Pediatric Neurology
Consult and referral guidelines

Introduction

We care for children and teens from birth to 18 years. The most common reasons patients are referred include:

- Seizures (first-time seizures, epilepsy and further evaluation of undiagnosed "spells")
- Migraine headaches
- Nerve and muscle disorders and conditions: muscular dystrophies, inherited neuropathies, myasthenia gravis
- Movement disorders (tics, Tourette syndrome, tremors and chorea)

Please ensure that the patient has been seen in your office for the complaint in question prior to referring to neurology so that an accurate description of the concern is available.

We want to make referrals easy, fast and efficient for primary care providers. This tool was developed to help create productive visits for you and your patient.

Each guideline includes three sections: suggested workup and initial management, when to refer and information needed. Suggested workups may not apply to all patients, but these are studies we generally consider during office visits.

*SPECIAL NOTE: We prefer to look at all EEGs ourselves during the visit. If your patient has not obtained their EEGs at Spectrum Health, we ask that the patient obtain a CD burned with all their EEGs and bring them to our office visit.

Feedback regarding these guidelines is encouraged. Please contact HDVCH Direct to share feedback.

For access to all pediatric guidelines, visit **helendevoschildrens.org/guidelines**

Appointment priority guide

Immediate	Call HDVCH Direct and/or send to the closest emergency department. Contact HDVCH Direct at 616.391.2345 and ask to speak to the on-call neurology provider.
Urgent	Likely to receive an appointment within 2 days. Contact HDVCH Direct at 616.391.2345 and ask to speak to the on-call neurology provider.
Routine	Likely to receive an appointment within 1-4 weeks. Send referral via Epic Care Link, fax completed referral form to 616.267.2401 or send referral through Great Lakes Health Connect.

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
Spells/Seizure **Unprovoked seizure** (i.e., seizures with no immediate proximate cause such as hypoglycemia, hyponatremia, other metabolic derangement, trauma, fever, syncope, etc.)	Detailed history of event. 1) CMP (preferably immediately after seizure.) 2) EEG (at HDVCH) See instructions below (p .5) 3) Consider MRI brain (preferably at HDVCH) Have parents video record events	Unprovoked seizures	Detailed description of event or reason for referral, any prior workup, head circumference and growth charts
Breath holding spells Episodes of crying followed by color change, loss of tone/ consciousness and occasionally seizure-like movements	EKG, CBC, reassurance	If episodes do not follow typical sequence, no antecedent crying	Detailed history of spells, head circumference and growth charts
Febrile Generalized tonic-clonic convulsion associated with fever (>101 F) in an otherwise neurologically normal child (6 months - 6 years) with no prior afebrile seizures.	If simple febrile, no focal features, <15 min, then no additional workup required. Parental reassurance. And education regarding diagnosis.	Complex febrile, focal features, recurrent, developmental delay, neurological abnormalities or development of non-febrile seizures, positive family medical history for epilepsy.	All previous workup results, head circumference and growth charts

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
2nd Opinion/Management	Recent antiepileptic drug levels. None required	Refractory. Prior treatment at non-pediatric epilepsy center.	Description of seizure, all prior EEG and imaging (on disk), all prior neurology notes, labs (monitoring, genetic, metabolic), head circumference and growth charts
Tics/Tourette Syndrome Movement is repetitive, quick, brief and typically worsens with stress, anxiety or excitement. Vocal component is similarly repetitive and may include cough, snort, bark, sniff, throat clearing among others.	None required. Parental education regarding diagnosis and reassurance. ASO titer is not indicated.	Characteristics of seizure, refractory, symptoms interfere with ADLs. NOTE: We do not accept PANDAS as a true diagnosis.	Description of tics, evaluation of psychiatric co-morbidities and prior/current treatments, head circumference and growth charts
Headache	Evaluation and appropriate fundoscopic exam for papilledema. Imaging is optional, usually not necessary. However, if there are any red flags in the history or exam, then MRI is the preferred study. Avoidance of rebound headache by judicious use of preventive medicine, journal of symptoms to review potential triggers, review of psychiatric comorbidities and management by appropriate personnel.	Failure of 2 prophylactic medications. Options to try include Periactin (if under 8years old), Elavil, Pamelor or Topamax. Worrisome, focal new onset are urgent or inpatient evaluation.	Description of headache(s), evaluation of psychiatric comorbidities and treatments, current and previous headache treatments, imaging (if completed), labs, BP records, head circumference and growth charts
Neuro Muscular Disorders Chronic muscular weakness, slowly progressive muscular weakness, distal limb atrophy, cramping with exercise, identification of muscle hypertrophy	CK, Physical Therapy	CK > 1000, loss or regression of motor skills, +Gowers sign, multisystem involvement (cardiopulmonary)	Description of progression of symptoms, all prior labs and imaging (on disk), muscle biopsy (if done), EMG (if done), +FMHx, head circumference and growth charts

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
Hypotonia/Developmental Delay Floppy infant	Appropriate developmental surveillance according to AAP guidelines with early detection and monitoring of those at risk. MRI Brain Karyotype, Prader Willi testing Newborn screen Early On	Global developmental delay Loss or regression of skills or developmental milestones We do not evaluate isolated language delay, learning disorders/school difficulty or "apraxia"	Description of progression, all prior labs and imaging (on disk), muscle biopsy (if done), +FMHx, brief description of pre- and post-natal course, head circumference and growth charts
Numbness/Tingling	Examination focused on reflexes strength, delineation of areas of abnormal sensation. B12, TSH, T4, lead level. Consider MRI brain w/w/o gadolinium	Areflexia or demyelination on MRI. If associated with hyperventilation or anxiety, consider psych referral	Description of onset and progression, MRI/LP results (if available), all prior labs and imaging (on disk), current and prior treatment, head circumference and growth charts
Syncope	History to include classic presyncopol of lightheadedness, tunnel vision, nausea, feeling flushed, occurs most frequently with position change/standing. Obtain EKG, Consider EEG. Prior to referral suggest increase of fluid and salt. If persistent following conservative treatment, refer to cardiology.	If classic history, refer to Cardiology, non-neurological issue. Neurology if non-classical history, focal seizure or fall preceding spells. Please note, a post syncopal seizure is a reactive seizure, not a sign of underlying epilepsy and therefore does not require ongoing treatment.	Description of spell, EEG, EKG imaging (if completed), labs (CMP), head circumference and growth charts

Diagnosis/symptoms	Suggested workup/initial management	When to refer	Information needed
Behavior	We do not treat, diagnose or manage behavior. If behavior is the primary issue, referral to Neurology will only delay the patient's access to an appropriate mental health provider. As a general rule, stimulants may be used in epilepsy and tics and do not exacerbate these diagnoses. "Neurological clearance" prior to starting psychotropic medications is not indicated.		Chief concerns/description of progression, all prior labs and imaging (on disk), muscle biopsy, EMG, +FMHx, head circumference and growth chart

Other referral recommendations:

EEG Only Request Guidelines	You can order a routine EEG to be performed here at the 35 Michigan, Suite 3003 in the Pediatric Neurology clinic, which will be read by one of our pediatric neurologists. You will receive a result note within 1 to 2 weeks. Please call our office at 616.267.2500 and ask to schedule an EEG. NOTE: Please be sure your patient and family understands that they will need to call your office for EEG results.

HDVCH Direct phone: 616.391.2345

Helen DeVos Children's Hospital developed these referral guidelines as a general reference to assist referring providers. Pediatric medical needs are complex, and these guidelines may not apply in every case. Helen DeVos Children's Hospital relies on its referring providers to exercise their own professional judgment with regard to the appropriate treatment and management of their patients. Referring providers are solely responsible for confirming accuracy, timeliness, completeness, appropriateness and helpfulness of this material and making all medical, diagnostic and prescription decisions.