WA Referral Access Criteria: Neurosurgery (Adult)

Please read the information below prior to providing feedback on the Neurosurgery (Adult) Referral Access Criteria.

Important information:

- The intent of this consultation is to facilitate additional opportunity to ensure the perspectives of the following stakeholders are captured during development of the Neurosurgery (Adult) Referral Access Criteria (RAC) for public specialist outpatient services in WA:
  - Community GPs, Royal Australian College of GPs, Aboriginal Health Council of WA / Aboriginal Medical Service
  - Other relevant Medical Practitioners
- The information within the document has been developed by a Clinical Working Group comprising Neurosurgery (Adult) Heads of Department and nominated Senior Clinicians in WA.
- This is a consultation document only. The final changes to the RAC will be updated on the WA Health RAC website for use by GPs/Primary Care referrers once endorsed.

Instructions for providing feedback:

- Please provide feedback by 15 November 2024 via the RAC development form (external site)

Next Steps:

- Feedback will be reviewed by the Orthopaedic and Spinal (Adult) Clinical Working Group and the RAC will be progressed for development. You will be notified of the outcome of your feedback following final approval of the RAC.

If you have any issues or queries, please provide detail in the RAC development form (external site).

Thank you for taking the time to provide feedback, it is appreciated.

Contents

Adult Neurosurgery conditions with Referral Access Criteria

Condition: Brain tumours (intracerebral, meningioma, skull base, pituitary)

Referral to Emergency Department:

If any of the following are present or suspected, please refer the patient to the Emergency Department (via ambulance if necessary) or seek emergency medical advice if in a remote region.

- Symptomatic benign or malignant space-occupying lesion**:**
  - Symptoms or signs of raised intracranial pressure (i.e. morning headache, vomiting and papilloedema**)**
  - Deteriorating neurological function (altered level of consciousness/new neurological deficit)
  - First episode or prolonged seizures
- Clinical suspicion of subarachnoid haemorrhage or intracerebral haemorrhage
- Headache with any of the following concerning features:
  - Sudden onset/thunderclap headache
  - Severe headache with signs of systemic illness (fever, neck stiffness, vomiting, confusion, drowsiness).
  - First severe headache age >50 years
  - Severe headache associated with recent (1-2 days) head trauma/or if on anticoagulants.
  - Headache with raised CRP/ESR with suspected temporal arteritis (usually >50 years age)
  - Severe headache in pregnancy

Immediately contact on-call registrar or service to arrange an immediate neurosurgery assessment (seen within 7 days):

- Nil

To contact the relevant service, please refer to Clinician Assist WA: Acute Neurosurgery Assessment **(external site) (seen within 7 days).**

Clinical indications for outpatient referral	• Intracerebral space-occupying lesions with minimal and/or slowly progressing symptoms • Intracranial tumours • Pituitary tumours • Chiari malformations • Incidental imaging findings, e.g. epidermoid cysts, empty sella

Mandatory Referral Information
 	
Required for accurate and timely clinical triage
 	
Referral will be returned if this information is not included
	History
	• Relevant history, onset, duration, and severity of symptoms
	• Current medication list
	• Any known allergies
	• Other relevant medical/surgical history
	
	Examination
	• Neurological examination including assessment of:
	  ○ relevant cranial nerves
	  ○ upper OR lower limbs- tone, power, reflexes, sensation
	  ○ cerebellar signs
	
	Investigations
	• CT or MRI results (including where imaging was completed)
	• Pituitary function tests if relevant
	  ○ Prolactin
	  ○ Random cortisol
	  ○ Growth hormone and Insulin-like Growth Factor 1 (IGF-1)
	  ○ TFT
	
	Referrals missing 'mandatory information' with no explanation provided may not be accepted by site. If 'mandatory information' is not included, the

Condition: Brain tumours (intracerebral, meningioma, skull base, pituitary)	
	explanation must be provided in the body of the referral (e.g. patient unable to access test in regional or remote areas or due to financial reasons). **This information is required to inform accurate and timely triage. If unable to attach reports, please include relevant information/findings in the body of the referral and advise where (provider) investigation/imaging was completed.**
Highly Desirable Referral Information ***The inclusion or exclusion of this information will not impact the referral being accepted.***	History • Details of previous malignancy including treatment/any relevant imaging results
Indicative Clinical Urgency Category ***(wait times have been included to provide referrers with a guide as to how long their patient may need to wait for an outpatient appointment, these are intended as a guide only)***	
Category 1 **Appointment within 30 days**	• Intracerebral space-occupying lesion with minimal and/or slowly progressing symptoms • Symptomatic small benign intracranial tumours without cerebral oedema (e.g. acoustic neuroma/vestibular schwannoma, meningioma, craniopharyngioma epidermoid cyst, arachnoid cyst) • Pituitary tumour associated with visual field deficits and/or symptomatic hyper/hypopituitarism
Category 2 **Appointment within 90 days**	• Pituitary tumours with slowly progressive visual field deficit • Incidental finding on imaging, e.g. epidermoid cyst, empty sella, temporal lobe herniation, venous angioma • Intracranial tumours with mild-to-moderate mass effect or seizures • Chiari Malformations – symptomatic or with syringomyelia
Category 3 **Appointment within 365 days**	• Pituitary tumours with no visual impairment, normal pituitary function and/or mild hyper-prolactinemia • Asymptomatic or incidental findings of Chiari malformation

Exclusions for brain tumours (intracerebral, meningioma, skull base, pituitary)	• Non-specific headache without concerning features or not requiring surgical intervention should be referred to Neurology
	  ○ See Referral Access Criteria: Neurology.
	  ○ See Clinician Assist WA: Neurology Requests
	• Intracerebral T2 lesions of Multiple Sclerosis or neurology conditions
	  ○ Refer to Neurology, see Clinician Assist WA: Neurology Requests
	• Asymptomatic arachnoid cysts

Useful information for referring practitioners (non-exhaustive list)	• CT +/- contrast and/or MRI for patients with suspected space-occupying lesion:
	  ○ For asymptomatic or incidental findings that are still awaiting appointment, consider repeat imaging at 3-6 months to monitor any changes
	• See MBS item: 63551 for information on the Medicare Benefits Schedule on the mandatory investigations (MRI)
	• Please also consider endocrinology referral for any of the following:
	  ○ functioning pituitary adenoma
	  ○ pituitary tumours with no or a slowly progressive visual field deficit
	  ○ marked hyper-prolactinemia serum prolactin > 5000 mU/L
	  ○ Refer to Clinician Assist WA: Endocrinology Requests

Condition: Hydrocephalus and VP shunt

Referral to Emergency Department:

If any of the following are present or suspected, please refer the patient to the Emergency Department (via ambulance if necessary) or seek emergency medical advice if in a remote region.

- Imaging confirming acute hydrocephalus
- Symptoms/signs of raised ICP, seizures, new neurological deficit
- VP shunt complications with raised ICP and altered conscious state (e.g. blockage, infection)

Immediately contact on-call registrar or service to arrange an immediate neurosurgery assessment (seen within 7 days):

- Nil

To contact the relevant service, please refer to Clinician Assist WA: Acute Neurosurgery Assessment (external site) (seen within 7 days).

Clinical indications for outpatient referral	• New diagnosis of hydrocephalus on CT or MRI • Patient with complications or suspected complications of an in-situ VP shunt • Idiopathic intracranial hypertension with persistent symptoms or visual deterioration despite medical therapy (including repeat lumbar punctures)

Mandatory Referral Information
**Required for accurate and timely clinical triage*
Referral will be returned if this information is not included
	History
	• Relevant history, onset, duration, and severity of symptoms
	• Current medication list
	• Any known allergies
	• Other relevant medical/neurosurgical history
	• Shunt history – where and when last inserted/revised if known
	
	Examination
	• Neurological examination
	  ○ Pupil size, reactivity
	  ○ Presence or absence of papilloedema
	  ○ For VP shunt complications- Erythema/tenderness along shunt tubing
	
	Investigations
	• CT or MRI (include where imaging was completed)
	
	Referrals missing 'mandatory information' with no explanation provided may not be accepted by site. If 'mandatory information' is not included, the explanation must be provided in the body of the referral (e.g. patient unable to access test in regional or remote areas or due to financial reasons).
	
	This information is required to inform accurate and timely triage. If unable to attach reports, please include relevant information/findings in the body of the referral and advise where (provider) investigation/imaging was completed.

Highly Desirable Referral Information **The inclusion or exclusion of this information will not impact the referral being accepted.*	Investigations • FBC • CRP • Where/when baseline CT brain completed

Condition: Hydrocephalus and VP shunt	
Indicative Clinical Urgency Category *(wait times have been included to provide referrers with a guide as to how long their patient may need to wait for an outpatient appointment, these are intended as a guide only)*	
Category 1 Appointment within 30 days	• New diagnosis of hydrocephalus on CT or MRI • VP shunt complications • Idiopathic intracranial hypertension – in patients with persistent symptoms or visual deterioration despite medical therapy including repeat lumbar punctures
Category 2 Appointment within 90 days	• No defined category 2 criteria
Category 3 Appointment within 365 days	• No defined category 3 criteria

Exclusions for hydrocephalus and VP shunt	• Imaging suggestive of idiopathic intracranial hypertension should be referred to neurology first for diagnosis
	  ○ See Clinician Assist WA: Neurology Requests
	  ○ See Referral Access Criteria: Neurology

Useful information for referring practitioners (non-exhaustive list)	• Arrange CT for patients with suspected raised intracranial pressure • See MBS item: 63551 for information on the Medicare Benefits Schedule on the mandatory investigations (MRI) • Consider neurology referral for intracranial hypertension not responsive to treatment ○ See Clinician Assist WA: Neurology Requests

Condition: Intracranial Aneurysm

Referral to Emergency Department:

If any of the following are present or suspected, please refer the patient to the Emergency Department (via ambulance if necessary) or seek emergency medical advice if in a remote region.

- Symptomatic intracranial aneurysm of any size
- Symptoms or signs of raised intracranial pressure (i.e. morning headache, vomiting and papilloedema**)**
- Deteriorating neurological function (altered level of consciousness/new neurological deficit)
- First episode or prolonged seizures
- Clinical suspicion of subarachnoid haemorrhage or intracerebral haemorrhage
- Headache with concerning features (e.g. sudden onset/thunderclap headache, signs of systemic illness, first severe headache age over 50 years)

Immediately contact on-call registrar or service to arrange an immediate neurosurgery assessment (seen within 7 days):

- Nil

To contact the relevant service, please refer to Clinician Assist WA: Acute Neurosurgery Assessment **(external site) (seen within 7 days).**

Clinical indications for outpatient referral	• Asymptomatic incidental finding of aneurysm
Mandatory Referral Information **Required for accurate and timely clinical triage* *Referral will be returned if this information is not included*	History • History of presentation • Current medication list • Any known allergies Examination • No defined criteria Investigations • CT/CTA or MRI (including imaging report or details of imaging completed/provider) **Referrals missing 'mandatory information' with no explanation provided may not be accepted by site. If 'mandatory information' is not included, the explanation must be provided in the body of the referral (e.g. patient unable to access test in regional or remote areas or due to financial reasons).** **This information is required to inform accurate and timely triage. If unable to attach reports, please include relevant information/findings in the body of the referral and advise where (provider) investigation/imaging was completed.**
Highly Desirable Referral Information **The inclusion or exclusion of this information will not*	History • Family history of aneurysm or AVM

Condition: Intracranial Aneurysm	
impact the referral being accepted.	
Indicative Clinical Urgency Category *(wait times have been included to provide referrers with a guide as to how long their patient may need to wait for an outpatient appointment, these are intended as a guide only)*	
Category 1 Appointment within 30 days	• Asymptomatic large intracranial aneurysms (≥15mm)
Category 2 Appointment within 90 days	• Asymptomatic intracranial aneurysms (≥3mm and <15mm)

Category 3
Appointment within 365 days
	• Asymptomatic intracranial aneurysms <3mm if:
	  ○ the patient remains anxious despite reassurance of low-risk lesion OR
	  ○ the aneurysm increases in size on serial imaging
	• Counselling and investigation for patients at high risk of intracranial aneurysm e.g. first degree family history, polycystic kidney disease, inherited connective tissue diseases, coarctation of the aorta

Exclusions for intracranial aneurysm	• Asymptomatic intracranial aneurysms <3mm unless:
	  ○ the patient remains anxious despite reassurance of low-risk lesion OR
	  ○ the aneurysm increases in size on serial imaging

Useful information for referring practitioners (non-exhaustive list)	• See MBS item: 63551 for information on the Medicare Benefits Schedule on the mandatory investigations (MRI)
	• Intracranial aneurysms <3mm can be followed with serial imaging and referred if:
	  ○ the patient remains anxious despite reassurance of low-risk lesion
	  ○ the aneurysm increases in size on serial imaging
	• Refer to Clinician Assist WA: Non-acute Neurosurgery Assessment

Condition: Neurovascular disorders (AVMs, DAVFs, Moya Moya disease, spinal aneurysms, other)

Referral to Emergency Department:

If any of the following are present or suspected, please refer the patient to the Emergency Department (via ambulance if necessary) or seek emergency medical advice if in a remote region.

- Symptomatic intracranial aneurysm of any size
- Deteriorating neurological function (altered level of consciousness, new neurological deficit, seizure, signs/symptoms of raised ICP)
- Clinical suspicion of intracranial haemorrhage
- Sudden onset/thunderclap headache
- Severe headache with signs of systemic illness (fever, neck stiffness, vomiting, confusion, drowsiness).
- First severe headache age >50 years
- Severe headache associated with recent (1-2 days) head trauma/or if on anticoagulants.
- Headache with raised CRP/ESR with suspected temporal arteritis (usually >50 years age)
- Severe headache in pregnancy

Immediately contact on-call registrar or service to arrange an immediate neurosurgery assessment (seen within 7 days):

- Nil

To contact the relevant service, please refer to Clinician Assist WA: Acute Neurosurgery Assessment **(external site) (seen within 7 days).**

Clinical indications for outpatient referral	• Asymptomatic AVM or aneurysm of spine • Intracranial artery stenosis • Vertebral artery stenosis • Intracranial or spinal dural arterio-venous fistulas (DAVFs) • Moya Moya disease

Mandatory Referral Information
**Required for accurate and timely clinical triage*
Referral will be returned if this information is not included
	History
	• Relevant history, onset, duration, and severity of symptoms
	• Current medication list
	• Any known allergies
	• Other relevant medical/neurosurgical history
	
	Examination
	• Neurological examination including assessment of:
	  ○ relevant cranial nerves
	  ○ upper OR lower limbs- tone, power, reflexes, sensation
	  ○ cerebellar exam
	•
	
	Investigations
	• CT/CTA and/or MRI (including imaging report or details of imaging completed/provider)
	
	Referrals missing 'mandatory information' with no explanation provided may not be accepted by site. If 'mandatory information' is not included, the explanation must be provided in the body of the referral (e.g. patient unable to access test in regional or remote areas or due to financial reasons).

Condition: Neurovascular disorders (AVMs, DAVFs, Moya Moya disease, spinal aneurysms, other)	
	This information is required to inform accurate and timely triage. If unable to attach reports, please include relevant information/findings in the body of the referral and advise where (provider) investigation/imaging was completed.
Highly Desirable Referral Information **The inclusion or exclusion of this information will not impact the referral being accepted.*	History • Family history of aneurysm, AVMs, or Moyamoya
Indicative Clinical Urgency Category *(wait times have been included to provide referrers with a guide as to how long their patient may need to wait for an outpatient appointment, these are intended as a guide only)*	
Category 1 Appointment within 30 days	• Asymptomatic AVM or aneurysm of spine • Symptomatic intracranial artery stenosis • Symptomatic vertebral artery stenosis • Moyamoya disease with associated transient ischaemic attack
Category 2 Appointment within 90 days	• Idiopathic (benign) intracranial hypertension post-neurology review • Intracranial or spinal dural arterio-venous fistulas (DAVFs) • Asymptomatic intracranial artery stenosis • Asymptomatic vertebral artery stenosis • Moya moya disease without associated transient ischaemic attack
Category 3 Appointment within 365 days	• Counselling and investigation for patients at high risk of intracranial aneurysm e.g. first degree family history, polycystic kidney disease, inherited connective tissue diseases, coarctation of the aorta
Exclusions for neurovascular disorders (AVMs, DAVFs, Moyamoya disease, spinal aneurysms, other)	• Confirmed TIA/mild disabling stroke with ipsilateral carotid stenosis ≥60% ○ Refer to Neurology, see Clinician Assist WA: Neurology Requests
Useful information for referring practitioners (non-exhaustive list)	• Monitor neurological function • See MBS item: 63551 for information on the Medicare Benefits Schedule on the mandatory investigations (MRI) • For intracranial aneurysms, see Referral Access Criteria: Intracranial aneurysm

Condition: Non-acute skull fracture

Referral to Emergency Department:

If any of the following are present or suspected, please refer the patient to the Emergency Department (via ambulance if necessary) or seek emergency medical advice if in a remote region.

- Acute trauma with suspected traumatic brain injury
- Deteriorating neurological function (altered level of consciousness, new neurological deficit, seizure, signs/symptoms of raised ICP)
- Clinical suspicion of intracranial haemorrhage
- Sudden onset/thunderclap headache
- Severe headache with signs of systemic illness (fever, neck stiffness, vomiting, confusion, drowsiness).
- First severe headache age >50 years
- Severe headache associated with recent (1-2 days) head trauma/or if on anticoagulants.
- Headache with raised CRP/ESR with suspected temporal arteritis (usually >50 years age)
- Severe headache in pregnancy

Immediately contact on-call registrar or service to arrange an immediate neurosurgery assessment (seen within 7 days):

- Non-acute skull fracture with any of the following
  - Headaches
  - Neurological deficit (changes in vision, smell or touch, weakness, poor balance)
  - Changes in cognition, personality, or behaviour

To contact the relevant service, please refer to Clinician Assist WA: Acute Neurosurgery Assessment **(external site) (seen within 7 days).**

Clinical indications for outpatient referral	• Not appropriate for routine outpatient referral- please refer to emergency or contact on-call clinician if clinical concern
Mandatory Referral Information **Required for accurate and timely clinical triage* *Referral will be returned if this information is not included*	• Not appropriate for routine outpatient referral
Highly Desirable Referral Information **The inclusion or exclusion of this information will not impact the referral being accepted.*	• Not appropriate for routine outpatient referral
Indicative Clinical Urgency Category *(wait times have been included to provide referrers with a guide as to how long their patient may need to wait for an outpatient appointment, these are intended as a guide only)*	
Category 1 Appointment within 30 days	• Not appropriate for routine outpatient referral

Condition: Non-acute skull fracture	
Category 2 Appointment within 90 days	• Not appropriate for routine outpatient referral
Category 3 Appointment within 365 days	• Not appropriate for routine outpatient referral
Exclusions for non-acute skull fracture	• Asymptomatic non-acute skull fractures
Useful information for referring practitioners (non-exhaustive list)	• Consider State Head Injury Unit referral for >6 weeks concussive symptoms ○ See Clinician Assist WA: Mild Traumatic Brain Injury (Concussion) • Consider State Rehabilitation Service (SRS) for rehabilitation referrals

Condition: Peripheral nerve palsies and compression/entrapments (Neurosurgery)

Referral to Emergency Department:

If any of the following are present or suspected, please refer the patient to the Emergency Department (via ambulance if necessary) or seek emergency medical advice if in a remote region.

- Trauma with neurovascular compromise
- Suspected acute compartment syndrome

Immediately contact on-call registrar or service to arrange an immediate neurosurgery assessment (seen within 7 days):

- Symptomatic benign or malignant lesion

To contact the relevant service, please refer to Clinician Assist WA: Acute Neurosurgery Assessment **(external site) (seen within 7 days).**

Clinical indications for outpatient referral	• Peripheral nerve palsies and compression/entrapments not responsive to conservative management, e.g.:
	  ○ Carpal tunnel syndrome
	  ○ Ulnar nerve entrapment
	  ○ Posterior interosseous nerve syndrome
	  ○ Common peroneal nerve palsy
	  ○ Tarsal tunnel syndrome

Mandatory Referral Information **Required for accurate and timely clinical triage* *Referral will be returned if this information is not included*	History • Relevant history, onset, severity, and duration of symptoms (e.g. pain, numbness, altered sensation, frequency) • Degree of functional impairment (e.g. impact on employment/ADLs) • Current medication list • Any known allergies • Details of previous treatment and outcome (e.g. surgery, allied health input and steroid injections) Examination • Sensory or motor deficit distribution e.g. median, ulnar, or radial nerves **Referrals missing 'mandatory information' with no explanation provided may not be accepted by site. If 'mandatory information' is not included, the explanation must be provided in the body of the referral (e.g. patient unable to access test in regional or remote areas or due to financial reasons).** **This information is required to inform accurate and timely triage. If unable to attach reports, please include relevant information/findings in the body of the referral and advise where (provider) investigation/imaging was completed.**
Highly Desirable Referral Information **The inclusion or exclusion of this information will not impact the referral being accepted.*	History • Occupational Therapy/Physiotherapy report Investigations • Consider ultrasound (US) if suspected mass causing compression NB: Otherwise, routine ultrasound (US) is not required as a diagnostic tool for compression neuropathy

Condition: Peripheral nerve palsies and compression/entrapments (Neurosurgery)	
	• Nerve Conduction Studies (NCS) • CT spine (only where suspecting central compression pathology)
Indicative Clinical Urgency Category *(wait times have been included to provide referrers with a guide as to how long their patient may need to wait for an outpatient appointment, these are intended as a guide only)*	

Category 1
Appointment within 30 days
	• Sudden onset symptoms suggestive of acute nerve compression without trauma or acute event
	• Peripheral nerve compression syndrome with:
	  ○ rapidly progressing and/or neurological deficit OR
	  ○ associated with disabling pain syndrome
	• Pressure from external lesion

Category 2 Appointment within 90 days	• Frequent and/or progressive peripheral nerve compressive symptoms or palsy with corresponding clinical signs • Recurrence of significant symptoms or clinical signs after surgical decompression • Peripheral nerve entrapment syndromes or palsy with severe pain
Category 3 Appointment within 365 days	• Intermittent or mild symptoms of peripheral nerve compression or palsy failing to respond to conservative management and considered to warrant assessment for surgical management
Exclusions for peripheral nerve palsies and compression/entrapments (Neurosurgery)	• Thoracic Outlet Syndrome, please refer to Vascular specialty

Useful information for referring practitioners (non-exhaustive list)	• Routine ultrasound scans are not indicated for the diagnosis of peripheral nerve compression or entrapment
	• Carpal Tunnel Syndrome can be referred to the following specialities but will be triaged in a unified manner by all specialities concerned:
	  ○ Orthopaedics
	  ○ Plastic and Reconstructive surgery
	  ○ Neurosurgery
	  ○ General Surgery
	• Diabetic peripheral neuropathy will require comprehensive diabetic management. See Clinician Assist WA: Peripheral Neuropathy
	
	Conservative management strategies
	• Consider:
	  ○ Treating underlying causes, e.g. Vitamin B12 deficiency, alcohol excess, diabetes
	  ○ Analgesia for neuropathy, e.g. SNRI, TCAs, antiepileptics
	  ○ Hand therapy, See HealthPathways: Occupational Therapy Requests or HealthPathways: Physiotherapy Requests
	  ○ Splinting
	  ○ Steroid injection if not contraindicated

Condition: Spine (Neurosurgery)

Referral to Emergency Department:

If any of the following are present or suspected, please refer the patient to the Emergency Department (via ambulance if necessary) or seek emergency medical advice if in a remote region.

- Vertebral fracture with displacement and/or spinal compression
- Neurological compromise (e.g. acute foot drop, suspected cauda equina)
- Vascular compromise
- Suspected septic joint
- Acute back or neck pain secondary to infection or neoplastic disease
- Axial spine pain or disorder with any of the following red flags:
    - Acute foot drop
    - Bowel/bladder symptoms
    - Current IVDU
    - Steroid use
    - Fever
    - Anticoagulant use
    - Trauma
    - Current malignancy

Immediately contact on-call registrar or service to arrange an immediate neurosurgery assessment (seen within 7 days):

- Radicular pain or neuropathy with the following **red flags** indicate a discussion with the on-call registrar:
    - motor deficit e.g. foot weakness
    - unexplained weight loss
    - previous history malignancy
    - history of IV drug use
    - recent significant infection

  NB: Appointment urgency may vary and will be assessed on a case-by-case basis.

To contact the relevant service, please refer to Clinician Assist WA: Acute Neurosurgery Assessment **(external site) (seen within 7 days).**

Clinical indications for outpatient referral	• The following presentations in the absence of red flags:
	  ○ Axial spine pain associated with referred symptoms or neurological deficit
	  ○ Moderate to severe or progressive sciatica with neurological deficit AND not responding to a minimum of 8 weeks of conservative management
	  ○ Significant or progressive neurogenic claudication/limitation of walking distance (spinal stenosis)
	  ○ Significant or progressive functional impairment with associated referred symptoms AND not responding to a minimum of 8 weeks of conservative management
	  ○ Spondylolisthesis with lower limb neurology and/or instability

Mandatory Referral Information **Required for accurate and timely clinical triage*	History • Relevant history, onset, severity, and duration of symptoms (e.g. mechanism of injury, pain, weakness, altered sensation, frequency, associated diseases) • Degree of functional impairment (e.g. walking distance, impact on employment/ADLs) • Current medication list

Condition: Spine (Neurosurgery)	

Referral will be returned if this information is not included	• Any known allergies
	• Management to date (including previous spinal surgery and non-operative management)
	• Past and current medical history
	
	Examination
	• Neurological examination and neurological signs
	
	Investigations
	• CT Spine supporting diagnosis
	• For any lumbar spondylolisthesis:
	  ○ plain X-ray lateral standing films in flexion and extension
	  ○ and CT Spine
	
	NB: Imaging of the spine is not recommended in most patients with an acute presentation or with a stable chronic presentation unless there is the indication of sinister or serious pathology (**concerning features**). If there are no signs of sinister or serious pathology imaging may be indicated after a trial of conservative therapy. (Diagnostic Imaging Pathway)
	
	Referrals missing 'mandatory information' with no explanation provided may not be accepted by site. If 'mandatory information' is not included, the explanation must be provided in the body of the referral (e.g. patient unable to access test in regional or remote areas or due to financial reasons).
	
	This information is required to inform accurate and timely triage. If unable to attach reports, please include relevant information/findings in the body of the referral and advise where (provider) investigation/imaging was completed.

Highly Desirable Referral Information **The inclusion or exclusion of this information will not impact the referral being accepted.*	Investigations • MRI for suspected nerve pathology or any lumbar spondylolisthesis • FBC, LFT, ESR, CRP • Ca and PO4 • Electrophoresis • Immunoglobulins • PSA (if relevant to their presentation) • Rheumatoid serology (if relevant) • Other relevant reports from any providers in a public or private sector related to the presenting problem
Indicative Clinical Urgency Category *(wait times have been included to provide referrers with a guide as to how long their patient may need to wait for an outpatient appointment, these are intended as a guide only)*	
Category 1 Appointment within 30 days	• Risk irreversible deficit if not seen within 1-4 weeks • Significant spinal nerve root compression or spinal cord compression with neurological signs/symptoms • Moderate to severe sciatica with new onset reflex & muscle power deficit • Moderate to severe neck & arm pain with new onset reflex & muscle power deficit
Category 2 Appointment within 90 days	Appropriate category 2 patients may initially be assessed/re-assessed, and case managed by an advanced scope physiotherapist in consultation with Neurosurgeon • Spinal tumours with minimal neurological deficit • Severe spinal disorders with significant functional impairment

Condition: Spine (Neurosurgery)	
	• Acute cervical & lumbar disc prolapse with moderate to severe radicular symptoms and stable neurological signs not responding to a minimum of 8 weeks of conservative management • Anterolisthesis/spondylolisthesis with lower limb neurology and/or instability on X-ray
Category 3 Appointment within 365 days	Appropriate category 3 patients may initially be assessed/re-assessed, and case managed by an advanced scope physiotherapist in consultation with Neurosurgeon • Documented severe lumbar canal stenosis with significant neurogenic claudication/limitation of walking distance • Mild/intermittent limb pain causing interference with ADL including lumbar canal stenosis / neurogenic claudication • Chronic cervical and lumbar disc prolapse and degenerative spinal disorders without progressive neurological deficit

Exclusions for spine (Neurosurgery)	• Acute or sub-acute non-specific axial spine pain without referred symptoms. Consider physiotherapy referral.
	  ○ See Clinician Assist WA: Physiotherapy Requests
	• Neck or back pain due to degenerative disease without correlating clinical symptoms or signs of neural compression.
	  ○ See Clinician Assist WA: Pain Management
	• Chronic axial back or neck pain– degenerative changes with nil acute neurology (chronic pain is defined as any pain lasting more than 6 months).
	  ○ See Clinician Assist WA: Pain Management
	• Spinal trauma or stable spinal fractures without evolving neurological deficit, refer to Orthopaedics.
	• Scoliosis or congenital deformity, refer to Orthopaedics.
	• Medicolegal opinions for compensation claims
	• Spinal injections, acupuncture, massages or other alternative health care

Useful information for referring practitioners (non-exhaustive list)	• Any **acute** foot drop must be sent through to emergency for neurosurgical consultation.
	• Many category 2 and most category 3 patients referred for a surgical opinion will not require surgery. Evidence demonstrates that active non-surgical management is as effective for a number of spinal conditions.
	• Appropriate category 2 and 3 patients will initially be assessed/re-assessed, and case managed by an advanced scope physiotherapist (ASP) at ASP clinic in consultation with Neurosurgeon. Outcomes may include provision of appropriate non-surgical management plans, discussion or appointment with a spinal surgeon, or discharge
	• Patients who do not want or not suitable for surgical intervention due to medical co-morbidities should be managed conservatively as appropriate
	• Radiculopathies and neural compressive symptoms associated with the presenting issues can be referred to the following specialities but will be triaged in a unified manner by all specialities concerned:
	  ○ Neurosurgery
	  ○ Orthopaedics
	
	Conservative management
	• Initial 6-8 weeks of new onset sciatica in the absence of red flags warrants a trial of conservative management in primary care.
	• Caution should be used in prescribing opiates for degenerative spinal pain or benign tumour which should be prescribed in line with current guidelines
	  ○ Anti-inflammatory and analgesia may be considered
	• Advice, education, and reassurance

Condition: Spine (Neurosurgery)	
	○ Heat, activity modification, normal activity (evidence suggest benefit of keeping active far outweighs harm/risks and should be encouraged unless acute spinal instability) • Consider physiotherapy and exercise. ○ See Clinician Assist WA: Physiotherapy Requests • Consider referral to pain management early as necessary if persistent pain without neurological deficit. ○ See Clinician Assist WA: Pain Management • Due to high volume of spine patient referrals and long waitlist, recommend referring patients who wants to consider surgery or medically suitable to consider surgical intervention/general anaesthetics **Clinical resources** • See Clinician Assist WA: Low Back Pain in Adults • See Clinician Assist WA: Pain Management • See ACSQHC LBP Clinical Care Standard (2022) • See ACSQHC Rapid Review Report: Diagnosis, Investigation and management of Low Back Pain (2020) • See Diagnostic Imaging Pathways

Condition: Trigeminal neuralgia and other cranial nerve abnormalities

Referral to Emergency Department:

If any of the following are present or suspected, please refer the patient to the Emergency Department (via ambulance if necessary) or seek emergency medical advice if in a remote region.

- Nil

Immediately contact on-call registrar or service to arrange an immediate neurosurgery assessment (seen within 7 days):

- Severe intractable pain preventing adequate fluid intake

To contact the relevant service, please refer to Clinician Assist WA: Acute Neurosurgery Assessment **(external site) (seen within 7 days).**

Clinical indications for outpatient referral	• Trigeminal neuralgia • Difficulty swallowing/eating/drinking
Mandatory Referral Information **Required for accurate and timely clinical triage* *Referral will be returned if this information is not included*	History • Relevant history, onset, duration, and severity of symptoms • Current medication list including medications trialled • Any known allergies Examination • Relevant clinical examination findings including cranial nerve examination Investigations • CT/CTA (including where imaging was completed) **Referrals missing 'mandatory information' with no explanation provided may not be accepted by site. If 'mandatory information' is not included, the explanation must be provided in the body of the referral (e.g. patient unable to access test in regional or remote areas or due to financial reasons).** **This information is required to inform accurate and timely triage. If unable to attach reports, please include relevant information/findings in the body of the referral and advise where (provider) investigation/imaging was completed.**
Highly Desirable Referral Information **The inclusion or exclusion of this information will not impact the referral being accepted.*	• No additional information
Indicative Clinical Urgency Category *(wait times have been included to provide referrers with a guide as to how long their patient may need to wait for an outpatient appointment, these are intended as a guide only)*	
Category 1 Appointment within 30 days	• Severe/intractable trigeminal neuralgia • Failed maximal medical management, including difficulty swallowing/eating/drinking

Condition: Trigeminal neuralgia and other cranial nerve abnormalities	
Category 2 Appointment within 90 days	• Moderately severe trigeminal neuralgia partially controlled with medication for consideration of surgical treatment including patients with side effects to medical therapy
Category 3 Appointment within 365 days	• No defined category 3 criteria
Exclusions for trigeminal neuralgia and other cranial nerve abnormalities	• Nil
Useful information for referring practitioners (non-exhaustive list)	• Trial of directed neuropathic pain medications as a priority • Preferred that initial referral is sent to neurology for confirmation of diagnosis and/or pain clinic for medical optimisation of pain. See Referral Access Criteria: Neurology. Clinical Resources • See Clinician Assist WA: Trigeminal Neuralgia

Out of Scope / Excluded Procedures

The WA Elective Surgery Access and Waiting List Management Policy states that all elective procedures performed in the WA health system must meet an identified clinical need to improve the health of the patient. Procedures are not to be performed for cosmetic or other non-medical reasons.

Excluded Procedure	Exceptional circumstances
Nil	

Excluded procedures will not be performed unless under exceptional circumstances and where a clear clinical need has been identified. For all excluded procedure referrals, state clearly in the referral that request is for an excluded procedure and include the clinical exception reason as to why it should be considered.

The WA Elective Surgery Access and Waiting List Management Policy may be accessed via the WA Health Policy Frameworks page.

Referral to public Neurosurgery (Adult) outpatient services is not routinely accepted for the following conditions

Condition	Details

Idiopathic intracranial hypertension (first diagnosis)	• Imaging suspicious of idiopathic intracranial hypertension should be referred to Neurology first for diagnosis
	  ○ See Clinician Assist WA: Neurology Requests
	  ○ See Referral Access Criteria: Neurology

Epilepsy	• Refer to Neurology. See Referral Access Criteria: Neurology and Clinician Assist WA: Neurology Requests
Parkinson's Disease	• Refer to Neurology. See Referral Access Criteria: Neurology and Clinician Assist WA: Neurology Requests