Neurosurgery
Specialist Clinic Referral Guidelines

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The impact of COVID-19 has resulted in high demand for specialist clinic consultations. If there is a concern about the delay of the appointment, or any deterioration in the patient's condition, please send an updated referral with additional information.

If the patient's care needs have become urgent, please call the unit registrar on call on 9076 2000.

Please fax referrals to The Alfred Specialist Clinics on 9076 6938. The Alfred Specialist Clinics Referral Form is available to print and fax. Where appropriate and available, the referral may be directed to an alternative specialist clinic or service. Advice regarding referral for specific conditions to the Alfred Neurosurgery Service can be found here.

The clinical information provided in the referral will determine the triage category. The triage category will affect the timeframe in which the patient is offered an appointment.

Notification will be sent when the referral is received. The referral may be declined if it does not contain essential information required for triage, if the condition is not appropriate for referral to a public hospital, or is a condition not routinely seen at Alfred Health.

The following conditions are not routinely seen in the Neurosurgery clinic at Alfred Health:

- Patients who are being treated for the same condition at another Victorian public hospital
- Children under 18 years of age, unless previously treated at Alfred Health
- Patients experiencing degenerative spine pain only, and no presence of limb pain or neurological deficit unless significant instability on imaging i.e. severe malalignment or dynamic instability [movement on flexion/extension imaging] that potentially carries a risk of spinal cord or cauda equina compression)
- Patients with degenerative spine conditions where appropriate conservative strategies have not been optimised (in the absence of motor deficits)
- Patients with scoliosis (refer to Orthopaedics)
- Patients not wanting to consider surgery

Please include in the referral:

Demographic details: • Date of birth • Patient's contact details including mobile phone number • Referring GP details • If an interpreter is required • Medicare number	**Clinical information:** • Reason for referral • Duration of symptoms • Relevant pathology and imaging reports • Past medical history • Current medications • **Please note:** for all spine referrals, the Spine Assessment form must be included to facilitate appropriate triage.

Please provide MRI results where appropriate to expedite patient management.

Medicare rebates now apply for MRIs requested by a GP for patients over 16 years of age for:

- MRI cervical spine for radiculopathy or trauma;
- MRI head for unexplained seizure(s) or chronic headaches with suspected intracranial pathology.

Where unable to obtain an MRI, CT imaging must be included

Most imaging from external providers is now accessible digitally; however, if this is not the case please ensure your patient brings their films or CDs to their appointment.

Some clinics offer private consultations in public rooms. If the patient chooses to be seen as a private patient, **please provide a referral to a named specialist** to comply with MBS billing requirements. There is no out-of-pocket cost to the patient. Please note the patient may be seen by another consultant in that clinic to expedite their care.

Please note: The times to assessment may vary depending on size and staffing of the hospital department.

If there is a concern about the delay of the appointment, any deterioration in the patient's condition, or if an urgent specialist opinion is required, please contact the Neurosurgery Registrar on call on 9076 2000.

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BRAIN:

TUMOURS

Brain tumours
Meningiomas
Skull base tumours
Pituitary tumours

Immediately contact the Neurosurgery registrar on 9076 2000 to arrange an urgent assessment for:

- Brain tumours
- Meningiomas
- Skull base tumours
- Pituitary tumours

Evaluation

Note family history

- CT scan
- MRI if available (otherwise performed at the Alfred)
  The Alfred Radiology request form
- Hormone levels including Prolactin if suspected Pituitary Tumour

Management

The Alfred has a team approach to the management of CNS cancer which includes access to:

- Neuro-oncology
- Neurology
- Neuro-psychology
- Epilepsy clinic
- Radiotherapy (William Buckland Radiotherapy Centre)
- Pain management service
- Neuro-rehabilitation (Caulfield General Medical Centre)
- Palliative care service

Refer Urgent to Monday PM clinic (Brain Tumour Clinic)

If prolactinoma is confirmed (i.e. Prolactin level >2000iU) refer to Endocrine Unit.

Please note: Medicare now provides a rebate for MRI head for unexplained seizures or chronic headaches with suspected intracranial pathology in patients over 16 years of age when requested by a General Practitioner.

Additional comments:
Please include the essential demographic details and clinical information in the referral.
Where appropriate and available, the referral may be directed to an alternative specialist clinic or service.

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VASCULAR DISORDERS

Aneurysms
Arteriovenous malformations (AVMs)
Other miscellaneous vascular conditions

Immediately contact the Neurosurgery registrar on 9076 2000 to arrange an urgent assessment for:

- Aneurysms
- Arteriovenous malformations (AVMs)
- Other miscellaneous vascular conditions

Evaluation

- CT scan
- MRI if available (otherwise performed at The Alfred)

The Alfred Radiology request form

Management

- The Alfred has facilities for coiling and embolization, stereotactic radio-surgery, neurosurgery, and a Stroke Service.

Please note: Medicare provides a rebate for MRI head for unexplained seizures or chronic headaches with suspected intracranial pathology in patients over 16 years of age when requested by a General Practitioner.

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Trigeminal Neuralgia and other Cranial Nerve Abnormalities

Immediately contact the Neurosurgery registrar on 9076 2000 to arrange an urgent assessment for:

- Trigeminal neuralgia and other cranial nerve abnormalities

Evaluation

- Provide details of severity of pain and other symptoms to assist in triage of appointment
- CT scan
- MRI if available (otherwise performed at the Alfred)

The Alfred Radiology request form

Please note: Medicare now provides a rebate for MRI head for unexplained seizures or chronic headaches with suspected intracranial pathology in patients over 16 years of age when requested by a General Practitioner

Additional comments:
Please include the essential demographic details and clinical information in the referral.
Where appropriate and available, the referral may be directed to an alternative specialist clinic or service.

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Hydrocephalus and other miscellaneous conditions

Immediately contact the Neurosurgery registrar on 9076 2000 to arrange an urgent assessment for:

- Hydrocephalus and other miscellaneous conditions.

Evaluation

- CT scan
- MRI if available (otherwise performed at the Alfred)

The Alfred Radiology request form

Please note: Medicare provides a rebate for MRI head for unexplained seizures or chronic headaches with suspected intracranial pathology in patients over 16 years of age when requested by a General Practitioner.

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NECK:

Neck Pain Secondary to Malignant Disease

Neck Pain Secondary to Infection

Immediately contact the Neurosurgery registrar on 9076 2000 to arrange an urgent assessment for:

- Neck pain secondary to malignant disease
- Neck pain secondary to infection

Evaluation

Investigations (only if indicated):

- Plain x-ray and CT
  The Alfred Radiology request form
- FBC/CRP & ESR
- Consider calcium and phosphate, protein
- Electrophoresis, immunoglobulins, PSA
- Rheumatoid serology in specific cases

Additional comments:
Please include the essential demographic details and clinical information in the referral.
Where appropriate and available, the referral may be directed to an alternative specialist clinic or service.

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Neck Pain Associated with Neurological Deficit

Cervical Myelopathy

Evaluation

Immediately contact the Neurosurgery registrar on 9076 2000 to arrange an urgent assessment for:

- Neck pain associated with neurological deficit
- Cervical myelopathy

Routine history and examination noting the key points:

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

Investigations (only if indicated):

- Plain x-ray, CT & MRI
  The Alfred Radiology request form
- FBC/CRP & ESR
- Consider calcium and phosphate, protein
- Electrophoresis, immunoglobulins, PSA
- Rheumatoid serology in specific cases

Please note: Medicare provides a rebate for MRI cervical spine for cervical radiculopathy or trauma in patients over 16 years of age when requested by a General Practitioner.

Additional comments:
Please include the essential demographic details and clinical information and the completed Spine Assessment with the referral.
Where appropriate and available, the referral may be directed to an alternative specialist clinic or service. Please note some lower acuity patients with neck pain and neurological deficit may be seen in the New Spine Clinic. This clinic is staffed by Advanced Practice Physiotherapists and is co-located within the neurosurgery clinic, and provides assessment and management advice for people with degenerative spine conditions.

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Mechanical Neck Pain without Arm Pain

Patients with no referred arm pain or neurological deficit and un-remarkable imaging are not routinely seen.

Neck Pain associated with referred pain to the Upper Arm, without Neurological Deficit

Evaluation
Key points:

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

Investigations (only if indicated):

- Plain x-ray & CT
  The Alfred Radiology request form
- FBC/CRP & ESR
- Consider calcium and phosphate, protein
- Electrophoresis, immunoglobulins, PSA
- Rheumatoid serology in specific cases

Management

- Activity modification
- Analgesics
- NSAIDs
- Consider physiotherapy
- Education
- Maybe trial of soft collar if severe spasm

Refer if symptoms and signs persist despite adequate management >6/52

Additional comments:
Please include the essential demographic details and clinical information and the completed Spine Assessment with the referral.
Where appropriate and available, the referral may be directed to an alternative specialist clinic or service.
Please note patients will be seen in the New Spine Clinic. This clinic is staffed by Advanced Practice Physiotherapists and is co-located within the neurosurgery clinic, and provides assessment and management advice for people with degenerative spine conditions.

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BACK:

Progressive lower back pain

DH Statewide Referral Criteria apply for this condition.

Patients with no referred lower limb pain or neurological deficit and unremarkable imaging are not routinely seen in the Neurosurgery Clinic, unless significant instability on imaging i.e. severe malalignment or dynamic instability [movement on flexion/extension imaging] that potentially carries a risk of spinal cord or cauda equina compression.)

The Alfred Neurosurgery Department does not include a Chronic Pain service, and as such patients with mechanical lower back pain not requiring surgery should be referred to a more appropriate service, such as Rheumatology or a local physiotherapist.

Please include the essential demographic details and clinical information and the completed Spine Assessment with the referral.

Where appropriate and available, the referral may be directed to an alternative specialist clinic or service. Please note some lower acuity patients may be seen in the New Spine Clinic. This clinic is staffed by Advanced Practice Physiotherapists and is co-located within the neurosurgery clinic, and provides assessment and management advice for people with degenerative spine conditions.

Additional guidance can be found in the Clinical guidelines for the management of acute low back pain, and Key information points for acute low back pain.

Direct to an Emergency Department for:

- Clinical signs of spinal nerve root or spinal cord compression associated with rapidly progressive neurological signs or symptoms or suspected cauda equina syndrome
- Present or suspected ruptured abdominal aortic aneurysm
- Suspected spinal infection
- Recent spinal trauma or fracture associated with neurological deficits.

Immediately contact the neurosurgery registrar to arrange an urgent neurosurgery assessment for:

- New diagnosis of spinal tumour with neurological deficits.

Criteria for referral to public hospital service

- Severe or progressive low back pain with either:
    - persistent or increasing radicular symptoms despite at least three months of treatment that has included physical therapy, medications (analgesia or corticosteroid injections) and psychological treatment (where required)
    - progressive neurological deficit(s) for example, lower limb weakness such as foot drop, abnormal lower limb tone
    - worsening neurogenic claudication (reduced walking distance or time)
    - signs of serious pathology.

Information to be included in the referral

Information that **must** be provided

- Reason for referral and expectation, or outcome, anticipated by the patient, or their carer, and the referring clinician from the referral to the health service
- Pain history: onset, location, nature of pain and duration
- If referral relates to injury, detail date, mechanism and severity
- How symptoms are impacting on daily activities including impact on work, study, school or carer role and level of sleep disturbance
- Comprehensive past medical history including any history of:
    - previous malignancy
    - known abdominal aortic aneurysm
    - injectable drug use
    - previous long-standing steroid use
    - recent serious illness
    - recent significant infection
    - recent significant trauma
- Details of previous medical and non-medical management including the course of treatments and outcome of treatments
- If progressive neurological deficit, detail duration of neurological signs and symptoms, include affected side
- If neurogenic claudication, radicular symptoms (sciatica) or suspected serious pathology, MRI scans or CT imaging (including date and details of the diagnostic imaging practice).

Provide if available

- Details of any previous spinal surgery, including when and where procedures were performed
- Statement about the patient's interest in having surgical treatment if that is a possible intervention
- Any recent relevant imaging or investigation results

- Full blood examination
- Inflammatory marker results (erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP))
- Liver function tests
- Glomerular filtration rate (GRF).

Additional comments

The Summary and referral information lists the information that should be included in a referral request.

There are other statewide referral criteria that could also be considered for Inflammatory arthritis, Ankylosing spondylitis (inflammatory back pain), Persistent or chronic secondary musculoskeletal pain and the Health Independence Program chronic pain service.

Where the referral relates to worsening neurogenic claudication referral to a health service that offers neurosurgery or spinal surgery services should be considered.

After an initial specialist assessment patients may be transferred to another health service to receive ongoing care or treatment.

MRI scans or CT imaging are not required in the absence of serious pathology and x-rays are not required unless a vertebral fracture is suspected.

Where appropriate and available the referral may be directed to an alternative specialist clinic or service.

Referral to a public hospital is not appropriate for

- Low back pain that is not progressive
- Low back pain where at least three months of treatment that has included physical therapy, medications (analgesia or corticosteroid injections) and psychological treatment (where required) has not been trialled
- Referrals based on incidental findings found on imaging without clinical significance.

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Clinical Guidelines for the Management of Acute Low Back Pain

These brief clinical guidelines and their supporting base of research evidence are intended to assist in the management of acute back pain. It presents a synthesis of up to date international evidence and makes recommendations on case management.
Recommendations and evidence relate primarily to the first six weeks of an episode, when management decisions may be required in a changing clinical picture. However, the guidelines may also be useful in the sub-acute period.

We are grateful to Mr Greg Malham, Department of Neurosurgery, The Alfred, The Royal College of General Practitioners', Clinical Advisory Standards Group, U.S. Agency for Health Care Policy & Research, Swedish SBU, and N.Z. National Health Committee in the production of these guidelines.
These guidelines are intended for use as a guide only by the whole range of health professionals who advise people with acute low back pain, particularly simple backache.

DIAGNOSTIC TRIAGE

Diagnostic triage is the differential diagnosis between:

- Simple backache (non-specific low back pain) - *over 95% of cases*
- Nerve root pain - *under 5% of cases*
- Possible serious spinal pathology - *under 2% of cases*

CAUDA EQUINA SYDROME
Immediate referral:

- Bilateral nerve pain (leg pain going below knees)
- Bladder/bowel dysfunction
- Perineal anaesthesia

RED FLAGS FOR POSSIBLE SERIOUS SPINAL PATHOLOGY
Consider prompt referral (less than 6 weeks):

- Unilateral pain (usually going below knee) and weakness or loss of reflex
- Features of systemic illness (history of carcinoma, steroid use, HIV, unexplained weight loss, fever or raised CRP/ESR/WCC without other obvious signs)
- History of progressive weakness or anaesthesia
- Constant unremitting pain

NERVE ROOT PAIN
Specialist referral not generally required within first 6 weeks, provided resolving:

- Unilateral leg pain worse than low back pain
- Radiates to foot or toes
- Numbness and paraesthesia in same direction
- SLR reproduces leg pain

SIMPLE BACKACHE
Specialist referral not required:

- Presentation 20-55 years
- Lumbosacral, buttocks and thighs
- "Mechanical" pain
- Patient well

PRINCIPAL RECOMMENDATIONS	EVIDENCE
ASSESSMENT • Carry out diagnostic triage • X-rays are not routinely indicated in simple backache • Consider psychosocial "yellow flags"	* Diagnostic triage forms basis for referral, investigation and management * Royal College of Radiologists Guidelines *** Psychosocial factors play an important role in low back pain and disability and influence the patients' response to treatment and rehabilitation
SIMPLE BACKACHE	
DRUG THERAPY • Prescribe analgesics at regular intervals, not p.r.n. • Start with paracetamol. If inadequate, substitute NSAIDs (e.g. ibuprofen or diclofenac) and then paracetamol – weak opioid compound (e.g. panadeine or digesic). Finally, consider adding a short course of muscle relaxant (e.g. diazepam or baclofen) • Avoid strong opioids if possible	** Paracetamol effectively reduces low back pain *** NSAIDs effectively reduce pain ** Paracetamol – weak opioid compounds may be effective when NSAIDs or paracetamol alone are inadequate *** Muscle relaxants effectively reduce low back pain
BED REST • Do not recommend or use bed rest as a treatment • Some patients may be confined to bed for a few days as a consequence of their pain but this should not be considered a treatment	*** Bed rest for 2-7 days is worse than placebo or ordinary activity and is not as effective as alternative treatments for relief of pain, rate of recovery, return to daily activities and work
ADVICE ON STAYING ACTIVE • Advise patients to stay as active as possible and to continue normal daily activities • Advise patients to increase their physical activities progressively over a few days or weeks • If a patient is working, then advice to stay at work or return to work as soon as possible is probably beneficial	*** Advice to continue ordinary activity can give equivalent or faster symptomatic recovery from the acute attack and lead to less chronic disability and less time off work
MANIPULATION • Consider manipulative treatment for patients who need additional help with pain relief or who are failing to return to normal activities	*** Manipulation can provide short-term improvement in pain and activity levels and higher patient satisfaction ** The optimum timing for this intervention is unclear ** The risks of manipulation are very low in skilled hands
BACK EXERCISES • Referral for reactivation/rehabilitation should be considered for patients who have not returned to ordinary activities and work by 6 weeks	*** It is doubtful that specific back exercises produce clinically significant improvement in acute low back pain ** There is some evidence that exercise programmes and physical reconditioning can improve pain and functional levels in patients with chronic low back pain. There are theoretical arguments for starting this at around 6 weeks.

The evidence is weighted as follows:

*** Generally consistent finding in a majority of acceptable studies
** Either based on a single acceptable study or a weak or inconsistent finding in some of multiple acceptable studies
* Limited scientific evidence which does not meet all the criteria of "acceptable" studies

Key Patient Information Points for Acute Low Back Pain

SIMPLE BACKACHE – Give positive messages:

- There is nothing to worry about. Backache is very common.
- No sign of any serious damage or disease. Full recovery in days or weeks – but may vary.
- No permanent weakness. Recurrence possible – but does not mean re-injury.
- Activity is helpful; too much rest is not. Hurting does not mean harm.

NERVE ROOT PAIN – Give guarded positive messages:

- No cause for alarm. No sign of disease.
- Conservative treatment should suffice – but may take a month or two.
- Full recovery expected – but recurrence possible.

POSSIBLE SERIOUS SPINAL PATHOLOGY – Avoid negative messages:

- Some tests are needed to make the diagnosis.
- Often these tests are negative.
- The specialist will advise on the best treatment.
- Rest or activity avoidance until appointment to see specialist.

PSYCHOSOCIAL "YELLOW FLAGS"

When conducting assessment, it may be useful to consider psychosocial "yellow flags" (beliefs or behaviours on the part of the patient which may predict poor outcomes).

The following factors are important and consistently predict poor outcomes:

- A belief that back pain is harmful or potentially severely disabling.
- Fear-avoidance behaviour and reduced activity levels.
- Tendency to low mood and withdrawal from social interaction.
- Expectation of passive treatment(s) rather than a belief that active participation will help.

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PERIPHERAL NERVES:

Carpal tunnel and other nerve compression syndromes

DH Statewide Referral Criteria apply for this condition.

Direct to an emergency department for:

- Acute development of peripheral nerve compression symptoms following trauma

Criteria for referral to public hospital service

- Neurogenic injury confirmed by nerve conduction study with either:
  - severe disabling symptoms with weakness and wasting
  - rapid progression
  - unresponsive to at least three months of medical management (that is at least two of hand therapy, orthotics/splinting, ergonomic modifications, local steroid injection, oral steroids, alone or in combination)
- Recurrence of neurogenic injury after surgical decompression.

Information to be included in the referral

Information that must be provided:

- Reason for referral and expectation or outcome, anticipated by the patient, or their carer, and the referring clinician from referral to the health service
- Recent nerve conduction study report
- Description of onset, nature, progression, recurrence and duration of symptoms
- How symptoms are impacting on daily activities including impact on work, study or carer role
- Details of previous medical and non-medical management including the course of treatments and outcome of treatments
- If referral relates to recurrence after surgical decompression, details of previous surgery including when and where procedure(s) were performed
- Statement about the patient's interest in having surgical treatment if that is a possible intervention.

Provide if available:

- Details of any previous related surgery
- If the person identifies as an Aboriginal and/or Torres Strait Islander
- If the person is part of a vulnerable population.

Additional comments

The Summary and referral information lists the information that should be included in a referral request.

As the finding of a nerve conduction study is needed for referral, people experiencing barriers to accessing a nerve conduction study may need to be referred to a public health service for this imaging service.

Patients presenting with mild carpal tunnel syndrome should be offered conservative management, which may include hand therapy, orthotics/splinting, ergonomic modifications, local steroid injection or oral steroids. Combined therapies may be more beneficial than therapies in isolation of one another.

Where appropriate and available the referral may be directed to an alternative specialist clinic or service.

- Vulnerable populations include:
    - people from culturally and linguistically diverse backgrounds
    - older Australians
    - carers of people with chronic conditions
    - people experiencing socio-economic disadvantage
    - people living in remote, or rural and regional locations
    - people with a disability
    - people with mental illness
    - people who are, or have been, incarcerated.

Vulnerable patient groups also include terminally ill patients, patients with experiences of family violence, in out-of-home care, foster care and those in state care.

Referral to a public hospital is not appropriate for

- Diagnosis unconfirmed by nerve conduction study
- Where at least three months of medical management (that is at least two of hand therapy, orthotics/splinting, ergonomic modifications, local steroid injection or oral steroids, alone or in combination), has not been trialled.

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Occipital Neuralgia

Refer to the Neurology unit

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