Monash Health Referral Guidelines

NEUROSURGERY

EXCLUSIONS

Services not offered by Monash Health

- Patients with neck/back pain without neurological symptoms or signs are not generally accepted, even in the presence of degenerative changes on imaging, as surgery is not indicated in such cases. Refer to Rheumatology Guidelines.
- Patient who are being treated for the same condition at another Victorian public hospital
- Patients under 18 years of age: Click here for Monash Children's Paediatric Neurosurgery guidelines

CONDITIONS

BRAIN

Brain tumours
Pituitary tumours
Hydrocephalus
Trigeminal neuralgia
Vascular disorders

PERIPHERAL NERVES

Carpal tunnel syndrome
Ulnar nerve compression
Peripheral nerve tumour

NECK

Neck pain secondary to malignant disease or secondary to infection
Neck pain, associated with neurological defect
Neck pain associated with referred pain to upper limb without neurological defect

BACK

Back pain with bilateral neurological signs and sphincter involvement (Cauda Equina Syndrome)
Back pain secondary to neoplastic disease or infection
Back pain with referred leg pain +/- motor deficit
Back pain and sciatica with neurological spinal stenosis with limitation of walking distance

PRIORITY

All referrals received are triaged by **Monash Health clinicians** to determine **urgency of referral.**

EMERGENCY

For emergency cases please do any of the following:
- send the patient to the Emergency department OR
- Phone 000 to arrange immediate transfer to ED

URGENT

The patient has a condition that has the potential to deteriorate quickly with significant consequences for health and quality of life if not managed promptly.

ROUTINE

The patient's condition is unlikely to deteriorate quickly or have significant consequences for the person's health and quality of life if the specialist assessment is delayed beyond one month

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NEUROSURGERY

REFERRAL

How to refer to Monash Health

Secure eReferral by HealthLink is now our preferred method of referral.

Find up-to-date information about how to send a referral to Monash Health on the **eReferrals page on our website**.

CONTACT US

Medical practitioners

To discuss complex & urgent referrals contact on call registrar via the Contact Centre on 9594 6666 (Option 6) or the unit secretary on 9594 6141

General enquiries

Phone: 1300 342 273

BRAIN

BRAIN TUMOURS – **intrinsic** brain tumour, meningioma, skull base tumours etc.

Initial GP Work Up

- Clinical history and exam
- MRI - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.
- CT if MRI cannot be arranged
- Hormone levels including Prolactin if suspected Pituitary Tumour
- We have a team approach to the management of CNS tumours which includes access to:
  - Neuro-oncology
  - Neurology
  - Neuro-psychology
  - Epilepsy clinic
  - Radiotherapy (William Buckland Radiotherapy Centre)
  - Endocrinology
  - Pain management service
  - Neuro-rehabilitation
  - Palliative Care Service

Management Options for GP

- Investigation and diagnosis, evaluation and referral at correct level of urgency
- Anticonvulsants and dexamethasone if indicated

WHEN TO REFER?

Emergency

- Tumours associated with significant mass effect, especially with midline shift.
- Patients with significant neurological signs especially depression of conscious state.

Urgent

- Refer to Neurosurgery Specialist Clinics
- Tumours of moderate dimensions without major neurological disturbance

Routine

Small benign tumours or cysts without major neurological disturbance

BACK

PITUITARY TUMOURS

Initial GP Work Up

- Clinical history and exam
- MRI - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.
- CT if MRI cannot be arranged
- Hormone levels including Prolactin
- We have a team approach with the endocrinology unit, which includes access to:
  - Neurology
  - Opthalmology
  - Radiotherapy (William Buckland Radiotherapy Centre)
  - Other services as above, prn

Management Options for GP

Investigation and diagnosis, evaluation and referral at correct level of urgency

WHEN TO REFER?

Emergency

- Tumours associated with significant intra-cranial mass effect.
- Patients with significant neurological signs especially impairment of vision, or depressed conscious state.
- Patients with pituitary failure, especially hypotension, hyponatraemia.

Urgent

- Refer to Neurosurgery Specialist Clinics
- Tumours of moderate dimensions with mild visual or neurological disturbance

Routine

Small benign tumours or cysts without neurological or visual disturbance

BACK

BRAIN (cont'd)

HYDROCEPHALUS, including patient treated with VP shunt

Initial GP Work Up

- MRI - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.
- CT if MRI not possible

Management Options for GP

Investigation and diagnosis, evaluation and referral at correct level of urgency

WHEN TO REFER?

Emergency

- Acute headache, drowsiness and vomiting.
- Headache, drowsiness and/or vomiting with VP shunt in situ
- Other serious neurological disturbance especially papilloedema or 6th nerve palsy

Urgent

- Significant but less severe features
- Scan with hydrocephalus and periventricular oedema, without severe neurological features

Routine

- Elderly patient with progressive ataxia and possible NPH on scan
- Hydrocephalus on scan without significant neurological sequelae

BACK

TRIGEMINAL NEURALGIA

Initial GP Work Up

- Provide details of severity and nature of pain, treatment effects and other symptoms to assist in triage of appointment
- MRI - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.

Management Options for GP

- Carbemazepine is generally the most effective first line management for TN.
- This needs to be introduced slowly from 100mg BD to avoid excessive sedation.
- Lyrica and gabapentin are reasonable second-line options.

WHEN TO REFER?

Emergency

- Pain is so severe that the patient cannot eat or drink.
- Patient is suicidal because of the severity of pain.

Urgent

Severe pain despite appropriate maximal medical management, and/or severe medication side-effects because of the level of treatment required.

Routine

- Pain is controlled to a troublesome but manageable level with medical management.
- Pain controlled but the patient wants or requires expert assessment.

BACK

BRAIN (cont'd)

VASCULAR DISORDERS – Aneurysms, Arteriovenous malformations (AVMs), other miscellaneous vascular conditions

Initial GP Work Up

- Clinical history and exam
- MRI (send reports, films to come with patient) - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.
- CT if MRI cannot be arranged

Management Options for GP

- Investigation and diagnosis, evaluation and referral at correct level of urgency
- Control hypertension if present, discuss smoking cessation

Monash Health has a specific neurovascular clinic for joint assessment and management by neurosurgery and interventional neuro-radiology (INR)

Monash Health has neurosurgery, INR for coiling and embolization, a Stroke Service and access to stereotactic radio-surgery. Neurology, epilepsy clinics and other resources available also.

Note that stroke, carotid stenosis or other referrals related to cerebral ischaemia should go to the Stroke clinic, not here

WHEN TO REFER?

Emergency

Vascular lesion associated with acute haemorrhage, acute third nerve palsy, or other significant neurological disturbance

Urgent

Incidental vascular lesion larger than 5mm in diameter

Routine

- Aneurysm or Cavernoma smaller than 5mm diameter without haemorrhage or significant neurological disturbance.
- Venous malformations.

BACK

PERIPHERAL NERVES

CARPAL TUNNEL SYNDROME

Initial GP Work Up
- Accurate clinical assessment and description
- Nerve conduction studies

Management Options for GP
- Splint and physiotherapy
- Consider NSAIDs or diuretics, and one local steroid injection

WHEN TO REFER?

Urgent
If muscle wasting or unremitting numbness

Routine
If difficult symptoms, but not the above features

BACK

ULNAR NERVE COMPRESSION

Initial GP Work Up
- Accurate clinical assessment and description
- Nerve conduction studies

Management Options for GP
N/A

WHEN TO REFER?

Urgent
If muscle wasting or unremitting numbness

Routine
Symptomatic without the above features

BACK

PERIPHERAL NERVE TUMOUR

Initial GP Work Up
- GP-initiated MRI is the best test to define the lesion, but it is not Medicare-funded for this indication.
- Ultrasound is generally a good preliminary test if funding is an issue.

Management Options for GP
N/A

WHEN TO REFER?

Urgent
Very rare for these to be urgent. Occasionally patients present late with a large mass and significant neurological deficit.

Routine
Most cases with a mass and mild symptoms fit into this setting.

BACK

NECK

NECK PAIN SECONDARY TO MALIGNANT DISEASE OR INFECTION

Initial GP Work Up

Key points:

- Presence and duration of neurological symptoms and signs including evidence of spasticity or paresis
- Weight loss
- Appetite loss and lethargy
- Fever and sweats
- Treatment to date
- Previous malignant disease
- General medical condition

Investigations:

- MRI - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.
- CT scan if MRI not possible
- FBE, CRP and ESR

Management Options for GP

Do not give “blind” antibiotics as they will confound accurate diagnosis

WHEN TO REFER?

Emergency

- Acute bacterial infection of the spine – suspected or proven.
- Malignant disease of the spine with neurological disturbance

Urgent

- Malignant disease of the spine without neurological disturbance
- Suspected chronic spinal infection or possible acute spinal infection – best seen by Infectious Diseases service first (referral guidelines here)

BACK

NECK PAIN ASSOCIATED WITH NEUROLOGICAL DEFICIT DUE TO CORD COMPRESSION i.e. CERVICAL MYELOPATHY

Initial GP Work Up

Key points:

- Presence and duration of neurological symptoms and signs including evidence of spasticity
- Weight loss
- Appetite loss and lethargy
- Fever and sweats
- Treatment to date
- Previous malignant disease
- General medical condition

Investigations:

- MRI cervical spine showing cord compression, not just canal stenosis - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.
- FBC/CRP and ESR

Management Options for GP

N/A

WHEN TO REFER?

Emergency

Acute quadriplegia or paraplegia

Urgent

Significant and/or progressive neurological disability due to myelopathy

Routine

Cord compression on MRI with pain and/or minor disability

BACK

NECK (cont'd)

NECK PAIN ASSOCIATED WITH REFERRED PAIN TO THE UPPER LIMB WITHOUT MAJOR NEUROLOGICAL DEFICIT

Initial GP Work Up

Key points:

- Presence and duration of neurological symptoms and signs
- Work status
- Weight loss
- Appetite loss and lethargy
- Fever and sweats
- Treatment to date
- Previous malignant disease
- General medical condition

Investigations:

- MRI cervical spine - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.

Management Options for GP

- Activity modification
- Analgesics, including opiates as appropriate
- NSAIDs, even oral steroids
- Lyrica
- Consider physiotherapy
- Education
- Maybe trial of soft collar if severe spasm
- Over 90% of cases of cervical radiculopathy due to acute disc prolapse will resolve without surgery within 6 weeks
- Consider rotator cuff syndrome

WHEN TO REFER?

Emergency

Severe focal weakness not simply due to pain

Urgent

- Severe radicular pain that has lasted for more than 6 weeks.
- AND Significant focal weakness not due to pain alone

Routine

Refer only if symptoms and signs persist despite adequate treatment greater than 6 weeks. As mentioned above, we cannot see patients with neck pain without radiculopathy due to degenerative disease unless they have clearcut instability

BACK

BACK

BACK PAIN WITH BILATERAL NEUROLOGICAL SIGNS INCLUDING SPHINCTER INVOLVEMENT (CAUDA EQUINA SYNDROME)

Initial GP Work Up

- Accurate assessment and communication of neurological signs, sphincter function, duration etc.
- Background, medical history, medications etc
- Imaging not required

Management Options for GP

N/A

WHEN TO REFER?

Emergency

Refer to Emergency Department as soon as possible

BACK

BACK PAIN SECONDARY TO NEOPLASTIC DISEASE OR INFECTION

Initial GP Work Up

Key points:

- Presence and duration of neurological symptoms and signs including evidence of lower limb spasticity
- Weight loss
- Appetite loss and lethargy
- Fever and sweats
- Treatment to date
- Previous malignant disease
- General medical condition

Investigations:

- MRI - a Medicare rebate is available for this test on GP referral to selected services, including Monash health.
- CT scan if MRI not possible
- FBE, CRP and ESR

Management Options for GP

Do not give “blind” antibiotics as they will confound accurate diagnosis

WHEN TO REFER?

Emergency

- Acute bacterial infection of the spine – suspected or proven.
- Malignant disease of the spine with neurological disturbance

Urgent

- Malignant disease of the spine without neurological disturbance
- Suspected chronic spinal infection or possible acute spinal infection – best seen by Infectious Diseases service first (referral guidelines here)

BACK

BACK (cont'd)

BACK PAIN WITH REFERRED LEG PAIN +/- MOTOR DEFICIT

Initial GP Work Up

Key points:

- Presence and duration of neurological symptoms and signs
- Functional impairment
- Work status
- Systemic symptoms
- Treatment to date
- Previous spinal surgery
- Previous malignant disease
- General medical condition and
- medication

Investigations:

- If symptoms persist, CT or MRI imaging. MRI preferable if patient's funds permit – there is NO Medicare rebate for this indication
- FBC/ESR
- Where appropriate, consider investigations for abdominal/pelvic disease, myeloma (Ca, Protein Electrophoresis), hip disease, ankylosing spondylitis

Management Options for GP

- Pain management, NSAIDs, oral steroids, targeted nerve root injection, activity and postural modification, weight loss, physiotherapy referral, other supportive management.
- Refer to John Murtagh's General Practice Textbook.

WHEN TO REFER?

Emergency

Weakness worse than anti-gravity power, not just due to pain, especially in ankle dorsi-flexion

Urgent

Significant focal weakness that corresponds to the MRI findings, and is not simply due to pain itself

Routine

Significant sciatica without focal motor weakness which has not resolved with more than 4 weeks of conservative management

BACK

BACK (cont'd)

BACK PAIN AND/OR SCIATICA WITH LIMITATION OF WALKING DISTANCE (NEUROGENIC CLAUDICATION) with radiological spinal canal stenosis

Initial GP Work Up

Key points:

- Presence and duration of neurological symptoms and signs
- Functional impairment
- Work status
- Systemic symptoms
- Treatment to date
- Previous spinal surgery
- Previous malignant disease
- General medical condition and
- medication

Investigations:

- If symptoms persist, CT or MRI imaging. MRI preferable if patient's funds permit – there is NO Medicare rebate for this indication
- FBC/ESR
- Where appropriate, consider investigations for abdominal/pelvic disease, myeloma (Ca, Protein Electrophoresis), hip disease.

Management Options for GP

- Pain management, NSAIDs, oral steroids, Epidural steroid injection, activity and postural modification, weight loss, physiotherapy referral, other supportive management.
- Refer to John Murtagh's General Practice Textbook.

WHEN TO REFER?

Routine

When the neurogenic claudication comes on with walking <200 metres

BACK