives of children with special needs through the utilization of toys and play. Despite this, it is important to: Ensure regular bedtimes and wake times. Have a consistent bedtime routine in place. Avoid sleeping in on weekends. Ensure the bedroom environment is conducive to sleep e. Avoid caffeine and any stimulants. Contact your pediatrician or child neurologist if sleep problems persist. Although written with individuals with autism in mind, the toolkit will be helpful for a variety of individuals. Eating and Drinking As a result of their condition, some children may be reluctant to eat or drink. For example, they may not like the texture of some foods or may be uncomfortable when seated in a position to eat. If your child has a condition such as autism, they may want their food presented on the plate in a particular way. Try not to worry too much; if you are anxious at meal times, your child will recognize this. If a child is having problems eating and drinking there are a number of practitioners who may be able to help. A team of practitioners a multidisciplinary team including a speech and language therapist usually taking the lead , physiotherapist, occupational therapist, and perhaps a dietician may need to be involved. Speech and language therapists can contribute to the assessment of a child to help discover why they have eating or drinking problems, refer children on to other professionals who may be able to help, recommend food or drinks to try, develop techniques to help feeding and drinking, and devise meal-time routines. Speak to your pediatrician or child neurologist to discuss referrals. Head Start provides information for parents and teaching staff when planning adequate supports and adaptations for children with disabilities during mealtimes. Offering Support during Mealtime and Snacks Friendships Language and emotions develop synonymously and affect each other powerfully. Establishing friendships, forming relationships, and communicating with other children are, therefore, fundamental for learning and development. All children, including those with neurologic disorders, should have opportunities to play and interact with other children in school and to develop skills in managing emotions and behavior. Friends, even in the toddler stage, can help children feel good about themselves. Friends help them adapt more easily to childcare settings and build self-confidence. Establishing friendships,

however, can be a challenge for some children with special needs. Some do not have communication or social skills that allow them to form friendships, while others may have behavioral characteristics that prevent them from developing friendships. Children with autism, for example, may ignore the activities of others, choosing instead to carry out activities on their own. Difficulty making friends may lead to isolation, making them easy targets. Some children may have difficulty telling caregivers they are being bullied or be reluctant to do so. Some could be easily hurt by things that others could shrug off. Some did not recognize that they were being bullied. Suggestions to prevent bullying in schools have been put forward by Contact a Family: Have a specific person your child can tell about the bullying and discrimination. Have a safe place your child can go to during breaks or lunchtimes. Make sure someone is responsible for the behavior of pupils beyond the school gate or on school transport. Provide training for school and local authority staff.

## Chapter 8 : Early and School Years - Child Neurology Foundation

*The pediatric neurosurgeons at Norton Neuroscience Institute provide neurological care for children at Norton Children's Hospital. Our pediatric specialists are experienced in treating the unique needs of children with brain and spine conditions.*

The development of the human brain begins during pregnancy and continues through infancy, childhood and adolescence. Most brain cells are formed before birth but the trillions of connections between these nerve cells neurons are not developed until infancy. Diagram of a motor neuron The brain is composed of gray matter neurons and interconnections and white matter axons surrounded by a myelin sheath. A motor neuron above carries impulses away from the brain. The brain is self-organizing. It selects information to forward its growth and development. It also adapts to the environment. Experience of the environment through the senses of touch, smell, sight, taste and hearing produces connections in the brain. All neurologic disorders involve the brain, spinal column or nerves. Symptoms depend on where damage occurs. Areas that control movement, communication, vision, hearing or thinking can be affected. Neurologic disorders are wide ranging. They have various causes, complications and outcomes. Many result in additional needs requiring life-long management. Symptoms of neurologic disorders vary. Physical, cognitive or thinking , emotional and behavioral symptoms may be present, with specific disorders having combinations or clusters of these symptoms. For example, cerebral palsy tends to have more physical symptoms whereas ADHD tends to have greater effects on behavior. Many neurologic disorders emerge during the early years of development and may be diagnosed at birth. Some are diagnosed later because symptoms only appear when: A child misses developmental milestones or has developmental difficulties e. A damaging infection occurs e. An accident causes brain injury stroke, trauma, hypoxia. Chromosomes are long strands of DNA supported by protein that are found in the nuclei of human cells. Sections of DNA called genes carry the chemical code which makes us who we are. Chromosomes are composed of thousands of genes. A human body cell normally contains 46 23 pairs of chromosomes, half inherited from the mother and half from the father. Gene abnormalities Genes are responsible for determining characteristics. Changes in genes called mutations therefore change characteristics. Some mutations cause abnormalities that are damaging to individuals for example, cystic fibrosis. Mutations can be passed on to offspring affecting their characteristics. Chromosome abnormalities Changes in chromosomes, whether in number or in structure, have large effects on characteristics because they contain large numbers of genes. Change in chromosome number The term monosomy refers to a loss of one chromosome out of a pair for example, Turner syndrome. In trisomy, an extra chromosome has been gained by a pair for example, Down syndrome. Change in chromosome structure Microdeletions result in a loss of genes fragments of DNA from a chromosome. Microduplications occur when genes fragments of DNA are gained. Examples of such genetic conditions include cri-du-chat, Prader-Willi, and Angelman syndromes. Metabolic disorders Metabolism refers to the chemical processes that occur in the body. Metabolic disorders can cause lasting damage and must be identified as early as possible for example, through blood or urine tests. Examples of metabolic disorders include phenylketonuria PKU and homocystinuria. PKU is an inherited disorder where phenylalanine present in food can reach high concentration in blood serum. This causes damage to brain cells and to intellectual ability. An example is tuberous sclerosis, a condition where children have growths in regions such as the brain, heart, eyes, skin, kidneys and lungs. Consequently a child may develop intellectual and behavioral problems. Neurotoxins include alcohol linked to fetal alcohol syndrome , lead linked to intelligence, learning and memory problems , mercury linked to learning and development disorders , tobacco linked to challenging behaviors and developmental impairments and some food additives linked to higher rates of ADHD in children. Nutritional deficiencies Nutrients are needed for growth. A deficiency of nutrients during the last three months of pregnancy can decrease the number of brain cells. A deficiency of folic acid a B vitamin could lead to a neural tube defect NTD â€”for example, spina bifida open spine. Infections TORCH infections, including sexually transmitted infections, can be passed from mother to baby during pregnancy. These infections can cause developmental abnormalities in the unborn child. Chorioamnionitis can be a cause

of cerebral palsy. Hypoxic ischemia is insufficient blood flow causing reduced blood oxygen content. If a developing baby in the uterus does not have enough oxygen then it may have hypoxic ischemic encephalopathy neurologic damage caused by low oxygen. The effects of severe HIE can include cerebral palsy, intellectual impairments and epilepsy. Complications during childbirth The protective skull is not fully formed at birth making the brain vulnerable to physical injury. The supply of blood and oxygen from the umbilical cord can also become affected at birth. As the brain is dependent upon this supply of oxygen, deprivation of oxygen can cause brain damage. Some may arise because of associated complications during childbirth. Interaction effects A number of factors, including heredity, gene expression, the environment, infectious disease, poor nutrition, stress, drugs and other chemicals, can interact in complex ways to cause some neurologic disorders. Acquired Causes developed after birth These are less common than congenital causes of neurologic disorders, and include: Immune disorders Immune disorder, such as autoimmune encephalitis, can cause emotional challenges, abnormal body movements and seizures. Children with such problems can develop symptoms over several months and the diagnosis is challenging and frequently involves analysis of blood and cerebrospinal fluid. Postnatal infections Encephalitis inflammation of the brain can be caused by many types of infection usually viral. Some children may develop neurologic long-term consequences following encephalitis, including memory problems, behavioral changes, speech impairments, and epilepsy. Meningitis is caused by a bacterial or viral infection that inflames the meninges membranes surrounding the brain and spinal cord. The inflammation and swelling can damage the brain and nerves. Complications are more likely following bacterial meningitis than with viral meningitis. Lasting symptoms include hearing impairments, memory difficulties, coordination and balance problems, learning impairments, epilepsy, cerebral palsy, speech impairments, and loss of vision. Traumatic brain injury This occurs when trauma to the head results in damage to the brain. There are three main types of traumatic brain injury TBI: Closed head injuries â€” where no damage is visible; these are common in car accidents. Open wounds â€” where the brain is exposed and damaged by an object. Crushing injuriesâ€” where the head is crushed and brain damage occurs. Spinal cord injuries Car accidents, falls, or sports accidents can cause spinal cord injuries. The degree of damage depends on where the damage occurs and what part of the body the injured spinal area controls. Spinal injuries can lead to loss of muscle function. Neoplasm Neoplasm is an abnormal mass of tissue producing tumors. Tumors can develop in the brain or spinal cord. They can be benign noncancerous or malignant cancerous. Malignant tumors are the most dangerous, so early diagnosis is very important. Benign tumors can have neurologic consequences as they increase pressure on other parts of the brain, damaging healthy tissue. Symptoms include seizures, limb weakness, difficulty walking, speech impairments and swallowing difficulties, strange sensations, learning impairments, challenging behaviors, or vision and hearing impairments. Toxins Exposure to environmental chemicals or toxins during childhood can lead to neurologic impairment.

## Chapter 9 : Neurological Disorders in Children

*Hereditary neurological disorders (HNDs) are relatively common in children compared to those occurring in adulthood. Recognising clinical manifestations of HNDs is important for the selection of genetic testing, genetic testing results interpretation, and genetic consultation. Meanwhile, advances in.*

Numbness in the legs or arms Changes in coordination or balance Weakness Tremors Medication: Drug Options for Neurological Issues While it is understandable that the thought of being diagnosed with a neurological disorder may be frightening, it is important to understand that drug options for neurological issues are available. Such options can help you or your loved one to better manage your condition, reduce symptoms and improve your quality of life. Possible Options The type of medication that may be used for the treatment of your neurological disorder will depend on your condition. Possible options for neurological drugs may include corticosteroids, which are often indicated for the treatment of multiple sclerosis. This type of medication may assist with decreasing inflammation. Medication Side Effects When taking medication for the treatment of any condition or disorder, it is important to understand that you may experience certain side effects. Medication side effects related to the treatment of neurological disorders can vary based on your own situation and the type of medication in question. In some instances, it may be possible to develop dependence to the medication you are taking. This can occur even if it is a prescription medication, and you are taking it for the treatment of a serious health problem, such as a neurological disorder. Drug Addiction, Dependence and Withdrawal If you have developed a drug addiction, dependence and withdrawal are two critical components you need to understand. Dependence can develop when you take medication over a period of time. Depending on the addictive nature of the medication and your own personal situation, dependence can sometimes develop quickly. If you do become dependent on your medication, you will experience withdrawal symptoms when you abruptly stop taking the medication. Symptoms can include headaches, nausea and tremors. Addiction generally means you also have a psychological dependence on the medication in addition to a physical dependence. Medication Overdose The potential for medication overdose is quite real and should not be taken lightly. In instances where an individual has become dependent on a medication, they may begin taking increasingly larger doses of the medication in order to achieve the same effects. This can result in an overdose â€” a serious medical situation that can be fatal. If you believe that you or someone you know may be taking too much medication and could be at risk for overdose, it is important to seek help right away. Please contact us at. Depression and Neurological Problems Depression and neurological problems are often interrelated. Due to the debilitating nature of depression, individuals who suffer from it as well as neurological problems may find recovery to be challenging without professional assistance. Many different treatment options are available that can assist you with the treatment of your depression, including therapy in combination with medication. Addiction and Neurological Disorders Seeking help from a facility that offers the ability to make a dual diagnosis, such as a diagnose of an addiction compounded by a neurological disorder, is critical for achieving an optimal recovery. If one issue is treated but the other is left untreated, the chances of achieving a full recovery can be diminished. In a treatment facility that focuses on addressing both addiction and neurological issues, you will be able to receive the critical help you need for your addiction while at the same time ensuring that your neurological disorder is also treated. Getting Help for a Neurological Issue Regardless of how long you have suffered, it is important to know that assistance is available. With professional medical treatment, it is possible to manage your neurological disorder while also treating any other comorbid condition, such as addiction. The key is to choose a treatment facility that specializes in the treatment of neurological problems. If you have noticed signs and symptoms of neurological problems in yourself or someone else, please do not delay in asking for help on treating neurological problems today. Call us now at. Neurons are constantly delivering and receiving information from and to the body. Learn more about what this means here. Our helpline is offered at no cost to you and with no obligation to enter into treatment.