

THE ALFRED REFERRAL GUIDELINES: NEUROSURGERY

Referral priority guide

Brain

Tumours:

Brain tumours

Meningiomas

Skull base tumours

Pituitary tumours

Vascular disorders:

Aneurysms

Arteriovenous malformations (AVMs)

Other miscellaneous vascular conditions

Trigeminal neuralgia and other cranial nerve abnormalities

Hydrocephalus and other miscellaneous conditions

Neck

Neck pain secondary to malignant disease

Neck pain secondary to infection

Neck pain associated with neurological deficit

Cervical myelopathy

Mechanical neck pain without arm pain

Neck pain associated with referred pain to the upper arm without neurological deficit

Back

Back pain with neurological and bladder involvement (cauda equina syndrome)

Back pain secondary to neoplastic disease or infection

Back pain and sciatica with neurological deficit

Mechanical lower back pain without lower limb pain

Back pain and sciatica without neurology

Spinal stenosis with limitation of walking distance

Peripheral nerves

Carpal tunnel syndrome

Ulnar nerve compression

Occipital neuralgia

Clinical guidelines for the management of acute low back pain

Key patient information points for acute low back pain

THE ALFRED REFERRAL GUIDELINES NEUROSURGERY

Referral priority guide

<p>Immediate</p> <ul style="list-style-type: none"> • Subarachnoid haemorrhage • Benign or malignant tumours associated with midline shift, hydrocephalus or severe deficits • Spinal cord compression with severe or rapidly progressive deficit • Blocked or infected VP shunt. • First epileptic seizure • Mass lesion (tumour or abscess) on CT or suspected, with headache- with increasing drowsiness, increasing weakness or vomiting 	<p>Phone the Neurosurgery Registrar on call on 9076 2000 and/or send to The Alfred Emergency & Trauma Centre.</p>
<p>Urgent</p> <ul style="list-style-type: none"> • Most malignant intracranial tumours (high grade glioma, metastasis) • Degenerative spinal disorders with significant deficit • Severe trigeminal neuralgia 	<p>Fax referral to The Alfred Specialist Consulting Clinics on 9076 6938, and phone Neurosurgery registrar on 9076 2000. Likely to receive an appointment within 1-2 weeks.</p>
<p>Soon</p> <ul style="list-style-type: none"> • Most benign intracranial tumours with minimal or stable deficits • Most peripheral nerve disorders 	<p>Referrals should be faxed to 9076 6938. Likely to receive an appointment within 2-6 weeks.</p>
<p>Intermediate</p> <ul style="list-style-type: none"> • Degenerative spinal disorders with minimal or no deficit • Epilepsy/Movement disorders/Chronic pain • Ulnar neuropathy with muscle wasting 	<p>Referrals should be faxed to 9076 6938. Likely to receive an appointment within 6-12 weeks.</p>
<p>Non-urgent</p> <ul style="list-style-type: none"> • Mechanical lower back pain without lower limb pain 	<p>See section on Back pain. Consider referral to Physiotherapy or Rheumatologist. Referrals should be faxed to 9076 6938. Appointment may be delayed.</p>
<p>Not seen</p>	<p>Children under 16 years of age are not seen at The Alfred.</p>

Please note: The times to assessment may vary depending on size and staffing of the hospital department.
Urgent cases must be discussed with the Neurosurgery registrar on call to obtain appropriate prioritisation and then a referral letter faxed to 9076 6938.

[Return to contents page](#)

THE ALFRED REFERRAL GUIDELINES NEUROSURGERY

Evaluation	Management	Referral Guidelines
Brain		
Tumours		
<ul style="list-style-type: none"> • Brain tumours • Meningiomas • Skull base tumours • Pituitary tumours 		
<ul style="list-style-type: none"> • Note family history • CT scan • MRI if available (otherwise performed at the Alfred) The Alfred Radiology request form <ul style="list-style-type: none"> • Hormone levels including Prolactin if suspected Pituitary Tumour 	<p>The Alfred has a team approach to the management of CNS cancer which includes access to:</p> <ul style="list-style-type: none"> • Neuro-oncology • Neurology • Neuro-psychology • Epilepsy clinic • Radiotherapy (William Buckland Radiotherapy Centre) • Pain management service • Neuro-rehabilitation (Caulfield General Medical Centre) Palliative care service 	<p>Refer Urgently PRIORITY 1 – Monday PM clinic (Brain Tumour Clinic).</p> <p>If prolactinoma is confirmed (ie Prolactin level >2000iU) refer to Endocrine Unit.</p>
Return to contents page		
Vascular disorders		
<ul style="list-style-type: none"> • Aneurysms • Arteriovenous malformations (AVMs) • Other miscellaneous vascular conditions 		
<ul style="list-style-type: none"> • CT scan • MRI if available (otherwise performed at the Alfred) The Alfred Radiology request form	<p>The Alfred has facilities for coiling and embolization, stereotactic radio-surgery, neurosurgery, and a Stroke Service</p>	<p>Refer Urgently PRIORITY 1</p>
Return to contents page		
Trigeminal neuralgia and other cranial nerve abnormalities		
<ul style="list-style-type: none"> • 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		<p>Refer Urgently – Soon PRIORITY 1-2 depending on symptoms</p>
Return to contents page		
Hydrocephalus and other miscellaneous conditions		
<ul style="list-style-type: none"> • CT scan • MRI if available (otherwise performed at the Alfred) The Alfred Radiology request form		<p>Refer Urgently PRIORITY 1</p>
Return to contents page		

THE ALFRED REFERRAL GUIDELINES NEUROSURGERY

Evaluation	Management	Referral Guidelines
Neck		
Neck pain secondary to malignant disease		
Neck pain secondary to infection		
<p>Investigations (only if indicated):</p> <ul style="list-style-type: none"> • Plain x-ray & CT <p>The Alfred Radiology request form</p> <ul style="list-style-type: none"> • FBC/CRP & ESR • Consider calcium and phosphate, protein electrophoresis, immunoglobulins, PSA • Rheumatoid serology in specific cases 		<p>Refer Urgently – PRIORITY 1.</p> <p style="text-align: right;">Return to contents page</p>
Neck pain associated with neurological deficit		
Cervical myelopathy		
<p>Routine history and examination noting the key points:</p> <ul style="list-style-type: none"> • 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 <p>Investigations (only if indicated):</p> <ul style="list-style-type: none"> • Plain x-ray & CT <p>The Alfred Radiology request form</p> <ul style="list-style-type: none"> • FBC/CRP & ESR • Consider calcium and phosphate, protein electrophoresis, immunoglobulins, PSA • Rheumatoid serology in specific cases 		<p>Refer Urgently – PRIORITY 1.</p> <p style="text-align: right;">Return to contents page</p>
Mechanical neck pain without arm pain		
Neck pain associated with referred pain to the upper arm, without neurological deficit		
<p>Key points:</p> <ul style="list-style-type: none"> • 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 <p>Investigations (only if indicated):</p> <ul style="list-style-type: none"> • Plain x-ray & CT <p>The Alfred Radiology request form</p> <ul style="list-style-type: none"> • FBC/CRP & ESR • Consider calcium and phosphate, protein electrophoresis, immunoglobulins, PSA • Rheumatoid serology in specific cases 	<p>Activity modification</p> <p>Analgesics</p> <p>NSAIDs</p> <p>Consider physiotherapy</p> <p>Education</p> <p>Maybe trial of soft collar if severe spasm</p>	<p>Refer if symptoms and signs persist despite adequate care >6/52</p> <p style="text-align: right;">Return to contents page</p>

THE ALFRED REFERRAL GUIDELINES NEUROSURGERY

Evaluation	Management	Referral Guidelines
Back		
Back pain with neurological and bladder involvement (cauda equina syndrome)		
		Refer immediately – phone neurosurgery registrar on 9076 2000 and/or send to The Alfred Emergency & Trauma Centre Return to contents page
Back pain secondary to neoplastic disease or infection		
		Refer Urgently – PRIORITY Return to contents page
Back pain and sciatica with neurological deficit		
<p>Key Points:</p> <ul style="list-style-type: none"> • Duration of symptoms • Presence of neurological symptoms and signs • Functional impairment • Time off work • Weight loss, loss of appetite and lethargy • Fever and sweats • Treatment to date • Previous spinal surgery • Previous malignant disease <p>General medical condition and medication</p> <p>Investigations if symptoms persist:</p> <ul style="list-style-type: none"> • Plain x-rays and CT <p>The Alfred Radiology request form</p> <ul style="list-style-type: none"> • FBC/CRP/ESR • Biochemistry <p>(Consider calcium and phosphate, electrophoresis, immunoglobulins, PSA, rheumatoid serology in specific cases).</p>		Refer Urgently – Soon PRIORITY 1- 2 Return to contents page
Mechanical lower back pain without lower limb pain		
Back pain and sciatica without neurology		
Spinal stenosis with limitation of walking distance		
<p>See Clinical Guidelines for the management of Acute Low Back Pain</p> <p>Key Points:</p> <ul style="list-style-type: none"> • Duration of symptoms • Presence of neurological symptoms and signs • Functional impairment • Time off work • Weight loss, loss of appetite and lethargy • Fever and sweats • Treatment to date • Previous spinal surgery • Previous malignant disease <p>General medical condition and medication</p> <p>Investigations if symptoms persist:</p> <ul style="list-style-type: none"> • Plain x-rays and CT <p>The Alfred Radiology request form</p> <ul style="list-style-type: none"> • FBC/CRP/ESR • Biochemistry <p>(Consider calcium and phosphate, electrophoresis, immunoglobulins, PSA, rheumatoid serology in specific cases).</p>	<p>Activity modification</p> <p>Analgesics and NSAIDs</p> <p>See Clinical Guidelines for the management of Acute Low Back Pain</p>	<p>Refer non-urgently PRIORITY 4 if</p> <ul style="list-style-type: none"> • significant symptoms persisting > 6/52; • mechanical lower back pain without lower limb pain; • likely to require surgery. <p>If mechanical lower back pain without lower limb pain which is unlikely to require surgery, the patient should be seen by Physiotherapist or Rheumatologist.</p> <p>Please note that the Neurosurgery Department does not include a Chronic pain service. Consider referring the patient with mechanical lower back pain not requiring surgery, to a more appropriate service.</p> <p>Return to contents page</p>

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 SYNDROME

Immediate referral:

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

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
<p>ASSESSMENT</p> <p>Carry out diagnostic triage.</p> <p>X-rays are not routinely indicated in simple backache</p> <p>Consider psychosocial "yellow flags"</p>	<p>* Diagnostic triage forms basis for referral, investigation and management.</p> <p>* Royal College of Radiologists Guidelines</p> <p>*** Psychosocial factors play an important role in low back pain and disability and influence the patients' response to treatment and rehabilitation</p>
SIMPLE BACKACHE	
<p>DRUG THERAPY</p> <p>Prescribe analgesics at regular intervals, not p.r.n.</p> <p>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).</p> <p>Avoid strong opioids if possible.</p>	<p>** Paracetamol effectively reduces low back pain.</p> <p>*** NSAIDs effectively reduce pain.</p> <p>** Paracetamol – weak opioid compounds may be effective when NSAIDs or paracetamol alone are inadequate.</p> <p>*** Muscle relaxants effectively reduce low back pain.</p>
<p>BED REST</p> <p>Do not recommend or use bed rest as a treatment.</p> <p>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.</p>	<p>*** 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.</p>
<p>ADVICE ON STAYING ACTIVE</p> <p>Advise patients to stay as active as possible and to continue normal daily activities</p> <p>Advise patients to increase their physical activities progressively over a few days or weeks.</p> <p>If a patient is working, then advice to stay at work or return to work as soon as possible is probably beneficial.</p>	<p>*** 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.</p>
<p>MANIPULATION</p> <p>Consider manipulative treatment for patients who need additional help with pain relief or who are failing to return to normal activities</p>	<p>*** Manipulation can provide short-term improvement in pain and activity levels and higher patient satisfaction</p> <p>** The optimum timing for this intervention is unclear.</p> <p>** The risks of manipulation are very low in skilled hands.</p>
<p>BACK EXERCISES</p> <p>Referral for reactivation/rehabilitation should be considered for patients who have not returned to ordinary activities and work by 6 weeks.</p>	<p>*** It is doubtful that specific back exercises produce clinically significant improvement in acute low back pain.</p> <p>** 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.</p>

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.