Last revised March 2024
Next review March 2027

Neurology Referral Guidelines

Intention:

- The intention of this guidance is to optimise patient care, through developing the collaboration between GPs and neurologists in providing that care. It is hoped that through ongoing dialogue and development of this guidance, GPs will be provided with more clarity and supporting information regarding clinical pathways, and when neurologists can add value through offering appointments or supporting the GP with Advice and Guidance.
- The following guidance is based on NICE guidance 'Suspected neurological conditions: recognition and referral' https://www.nice.org.uk/guidance/ng127 with further local neurology and radiology input with respect to local pathways.

Referral information and advice:

- Please refer to referral guidance document for information to consider in conjunction with disease specific guidance and clinical judgement. This has been developed through collaboration between neurology, radiology and primary care. We hope the information regarding referral, investigations prior to referral, treatment options and patient resources will be helpful- please note this is for consideration and not mandatory advice.
- Please make referrals via REI.
- All neurology appointment requests are triaged, and urgency of appointment needed will be considered.
- Radiology requests are also triaged and may be altered as needed to ensure most appropriate imaging.
- Please understand that the waiting time for neurology appointments is long, and it will be necessary to offer Advice and Guidance for some patients to prioritise neurology appointments. Advice and guidance may include signposting to guidelines and resources on RSS.
- There is a duty neurologist available daily, who has responsibility for triage, and can be contacted with clinical queries if necessary via switchboard.
- It is helpful for the neurologists to be asked a specific clinical question to aid triage.
- All appointments are triaged and prioritised- it will be difficult to expedite appointments unless there is a clear history of change or deterioration, requiring more urgent appointment.

	Associated features/assessment	Possible diagnosis	Refer?
Blackouts	If associated features suggest epilepsy: Refer people who present with 1 or more of the following features (that is, features that are strongly suggestive of epileptic seizures) for an assessment by a specialist in epilepsy; the person should be seen by the specialist within 2 weeks (see NICE's guideline on epilepsies in children, young people and adults): • a bitten tongue • head-turning to 1 side during TLoC • no memory of abnormal behaviour that was witnessed before, during or after TLoC by someone else • unusual posturing	Epilepsy	Urgent – to be seen in First Fit Clinic if person fully recovered. If multiple events or not fully recovered- consider admission.

	• prolonged limb-jerking (note that brief seizure-like activity can often occur during uncomplicated faints) • confusion following the event • prodromal déjà vu, or jamais vu. Consider that the episode may not be related to epilepsy if any of the following features are present: • prodromal symptoms that on other occasions have been abolished by sitting or lying down • sweating before the episode • prolonged standing that appeared to precipitate the TLoC • pallor during the episode.		
Blackouts	If features suggestive of vasovagal (even if brief limb jerks)	Vasovagal	Consider referral to Syncope clinic (information on cardiology RSS)
Dizziness	Sudden onset vestibular syndrome (vertigo, N+V, gait unsteadiness/ imbalance)- consider HINTS test if trained to do so; click here for further detail and here for video.	Posterior circulation stroke	Immediate – ADMIT or TIA clinic as appropriate— should not be referred neurology. If longer standing symptoms consider referral ENT. If thought to be central cause based on objective findings consider MRI brain/ neurology referral.
Dizziness	Sudden onset vertigo without imbalance, unsteadiness or focal deficit.	Acute labyrinthitis/ vestibular neuronitis.	Not routinely. Use symptomatic treatment eg prochlorperazine
Dizziness	Vertigo on head movement - check Hallpike manoeuvre - click here for video. BMJ Acute Vertigo 10 minute consultation- good infographic.	BPPV	Perform Epley's in primary care: https://www.youtube.com/watch?v=jBzID5nVQjk Consider Brandt Daroff self-help exercises. Consider home Epley's manoeuvre for suitable patients: • Left • Right Consider ENT balance clinic referral for refractory cases.
Dizziness	Vestibular symptoms lasting 5mins-72 hours associated with headaches. Consider vestibular migraine in people with 1) recurrent vestibular symptoms, 2) a history of migraine, 3) a temporal association between the two for some attacks and 4) absence of other likely causes.	Vestibular migraine	Not routinely Management is the same as for simple migraine. Consider vestibular rehabilitation/ balance retraining for those with chronic vertigo – free internet based programme (excludes non-vestibular causes). Referral ENT if not improving, unless prominent headache then refer neurology.
Dizziness	If no imbalance or focal neurological deficit, or associated with a functional neurological disorder. Consider cardiovascular, metabolic, medication causes.	Unlikely serious	Not routinely Consider vestibular rehab/ balance retraining if likely vestibular cause.
Facial pain	Persistent facial numbness or neurological signs.	Tumour	Urgent 2WW brain MRI with contrast and refer accordingly.
Facial pain	Paroxysmal neuropathic pain in trigeminal distribution, often physical triggers e.g. touch.	Trigeminal neuralgia	Only if refractory to usual treatment- first line treatment is Carbamazepine start at 100mg bd and titrate by 100-200mg every 2 weeks until pain relieved (max 1600mg daily), then reduce to lowest maintenance dose when in remission.

			Refer neuro if refractory to carbamazepine/ severe pain. Beware of red flag requiring referral: • Sensory change on examination, deafness or other ear problems • History of skin or oral lesions that could spread • Pain in ophthalmic division (eye socket, forehead, nose) • Optic neuritis or family history of MS • Age <40
Facial pain	Scalp tenderness, jaw claudication; raised ESR	Temporal arteritis	Urgent See GCA guidance RSS/ Rheumatology: Visual symptoms- refer immediately to ophthalmology. No visual symptoms-Refer urgently for TA biopsy via the maxillofacial surgeons.
Gait- bradykinesia/ slowness	Asymmetric, stiffness, slowness, gait disturbance, balance problems. Note tremor is not an essential feature of Parkinson's disease, but bradykinesia is. Diagnosis made in neurology- no treatment to be initiated in primary care. Diagnostic criteria for Parkinson's disease: ▪ **Bradykinesia** plus **one of rigidity, rest tremor or postural instability** (click here for full diagnostic criteria).	Parkinson's Disease	Refer neurology or Elderly Movement Disorder clinic depending on age/ frailty. NICE suggests 'refer quickly and untreated'. Referrals are prioritised according to outpatient capacity at all times in order to ensure urgent needs are met. Please refer urgently if particular concerns eg if recurrent falls, unusually rapid progression or young patient in employment. Neurology triage referrals and try to see within 6 months (sooner if urgent needs).
Gait unsteadiness	Rapidly progressive gait ataxia (unsteadiness).	Tumour or paraneoplastic	<48 hours- admit urgently? CVA < 3months- Consider urgent brain MRI and refer accordingly eg neurology, neurosurgery etc. Note it is not possible for GPs to organise paraneoplastic cerebellar antibodies/ antineuronal antibodies via ICE Note if Parkinson's suspected- refer to neuro or Elderly Movement Disorder clinic as appropriate, no MRI needed
Gait unsteadiness	Gradually progressive ataxia - check alcohol, thyroid function, B12/folate, coeliac screen	Multiple	Routine Consider arranging brain MRI and refer neurology.
Gait unsteadiness	Gait apraxia (difficulty initiating or coordinating walking)	Normal-pressure hydrocephalus	Routine- consider if eligible for neurosurgical procedure which needs neuro review first (i.e not established dementia or frailty). Arrange CT head and routine referral neuro (often due to small vessel disease). No need to refer if significant frailty or dementia). Consider community physio where appropriate.
Handwriting difficulties	If acute onset consider stroke (although rare)	Stroke	Yes - urgency will depend on presentation.
Handwriting difficulties	Slow and small handwriting	Parkinson's disease	Refer neurology or Elderly Movement Disorder clinic depending on age/ frailty. NICE suggests 'refer quickly and untreated'. Referrals are prioritised according to outpatient capacity at all times in order to ensure urgent needs are met. Please refer urgently if particular concerns eg if recurrent falls, unusually rapid progression or young patient in employment. Neurology triage referrals and try to see within 6 months (sooner if urgent needs).

<table>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>Handwriting difficulties</td><td>If specific to handwriting and no other abnormalities</td><td>Focal dystonia - click here for info and PIL</td><td>Routine</td></tr>
<tr><td colspan="4">Headache- primary headache disorders overview.
<table>
<tr><th>Feature</th><th>Migraine</th><th>Tension-Type (TTH)</th><th>Cluster</th></tr>
<tr><td>Laterality</td><td>Unilateral or bilateral (unilateral in ~10-20%)</td><td>Bilateral</td><td>Unilateral (right or left but not bilateral)</td></tr>
<tr><td>Quality</td><td>Pulsating, throbbing</td><td>Pressing, tightening</td><td></td></tr>
<tr><td>Severity</td><td>Moderate or severe, often disabling</td><td>Mild-moderate but not disabling</td><td>Very severe</td></tr>
<tr><td>Relationship to activity</td><td>Motion sensitive (prefer to remain still during attack)</td><td>Not aggravated by activity</td><td>Restless during attack</td></tr>
<tr><td>Associated features</td><td>Nausea +/- vomiting, photophobia, phonophobia</td><td>No nausea/vomiting, photophobia or phonophobia</td><td>Ipsilateral to pain:
Conjunctival injection, lacrimation, rhinorrhoea, eyelid swelling/drooping</td></tr>
<tr><td>Longevity</td><td>Attacks last 4-72 hours</td><td>Attacks last hours-days</td><td>Attacks last 15mins-3 hours</td></tr>
<tr><td>Frequency</td><td>Typically 1-2 attacks/month</td><td></td><td>1-3 attacks per day (up to 8) usually daily for 2-3 months</td></tr>
</table>
A few further points on primary headache features:
• Autonomic features (lacrimation, conjunctival injection, rhinorrhoea) are characteristic of trigeminal autonomic cephalgias (TAC, see below) but can occur in up to 25% of migraine sufferers.
• Aura typically occurs with migraine but can be present in all headache disorders.</td></tr>
<tr><td>Headache- sudden onset/ red flag features</td><td>The following MAY be red-flag features (but not necessarily and consider in context):
• Sudden-onset, severe headache reaching maximum intensity within 5 minutes (Thunderclap headache)
• Headache with jaw claudication usually in patient over 50 years of age – consider giant cell arteritis.
• Headache with pyrexia +/- vomiting.
• New cognitive changes or change in personality and behaviour.
• Impaired level of consciousness.
• Recent head trauma (typically within the past 3 months).
• Headache triggered by cough, Valsalva or sneeze.
• Headache triggered by exercise or sexual activity- mandatory to exclude SAH on first episode of headache with sexual activity. Primary headache associated with sexual activity can be diagnosed with 2 or more episodes.
• Orthostatic headache (headache that changes with posture).
• Impaired immunity.</td><td></td><td>Consider admission or urgent referral depending on clinical context if necessary.</td></tr>
</table>

	• A substantial change in the characteristics of their headache e.g atypical or very focal aura, prolonged aura more than 1 hour or significant prolonged motor weakness. • New aura on hormonal contraception. • New onset headache in a patient with cancer. • Rapid progressive worsening headache over weeks/months.		
Headache- persistent migraine			Manage according to BASH/ NICE/ SIGN guidance, and local headache guidance on RSS. Refer if: Migraine more than 8 days per month and/ or headache more than 15 days per month which fulfil the following criteria. • which has failed 3 or more prophylactic agents. • Medication overuse headache has been addressed. • Effective acute medical treatment has been commenced. • Headache diaries maintained (recommended)
Headache- tension type headache			Manage according to BASH/ NICE/ SIGN guidance, and local headache guidance on RSS. Refer if: Migraine more than 8 days per month and/ or headache more than 15 days per month which fulfil the following criteria. • which has failed 3 or more prophylactic agents. • Medication overuse headache has been addressed. • Effective acute medical treatment has been commenced. • Headache diaries maintained (recommended).
Headache- medication overuse headache	Triptans or opioids taken on 10 or more days per month, or 15 days for simple analgesics, for >3 months. Chronic migraine is diagnosed 2 months after medication has been withdrawn without improvement. Caution in explaining this as people usually using medication within prescribed or OTC limits.		Manage according to BASH/ NICE/ SIGN guidance, and local headache guidance on RSS. Refer according to other headache disorder criteria.
Headaches- trigeminal autonomic cephalgias. (TACs)	Cluster headache Paroxysmal hemicrania Hemicrania continua SUNA (Short-lasting neuralgiform attacks with cranial autonomic features)		First episode of cluster headache- refer urgently/ sometimes A+E required for symptom management. Manage according to BASH/ NICE/ SIGN guidance, NATIONAL Headache Management SYSTEM FOR Adults 2018 (bash.org.uk) and local headache guidance on RSS. Refer as symptoms require.
Headache- imaging guidance	Guidance from NHSE 'Urgent GP direct access to diagnostic services for people with symptoms not meeting the threshold for an urgent suspected cancer referral' Sept 2023:		GPs should consider whether a brain MRI is warranted for new persistent or progressive headache **plus new or progressive**: • cognitive decline/cognitive change.

	Most patients with primary brain tumours have seen their GP before diagnosis, sometimes several times. However, over 50% are diagnosed following emergency presentation. Only 1% of patients with brain tumour are referred via an urgent suspected cancer pathway. GP access to brain MRI is essential to support the earlier and faster diagnosis of brain tumours in primary care. Research shows that referral for a suspected brain tumour based on headache alone has a positive predictive value of 0.1%. [1]. This means that headache alone is unlikely to indicate a tumour, but if it clearly progresses in frequency and severity and/or is combined with new neurological symptoms, especially cognitive decline or a combination of symptoms, it may be significant.		• changes in speech – word finding difficulty, using the wrong words, semantic verbal fluency test (SVFT) score <17 (inability to name at least 17 different animals in 1 minute). • personality change. • objectively confirmed visual deficits, particularly visual field loss (can be assessed by a high-street optician). • unilateral arm or leg weakness. • unilateral sensory change. The threshold for brain imaging should be lower in patients with a previous cancer diagnosis, especially lung, breast, melanoma and renal. New onset seizures and new onset focal neurological change should continue to be referred via acute pathways. In young people (20s and 30s), history should include specifically seeking a history of seizures without collapse, for example, vacant episodes or transient sensory or motor change, self-limiting but increasing in frequency and severity. If there are concerns about isolated, progressive headache without other symptoms, brain imaging could be considered. **York radiologists** are happy to arrange imaging where there is patient or clinician concern. They suggest MRI if age <40 years, CT >40 years due to availability- radiologists will use their discretion at times regarding which scan best. Please note, and counsel patients that there is the risk of incidental findings (e.g. meningioma, aneurysm)- more so with MRI (which is more reliable in picking up abnormalities).
Memory problems	If <50, no neurological signs and normal brief memory testing; address underlying causes e.g. drugs, alcohol, stress, affective disorder. Note separate pathway for objective memory loss to memory clinic		Not routinely MRI brain a possibility to alleviate patient concern if necessary. Consider sharing information about Functional Cognitive Disorder.
Memory problems	Concentration difficulties associated with CFS, fibromyalgia, anxiety disorder or functional neurological disorder		Not routinely Consider sharing information about Functional Cognitive Disorder.
Memory problems	Dense amnesia - if single episode lasts <8 hours and complete recovery. Diagnostic criteria: • Attack must be witnessed. • Acute onset of anterograde amnesia must be present. • No alteration in consciousness must be present. • No cognitive impairment other than amnesia must be present. • No loss of personal identity must be present. • No focal neurology or epileptic features must be present. • No recent history of head trauma or seizures must be present. • Attack must resolve within 24h. • Other causes of amnesia must be excluded. More info, here.	Transient global amnesia	Not routinely. Refer if recurrent/ more than one episode.

Memory problems	Recurrent dense amnesia.	Epilepsy	Refer

Presenting symptoms	Associated features/assessment	Possible diagnosis	?Refer
Limb/facial weakness	Sudden onset and focal	Stroke/TIA	Immediate or urgent
Limb weakness	Rapidly progressive (within 4 weeks) symmetrical limb weakness: • Cervical myelopathy: Often non-specific - clumsy/weak hands and feet, decreased dexterity, unsteady gait, difficulty with daily tasks. Disturbance of bladder or bowel function occurs late in presentation. UMN signs in all limbs, particularly legs.	Neuromuscular disorder or cervical myelopathy	Acute symptoms-immediate to A+E. For longer term symptoms consider MRI C and T spine +/- lumbar spine depending on symptoms and signs
Limb weakness	Back pain with perineal numbness, or new-onset bladder/bowel/sexual dysfunction.	Cauda equina syndrome	Immediate - to A+E
Limb/facial weakness	Rapid onset (within hours/days) progressive single limb or hemiparesis.	Malignancy/CVA	Immediate- to A+E (exclude CVA)
Limb/facial weakness	Slowly progressive (weeks-months) limb or neck weakness NICE guidance for recognition of MND: Be aware that MND causes progressive muscular weakness that may first present as isolated and unexplained symptoms. These symptoms may include: • functional effects of muscle weakness, such as loss of dexterity, falls or trips. • speech or swallowing problems, or tongue fasciculations (this is known as bulbar presentation). • muscle problems, such as weakness, wasting, twitching, cramps and stiffness. • breathing problems, such as shortness of breath on exertion or respiratory symptoms that are hard to explain. • effects of reduced respiratory function, such as excessive daytime sleepiness, fatigue, early morning headache or shortness of breath when lying down. **[2016]** 1.1.3Be aware that MND may first present with cognitive features, which may include: • behavioural changes. • emotional lability (not related to dementia). • frontotemporal dementia.	Motor neurone disease/ malignancy/ myelopathy	URGENT referral. If swallowing difficulty refer very urgently; If breathing difficulty refer immediately. Could consider MRI -site as per clinical context.
Limb/facial weakness	Uncomplicated Bell's palsy	Bell's palsy	Not routinely BJGP 2019 guidance: • Oral pred 50mg for 10 days started within 72h improves resolution of palsy (NNT = 8-10). • Patients with no improvement in palsy at 3 weeks or incomplete resolution at 3 months should be referred.

			• Examine carefully for any sign of vesicles around the external auditory meatus, suggestive of zoster (Ramsey Hunt Syndrome). With facial palsy and severe pain, consider adding in high dose acyclovir as early treatment of Ramsey Hunt significantly improves prognosis. • Patient support can be found at Facial Palsy UK.
Limb/facial weakness	Complicated Bell's palsy	Bell's palsy	Referral as below- ENT or ophthalmology **York ENT guidance- see RSS:** Contact on-call ENT team for facial palsy and: • Middle ear disease, Ramsay Hunt Syndrome (shingles of the ear canal), Parotid Neoplasm, CVA, Trauma. • Children under 16 should always be referred via the on call ENT Dr. • Patients who are pregnant or who have diabetes. • Refer urgently to neurology or ENT if there is: I. Any doubt regarding the diagnosis. II. Recurrent Bell's palsy. III. Bilateral Bell's palsy. • If the cornea remains exposed after attempting to close the eyelid, refer urgently to ophthalmology via the on-call ophthalmology nurse. **BJGP 2019 guidance re referral:** **IMMEDIATELY** • Facial palsy with other neurology, slow onset (>3D), palpable pre-auricular mass, systemic symptoms, bilateral palsy (ENT). • Persistent dry eye, corneal irritation or ulceration (ophth). **3 WEEKS AFTER ONSET** • No improvement in facial movements (ENT). **3 MONTHS AFTER ONSET** • Incomplete resolution of facial palsy.
Limb/facial weakness or sensory symptoms	Recurrent weakness or recurrent numbness/tingling in person with a known functional neurological disorder, with no new neurological signs BMJ article on recognising functional neurological disorder.	Functional neurological disorder	Initial diagnosis requires referral. Recurrent symptoms will likely not need referral. Consider signposting patients to FND guide/ neurosymptoms.org.
Posture distortion	Persistent abnormalities of head or neck posture, +/- head tremor.	Cervical dystonia Click here for more info/PIL	Do NOT refer for cervical imaging or orthopaedic opinion Routine referral to neurology.
Sensory symptoms	Rapidly progressive (hours-days) symmetrical numbness ▪ **Guillain-Barre syndrome** is an acute, inflammatory, postinfectious polyneuropathy (1,2,3,4,5) ▪ A prodromal malaise with vomiting, headache, fever and limb pains is rapidly surmounted by a progressive and ascending paralysis. This can lead to respiratory dysfunction, and as	GBS	ADMIT

	such, the acute presentation can be a neurological emergency.		
Sensory symptoms	**Common clinical presentations/features of MS:** ▪ Loss or reduction of vision in one eye with painful eye movements - If patients have had an isolated episode of optic neuritis refer to a neurologist. ▪ Diplopia. ▪ Ascending sensory disturbance and/or weakness. ▪ Progressive difficulties with balance or gait. ▪ Lhermitte's symptom: sensory symptoms travelling down the back and into the limbs on neck flexion. ▪ Typically presents <50 years of age, most commonly in the late 20s, and may have had previous neurological symptoms. ▪ Evolution of symptoms: Typically evolve over > 24 hours, persist over several days or weeks and then improve and are not accounted for by fever or infection. **Do not routinely suspect MS if:** ▪ The main symptoms are fatigue, depression or dizziness, vague sensory phenomena unless focal neurological features present. **Blood tests before referral** (to exclude other diagnoses): ▪ FBC, ESR/CRP, LFT, U&E, calcium, glucose, thyroid function, B12, HIV serology.	Multiple Sclerosis	Eye symptoms (loss of vision/ diplopia)- same day referral to ophthalmology. Balance/ gait symptoms- as previous- consider MRI brain and refer. Sensory symptoms (including Lhermitte's)- consider MRI brain and/or C-spine/ T-spine depending on location of symptoms and refer/ discuss. Neurology appreciate these symptoms are complex and are happy to accept A+G
Sensory symptoms	Recurrent brief (<2 mins) fixed pattern sensation disturbance.	Epilepsy	Urgent
Sensory symptoms	Persistent distal altered sensation with brisk reflexes.	Brain/spinal cord disease	Bilateral- consider urgent spine (cervical/thoracic/lumbar spine depending on location of symptoms/ signs) MRI and refer. Unilateral- consider urgent MRI brain (2WW may be necessary depending on clinical picture) and refer. Please note neuro referrals and radiology referrals are triaged, and can be altered according to need.
Sensory symptoms	Fully reversible develop over at least 5 mins, and last 5-60 minutes +/- headache.	Migraine	Not routinely- see headache pathway guidance.
Sensory symptoms	Persistent distal altered sensation, depressed reflexes; check B12/thyroid/coeliac/U&E/glucose/ESR.	Peripheral neuropathy	Depends on the underlying cause. Routine referral neurology (cannot do direct referral to neurophysiology)- may not be necessary where age and other factors make idiopathic peripheral neuropathy the likely cause (eg older age, slow onset) Note if diabetic may already be under diabetes team or consider referral to diabetes team.

Sensory symptoms	Tingling/pain lateral thigh.	Meralgica paraesthetica	Not routinely (only if severe symptoms).
Sensory symptoms	Tingling/sensory disturbance present on waking from sleep and < 10 mins.	Sleep-related compression	Not routinely. Note do not refer for CTS/ neurophysiology.If initial conservative measures (eg wrist splints) fail- refer orthopaedics. No requirement to try steroid injections.

Presenting symptoms	Associated features/assessment	Possible diagnosis	?Refer
Sleep disorder	Insomnia +/- jerks on falling asleep or brief sleep paralysis.	Benign	Not routinely.
Sleep disorder	Excessive sleepiness - use Epworth score/consider sleep apnoea, but if not this consider.	Narcolepsy or cataplexy.	Routine to Sleep Medicine clinic (Respiratory team- for suspected OSA)
Sleep disorder	Agitated or violent movements (more complex and severe than simple jerking).	Sleep behaviour disorder.	Consider routine referral to Sleep Medicine clinic
Smell/taste problems	Distorted or sudden loss of smell or taste.	Usually benign.	Only if unexplained & > 3/12 consider advice from ENT/ imaging.
Smell/taste problems	After head injury.	Common and not treatable.	Not routinely.
Smell/taste problems	Transient repetitive smell or taste hallucinations.	Epilepsy	Urgent
Speech/swallowing	Progressive slurred or disrupted speech.	Motor neurone disease or myasthenia gravis	Urgent (If swallowing difficulty refer urgently; If breathing difficulty refer immediately)
Speech/swallowing/ language	Dysphonia - rule out structural or malignant ENT cause first, then consider.	Laryngeal dystonia or Parkinson's	Consider routine ENT referral to exclude ENT cause, and neurology referral as needed.
Language difficulties	Minor word-finding difficulties associated with anxiety or functional neurological disorder.	Commonest cause of word-finding difficulty	Not routinely Consider sharing information about Functional Cognitive Disorder.
Tics/involuntary movements	Tics - consider psychological therapies first Definitions: ▪ **Transient or provisional tic disorder**: tics persisting for less <1 year. ▪ **Chronic or persistent tic disorder**: multiple motor or vocal tics lasting >1 year. ▪ **Tourette's syndrome**: multiple motor and ≥1 vocal tics lasting >1 year. **Associated co-morbidities** ▪ **ADHD is most common** (in 90% of people with Tourette's attending specialist clinics). ▪ Also ASD (less commonly), OCD/OCB. ▪ Anxiety, depression, sleep disorders, self-injurious behaviours, anger issues, poor impulse control & behavioural disinhibition, disruptive disorders, learning disorders Tics often improve with age. By adulthood 30-50% will be in remission, 20% have ongoing moderate to severe tics, but 5% will experience debilitating or refractory tics.		Not routinely but consider if persistent, severe & causes distress Consider signposting, here.

	BMJ article regarding assessment https://www.bmj.com/content/376/bmj-2021-069346##		
Tics/involuntary movements	Involuntary eyelid movements.	Blepharospasm	Only if bilateral or persistent >3/12-botulinum toxin injections can be considered.
Tics/involuntary movements	Involuntary movements of face, neck, limbs, trunk (that can't be suppressed by temporary concentration i.e., not Tics).	Chorea	Routine
Tics/involuntary movements	Small involuntary muscular twitches (fasciculations).	Usually benign	Not unless associated with muscle wasting, weakness or rigidity.
Tremor	Asymmetric, stiffness, slowness, gait disturbance, balance problems. Note tremor is not an essential feature of Parkinson's disease, but bradykinesia is. Diagnosis made in neurology- no treatment to be initiated in primary care. Diagnostic criteria for Parkinson's disease: ▪ Bradykinesia plus one of rigidity, rest tremor or postural instability (click here for full diagnostic criteria).	Parkinson's disease	Refer neurology or Elderly Movement Disorder clinic depending on age/ frailty. NICE suggests 'refer quickly and untreated'. Referrals are prioritised according to outpatient capacity at all times in order to ensure urgent needs are met. Please refer urgently if particular concerns eg if recurrent falls, unusually rapid progression or young patient in employment. Neurology triage referrals and try to see within 6 months (sooner if urgent needs).
Tremor	Bilateral, no problems with muscle tone or speed of movement; check medications, thyroid function, alcohol. ▪ Essential tremor is usually bilateral and does NOT involve muscle tone or speed of movement. ▪ Parkinson's tremor is usually asymmetrical (unilateral or predominantly unilateral) and more prominent at rest, and associated with the slowness of movement, stiffness or balance problems. ▪ ***Examine*** patients with hands in lap (rest or static tremor), outstretched (postural tremor) and then 'finger-nose' (kinetic or intention tremor). ▪ **Rest or static tremor** occurs in a relaxed, supported limb at rest: • suggests Parkinson's Disease (often unilateral at onset and improves with intention), Parkinsonism, other extrapyramidal disease or multiple sclerosis ▪ **Postural tremor** when the body part is held in a fixed position against gravity (e.g. arms outstretched) • ET is usually a distal, symmetrical postural tremor of the upper limbs, of low amplitude but a rapid frequency. • As well as essential tremor, this type is also seen with physiological tremor, anxiety, thyrotoxicosis, medication	Essential tremor	Not routinely, unless disabling and no response to treatment e.g. propranolol, 2nd line primidone or topiramate. Treat only moderate to severe (otherwise side effects worse than the tremor).

	side effect (especially antidepressants) and alcohol. It is also seen in peripheral neuropathy ▪ **Kinetic or intention tremor** occurs during voluntary movement, which worsens as the target is approached, indicates a cerebellar cause e.g. brainstem or cerebellar disease, MS, vascular disease etc.		