NHS Lothian Integrated Back Pain Service

Consultation Document

August 2015
V 1.3
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Foreword

The NHS Lothian integrated back pain service is a new, multi-disciplinary collaboration which aims to provide the highest standards of care to residents across Lothian who suffer from lumbar spine conditions. The service is underpinned by a collaborative, multidisciplinary approach and pathways of care based on the principles of the provision of the right care, from the right person, at the right time in the right place.

This consultation document attempts to best summarize the views and opinions expressed from all professional groups during the consultation exercises. This document together with the quick reference guide and patient guide leaflet are working documents and serve to form the basis for the next round of consultation in the design of the NHS Lothian integrated back pain service.

The service has been designed following consultation with;

- General Practitioner Services
- Neurosurgery Services
- Orthopaedic Services
- Pain Services
- Pharmacy Services
- Physiotherapy Services
- Radiology Services
- Rheumatology Services

Phil Ackerman
APP/ Clinical lead on behalf NHS Lothian integrated low back pain service

The NHS Lothian integrated back pain service - The concept at a glance

The NHS Lothian integrated back pain service offers a single point of access for patients with routine low back pain/ sciatica/ lumbar stenosis who require referral for their problem following failure to improve with initial primary care management.

Once within the service patients will be able to access all the multidisciplinary services that are required for their problem including physiotherapy, investigation, surgical opinion and pain clinic opinion. The service is underpinned by agreed pathways, escalation criteria and multidisciplinary clinics.

Further information relating to the service can be found at;

NHS Lothian integrated back pain service - A guide for patients v1.3
NHS Lothian integrated back pain service - Quick reference guide v1.3
NHS Lothian integrated back pain service- Explanatory pack for the pilot project v1.3
Comments

☐ The next round of consultation based on the principles outlined in this quick reference guide and the full consultation document (August 2015 v1.2) is now open. All comments must be received by **16:30 on Friday 28th August 2015**

☐ Please provide responses using the comments form. Please ensure all relevant fields are completed. All completed comments forms should be forwarded by email by 28 August 2015 to phillip.ackerman@nhslothian.scot.nhs.uk. The results of this next consultation period will be available in September August 2015.

☐ A period piloting the NHS Lothian integrated low back pain service will be undertaken from August 2015. Results of this pilot period involving a limited number of GP practices across NHS Lothian will be available in due course.

☐ The planned date for the launch of the NHS Lothian integrated low back pain service is **Monday 5th October 2015**.

Please note;

NHS Lothian integrated back pain service pathways have been written onto a web based tool- Clinical Knowledge Publisher. Publication is awaiting final sign off. Information is consistent (and expanded upon) from that presented in this document.

Please follow the link to try during the pilot period;

[http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=1487](http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=1487)

Note for use; Clicking on each box with the symbol (I) will open a box the right of the screen which contains further information, links to other components of the pathway (i.e. more detailed pathways for use in physiotherapy/ spinal APP clinics), external links to guidelines and patient information.
Overview

This purpose of this document is to outline the development, function and role of the new NHS Lothian integrated back pain service. This is an exciting multidisciplinary (including GP’s, Physiotherapy, Radiology, Orthopaedics, Neurosurgery, Rheumatology, Pain Services and Community based exercise services), collaboration which aims to provide the highest standards of care to residents across Lothian who suffer from lumbar spine conditions. Key changes to the traditional referral routes for patients with lumbar spine conditions are detailed with the aim of ensuring quality, equitable, timely access for diagnostic and treatment services. The service is underpinned by a collaborative, multidisciplinary approach and pathways of care ensuring reduced practice variation, seamless transition for patients between different levels of care and specialties and a high quality experience for all users.

A new clinical pathway for patients with lumbar spine related problems has been locally agreed amongst all back pain specialists in NHS Lothian, across both primary and secondary care services. The pathway highlights:
- key aspects of care that should be delivered in primary care,
- timescales and considerations for referral through to a new primary care specialist multi-disciplinary back pain team
- timescales and considerations for referrals to secondary care spinal services.
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What’s new? / specific areas of change

- Single point of access for all routine cases of low back pain and/or radiculopathy/ stenosis - SCI gateway referral Physiotherapy
- No requirement for lumbar MRI to be arranged prior to referral for all routine cases of low back pain and/or radiculopathy/ stenosis.
- New primary care based integrated advanced physiotherapy practitioner (APP) clinics, which provide an accessible, diagnostic service (including direct access for MRI scans) without the need for secondary care referral.
- Multidisciplinary (MDT) meetings between Spinal APP clinics and Neurosurgical/ Orthopaedic surgeons to help identify surgical from non-surgical cases and complex case discussion
- Chronic back pain sufferers directed away from acute services
- Re-design of primary care based physiotherapy services
- New pathways between primary care physiotherapy services/ Spinal APP clinics and Pain Services
- New clear escalation policies for back pain patients presenting within physiotherapy services underpinned by a National framework

What’s out?

- Low conversion rates to surgical procedures in specialist spinal clinics
- Isolated physiotherapy input
- Direct referral to Neurosurgery/ Orthopaedics for routine low back pain/ lumbar related leg pain

What’s staying the same?

- Emergency admission for cauda equina lesions/ cord compression/ acute infection
- Urgent admission/ urgent referral/ investigation for red flag symptoms
- Inflammatory spinal conditions - Rheumatology referral
The current position

Patients with low back and/or lumbar related leg pain in NHS Lothian typically are still following variable pathways with inconsistent quality, cost effectiveness and outcomes. For example a patient may be managed in primary care by their GP, be referred directly to secondary care with or without investigation, be referred by GP to physiotherapy, self refer to physiotherapy, present to A&E, be seen in a community based physiotherapy setting or alternatively an acute services physiotherapy setting. They may be managed by a variety of clinicians including orthopaedic consultants, neurosurgical consultants, physiotherapist’s, GP’s, extended scope practitioners, rheumatologists and have variable input from other groups such as pain management specialist teams, psychologists and weight management services. The interface between services is also variable with some direct between service referral, with other patients requiring to re-attend their GP’s when seeking referrals to other services. Spinal surgical conversion rates from first outpatient appointments have also reported to be only 10-20% suggesting that many outpatient appointments in secondary care spinal clinic may not be time well spent. Taken together with long secondary care waits, it is clear that there are significant inconsistencies in the management of patients with lumbar spine conditions across NHS Lothian.

The approach

A collaborative, multidisciplinary approach to the challenges has been adopted ensuring a coordinated, unified, equitable and patient-centered service design and delivery.

Service aims

The NHS Lothian integrated back pain service aims to provide the highest standards of care to residents across Lothian who suffer from lumbar spine conditions. Underpinned by a collaborative, multidisciplinary approach, an equitable, safe, efficient, effective, patient centered service with timely access will ensure a high quality experience for all users. Variation in practice will be reduced, improving patient’s pathway of care by ensuring that right care is provided from the right person, at the right time in the right place.

“The vast majority of patients with spinal problems, in terms of volumes, are at the lowest end of the complexity spectrum, most of whom should be managed in the community without the need to enter secondary care at all. However in practice we know that there are still a great number of these cases referred into an acute care setting which, with access to the appropriate services at the right time, could be more effectively managed in primary care” (Spinal Services Review Group, July 2011, NHS Scotland)
Objectives

- Service delivery consistent with the principles “right care, from the right person, at the right time in the right place” and “no decision about me, without me”.
- Provide a seamless patient experience with full access to all the multidisciplinary team members as required.
- Deliver new primary care based specialist advanced physiotherapy practitioner led spinal clinics which provide access to diagnostics and Consultant surgical and radiological opinion and multidisciplinary management decision making capacity.
- Deliver new multidisciplinary clinics between advanced physiotherapy practitioner spinal clinics and neurosurgical and orthopaedic consultant colleagues.
- Improve patient access to services and ensure that patients are seen and treated closer to home where possible.
- Reduce duplication and variation in practice and provide effective and sustainable pathways of care for patients with lumbar spine conditions.
- Ensure equity and timeliness of access to services.
- Ensure the most effective use of outpatient and spinal specialist resource (neurosurgery and orthopaedics).
- Ensure those patients who require surgical opinion have had the appropriate treatment and investigations prior to referral.
- Clear protocols underpinning the use of investigations, referrals between services, patient escalation processes.
- Ensure national waiting time targets are achieved.
- Provide patients and carers with lumbar spine conditions with easy access to self-management resource and early appropriate advice to ensure they get started on the right pathway for their treatment first time.
- Collaboratively support individuals and their carers to develop their knowledge, skills and confidence to care and manage their conditions effectively.
- Ensure the implementation of the principles AHP Musculoskeletal pathway framework (national minimum standard).
- Provide regular service evaluation of patient experience, patient outcome and dataset of service performance.
- Practice a patient centered, biopsychosocial model of care.
- Provide a variety of management options for patients to choose from for conditions where there is no surgical solution including individualized physiotherapy, group based rehabilitation supported by physiotherapy, community based exercise programs, self-management information and support, referral to more specialist pain services as indicated.
- Provide excellent communication between all multidisciplinary team members.
Service development/background

The launch of the new NHS Lothian integrated back pain service is the culmination of many years of consultation, planning, recruitment and training, driven by a number of national key guiding documents. A proposed launch date has been set of October 1st 2015, with the introduction of preliminary pilot sites over the summer of 2015. The NHS Lothian integrated back pain service builds on innovative work across the UK which has sought to redesign pathways of care for patients suffering from low back pain, nerve root pain and lumbar spinal stenosis.

Key stakeholder consultations have included;

- General Practitioner Services
- Neurosurgery Services
- Orthopaedic Services
- Radiology Services
- Pain Services
- Pharmacy Services
- Physiotherapy Services
- Rheumatology Services

Key actions to date within NHS Lothian:

- Negotiation, funding, recruitment of new primary care based spinal advanced physiotherapy practitioners (APP’s)
- Training and integration of the new spinal advanced physiotherapy practitioners alongside neurosurgical/ orthopaedic Consultant colleagues.
- Establishment of Multidisciplinary (MDT) clinics between APP’s and neurosurgical and orthopaedic Consultants
- Established referral protocol for lumbar spine MRI by the Spinal APP’s
- Appropriate direct department of clinical neurosciences (DCN) referrals triaged and re-routed to spinal APP clinics (integrated and supported by DCN) (results in box 1, page 13-14).
- Multidisciplinary clinical pathways developed.
- Direct referral between physiotherapy service and pain management services established

Key guiding documents

- Spinal services review group- report July 2011, NHS Scotland
- MSK & Orthopaedic Quality Drive 2014: Spread and Sustainability of five high impact workstrands. Workstrand A: AHP MSK Redesign- Getting patients on the right pathway, starting in the community.
A brief summary of key background work underpinning the development of the NHS Lothian integrated low back pain service

In 2011, The Spinal Review Group- a short life working group made up of experienced clinicians and managers produced a comprehensive report reviewing the evidence and surgical thresholds for patients with low back pain. The basis of a national pathway for low back pain and recommendations for service reconfiguration to improve the management offered for patients with low back pain across NHS Scotland were established.


As detailed on the previous page there has been a large amount of work taken place since within NHS Lothian leading towards the crucial implementation of this work.

One of the key developments and achievements has been the recruitment, training and integration of spinal advanced physiotherapy practitioners within the Consultant neurosurgical and orthopaedic teams.

In the development period towards launching the NHS Lothian integrated back pain service, over the past one year the spinal advanced physiotherapy practitioner team have been accepting GP referrals to neurosurgery which have been deemed suitable for their clinics at the point of triage by the consultant neurosurgeon. Box 1 on page 13-14 details the key findings from this workstream.

The spinal advanced physiotherapy practitioner team, have also accepted referrals from physiotherapy services over the past one year under agreed criteria and pathways (appendix 1). This has allowed the internal pathways within physiotherapy to be tried and tested. Box 2, pages 14-15 illustrate the key findings for this workstream to date.

MSK & Orthopaedic quality drive- NHS Scotland

As part of the NHS Scotland 2020 framework for quality, efficiency and value, the MSK & Orthopaedic quality drive programme has identified five high impact workstreams. Each of these workstrands is underpinned with a clinical evidence/best practice base.

AHP (Allied health professionals) MSK redesign- getting patients on the right pathway, starting in the community is identified as one of these five key workstrands.


The development of the NHS Lothian integrated back pain service is one example of work ongoing contributing towards the delivery of this key workstrand.
Results from the Spinal Advanced Physiotherapy Practitioner training period/ Re-routing Neurosurgery Referrals (March 2014- April 2015)

Service design

- Previous work has identified that only 10-20% of patients with lumbar spine problems referred directly to NHS Lothian Secondary Care Spinal Services (Neurosurgery and Orthopaedics) resulted in a surgical intervention outcome. During the period April 2014- March 2015 direct referrals to the Department of Clinical Neurosciences (DCN) were triaged as per normal practice by a Consultant Neurosurgeon. Lumbar spine referrals which met agreed criteria were re-routed to new Primary Care based Spinal Advanced Physiotherapy Practitioner clinics (n=20 per week based on clinic capacity). Outcomes from patients assessed and managed by the spinal advanced physiotherapy practitioners are provided in figure 1 below.

Key points

- 700 direct GP- Neurosurgery referrals were re-routed at point of triage by a Neurosurgical Consultant and deemed to be appropriate to be seen in the primary care based spinal advanced physiotherapy practitioner clinics (March 2014- April 2015) (based on clinic capacity).
- 78.6% (n=550) patient responded to request to attend initial appointment, with 12% DNA

Figure 1. Outcomes from Neurosurgical referral re-routes to spinal advanced physiotherapy practitioner clinics during the period March 2104- April 2015

- Only 15% of referrals required a consultation with a Consultant Neurosurgeon and were referred onwards accordingly
- 85% of cases were managed without the need for a direct surgical consultation
• Importance of the Multidisciplinary team meetings
  o 37% of patients who were appointed required their cases to be discussed directly between the spinal advanced physiotherapy practitioner and the Consultant Neurosurgical team at the MDT meeting. This clearly demonstrates the importance of an integrated team philosophy of the clinics- in the absence of MDT clinics this 37% of cases would have required onward referral to neurosurgery for opinion.

Benefits to the patients
• Reduced wait for appointment
• Appointment location choice in a community clinic setting
• Timely, collaborative multi-disciplinary team communication and decision making capacity about case management

Benefits to Services
• Follows philosophy of right care, from the right person, at the right time in the right place.
• Reduced demand on Neurosurgery out-patient appointments
• More appropriate- DCN clinic capacity improves for more complex cases/ cases which require Neurosurgical intervention.

Implication for services
A significant proportion of referrals being made directly to secondary spinal care services (DCN) with lumbar spine problems can be effectively managed in primary care services. This work supports and underpins at a local level (NHS Lothian) the core/ broad principles of the opportunity for the re-design of spinal services as advocated by the spinal services review group in 2011.

Results from the Spinal Advanced Physiotherapy Practitioner Clinics-
Physiotherapy escalated patients (March 2014-April 2015)

Service design
• During the period March 2014- April 2015 in addition to accepting the re-routed DCN referrals the Spinal Advanced Physiotherapy Practitioners began to accept referrals from physiotherapy for patients with lumbar spine conditions who were failing to respond to a satisfactory level. Referral criteria and processes were developed and implemented. Outcomes from patients assessed and managed by the Spinal Advanced Physiotherapy Practitioners from a physiotherapy referral source are provided in figure 2 below.

Key points
• Currently outcome data is available for 157 cases escalated to the spinal APP clinics (6% DNA)
• Only 15% of referrals required an onward referral to Neurosurgery or Orthopaedics
• 85% of referrals were managed without the requirement for a Consultant surgical opinion
Figure 2. Outcomes from Physiotherapy escalated referral to spinal advanced physiotherapy practitioner clinics during the period March 2104- April 2015

- **Importance of the Multidisciplinary team meetings**
  - 24% of patients who were appointed required their cases to be discussed directly between the spinal advanced physiotherapy practitioner and the Consultant Neurosurgical team at the MDT meeting. This clearly demonstrates the importance of and integrated team philosophy of the clinics- in the absence of MDT clinics this 24% of cases would have required onward referral to neurosurgery for opinion.

**Benefits to the patients**
- Improved flow of care with escalation to more specialist clinic directly if failing to be managed satisfactorily in physiotherapy. Traditional route would have required referral back to GP from physiotherapy, referral from GP to Radiology for MRI, review with results +/- referral for Neurosurgical/ Orthopaedic Consultation.
- Timely, collaborative multi-disciplinary team communication and decision making capacity about case management

**Benefits to Services**
- Follows philosophy of right care, from the right person, at the right time in the right place.
- Reduced demand on Neurosurgical/ Orthopaedic out-patient appointments/ GP appointments

**Implication for services**
This pilot work has demonstrated that patients referred into physiotherapy services can be routed effectively and efficiently into a more specialist, diagnostic spinal clinic led by spinal advanced physiotherapy practitioners who have access to Neurosurgical/ Orthopaedic Consultant opinion through multidisciplinary team meetings.
Scope of service

Service Inclusions

In the absence of significant red flags & failure to settle with first line management;

- Simple Low Back Pain not settling within 4-6 weeks
- Acute on chronic simple low back pain not settling within 4-6 weeks
- Chronic low back pain in the absence of a dominant psychological component and 1) have not previously received physiotherapy for their condition, 2) have experienced a substantial change in their presentation, 3) whom have previously attended physiotherapy but require assistance with achieving a functional goal, 4) have exhausted conservative management and/or wish to be investigated with a view for surgical opinion
- Nerve root leg pain not settling within 4-6 weeks or earlier in those cases with intractable symptoms
- Suspected lumbar spinal stenosis where symptoms are beginning to affect quality of life and the ability of the patient to look after themselves.

Service Exclusions

- Serious Spinal Pathology suspected – Refer accordingly
- Inflammatory spinal pain suspected – Refer Rheumatology
- Age <18 – Refer Direct Orthopaedics
- Age<15- Refer Royal Hospital for Sick Children
- Spinal Structural Deformity - Refer Direct Orthopaedics
- Longstanding chronic low back pain with a psychological component

How will the service look?

Figure 9, p23 provides an overview of the broad principles and clinical pathway of the new NHS Lothian integrated low back pain Service. Further detail of each step in the pathway is contained in the relevant sections of the document.

Maps of service locations | p16-21
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Pathway overview- basic principles | p22
Clinical groups- Definitions, management principles, national guidelines, patient leaflet links, referral guidance, what will be offered upon referral | p23
Service triage- Clinic criteria | p32
Physiotherapy specific pathways- Pathways specific to physiotherapy which provide patient management guidance | p39
Spinal Advanced Physiotherapy specific pathways- Pathways specific to the Spinal Advanced Physiotherapy clinics which provide patient management guidance | p39

Key to the success of a quality, safe and effective multidisciplinary NHS Lothian integrated back pain service is effective triage. This ensures that those with ‘red flags’ are acted upon swiftly, but also ensure that those patients with more routine clinical needs receive care that is timely and appropriate for their condition.
Figures 3, 5, 6, 7 and 8 illustrate the location of the NHS Lothian Integrated Back Pain Services. Figure 3 below provides an overview of the location of NHS Lothian integrated low back pain services across the health board. Further locations details are provided in figures 5-8 by area. Further detail as to how it is proposed that the lumbar spine workload is configured in terms of volume, complexity and the specialties where these patient groups will be managed is provided in the illustration in figure 4. Services are to be delivered consistent with the principles of “right care, from the right person, at the right time, in the right place”.

Figure 3. Overview of the location of NHS Lothian integrated low back pain services
In terms of volume the majority of patients with low back pain problems are at the lowest end of the complexity spectrum. If this patient group requires additional help than can be offered by their GP or through self help, their needs can be met through community based physiotherapy services close to their home/ work (green dots) figures 3, 5, 6, 7, and 8. For patients with more complex presentations for example those who require further investigation or more specialist advice, new primary care based Spinal Advanced Physiotherapy Practitioner Clinics based in each area across NHS Lothian meet this need. These clinics provide access to diagnostics and multidisciplinary management decision making (pink dots), figures 3, 5, 6, 7 and 8. This structure will allow and ensure that patients who need access to specialist secondary care clinics with complex presentation/ surgical opinion within Orthopaedics and Neurosurgery (blue dots) will do so in a timely manner, once more consistent with the principles of “right care, from the right person, at the right time, in the right place”.

Figure 4. Overview of the structure of the clinics within the NHS Lothian integrated low back pain services.
Figure 5. Overview of the location of NHS Lothian integrated low back pain services - Edinburgh area
Figure 6. Overview of the location of NHS Lothian integrated low back pain services - West Lothian area
Figure 7. Overview of the location of NHS Lothian integrated low back pain services - Midlothian area
Figure 8. Overview of the location of NHS Lothian integrated low back pain services- East Lothian area
Referrals from: GP, A&E, NHS 24, AHP, Consultant
Referrer to consider presence of red flags

Presence of Red Flags

NO

All Routine non specific low back pain/ nerve root pain/ lumbar stenosis with failure to improve satisfactorily with first line management
SCI Gateway referral Physiotherapy
Triage by Physiotherapist/ Advanced Physiotherapy Practitioner (Referral criteria)

Suspected Cauda equina/ cord lesion/ spinal infection
Direct patient immediately to A&E

Previous history cancer + one of: severe, intractable progressive pain, new spinal nerve root pain, new difficulty walking, reduced power/ altered sensation limbs, bowel/bladder disturbance
Use MSCC pathway: Tel with Clinical oncology SpR 07798774842/ 0131 537 1000

Inflammatory spinal pain suspected
Refer Rheumatology

Spinal Deformity- new, worsening, symptomatic in children and adults
Refer Orthopaedics

Spinal fragility fracture- <30% compression refer direct Orthopaedics, >30% compression direct patient immediately to A&E

YES

Chronic LBP with significant psychological component & failed previous physiotherapy

Management options:
- Discharge/ self manage
- Direct surgical referral Orthopaedics/ Neurosurgery (from APP spinal clinic)
- Physiotherapy led Pain Management Classes
- Referral to Pain Services
- Referral to Community base leisure services
- Community based pharmacy services

*At all times, diagnosis is kept under review- red flag cases presenting in physiotherapy/ APP clinics managed as per pathway

Referrer Pain Clinic Services

Physiotherapy
Guided by specific physiotherapy management pathways (appendix 1)

Integrated Spinal Advanced Physiotherapy Practitioner Clinics
Guided by specific management pathways (appendix 2)

Multidisciplinary team meetings with Neurosurgeons/ Orthopaedic Consultant Surgeons/ Pain Clinic
Non-specific low back pain

**Definition**
- Low back pain is defined as tension soreness and/or stiffness in the area between the bottom of the rib cage and the buttock creases
- Non-specific mechanical low back pain is defined as low back pain that is not attributable to a recognisable, known, specific pathology, eg: Infection, tumour, osteoporosis, fracture, structural deformity, inflammatory disorder, ankylosing spondylitis, radicular syndrome, cauda equina syndrome
- Mechanical low back pain is not a homogenous condition, and there are likely to be subgroups of patients that respond to targeted therapies
- Recognising mechanical back pain and therefore excluding inflammatory back pain is important

**Incidence & Prevalence**
- Non-specific low back pain accounts for 85-95% of acute low back pain more serious conditions are rare
- 70-84% of adults experience non-specific mechanical low back pain during their lifetime
- Prevalence is between 13% and 44%

**Prognosis**
- 70% of people who take sick leave due to low back pain return to work within 1 week, and 90% within 2 months
- Acute low back pain has a high recurrence rate of between 44-80% within a year
- Acute low back pain is usually self-limiting but 2-7% will develop persistent non-specific back pain
- After 1 year, 33% may still experience moderate pain, and 15% may still have severe pain
- Risk factors for disability or delayed return to work include:
  - Psychological or behavioural factors (predictors)
  - Social and economic factors
  - Occupational factors

**1st line management**
- Check for presence of red flags
- Provide typical advice inc. reassurance, to stay as active as possible, continue with normal daily activities, increase physical activity progressively over a few days to weeks, stay at work if possible or return to work as soon as possible.
- Address any additional yellow flag/psychosocial signs;
  - Attitudes and Beliefs about back pain
  - Behaviour
  - Compensation issues
  - Diagnosis & treatment
  - Emotions
  - Family
  - Work
- The following factors are very important and consistently predict poor outcomes;
  - Belief that back pain is harmful or potentially severely disabling
  - Avoidance behaviour
  - Tendency to low mood & withdrawal from social interaction
  - Expectation that passive treatment rather than active participation will help
- Note; Keep the diagnosis of non-specific low back pain will be under review at all times
<table>
<thead>
<tr>
<th>Relevant guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>• For low back pain between 6 weeks and 1 year in duration consider; NICE guideline CG88: Early management of persistent non-specific low back pain <a href="http://www.nice.org.uk/guidance/cg88">http://www.nice.org.uk/guidance/cg88</a></td>
</tr>
</tbody>
</table>

**Consider SCI Gateway Physiotherapy referral under the following circumstances**

• Symptoms not settling within 4-6 weeks despite optimal initial conservative management.

• Chronic low back pain in the absence of a dominant psychological component whom; 1) have not previously received physiotherapy for their condition, 2) have experienced a substantial change in their presentation, 3) whom have previously attended physiotherapy but require assistance with achieving a functional goal.

• Patients with non-specific low back pain who have failed to improve to a satisfactory level with all appropriate conservative management and whom 1) wish to be investigated with a view to consideration of spinal surgery, 2) require further input/ opinion to assist in the management of their condition. These patients will be triaged to the Spinal Advanced Physiotherapy Practitioner clinic.

• Patients who have clinical features suggestive of an underlying specific cause for their lower back pain i.e. spondylolisthesis, spondyloysis, in which further investigation would guide management (other than serious spinal pathology- follow red flag pathway). These patients will be triaged to the Spinal Advanced Physiotherapy Practitioner clinic.
Consider direct referral Pain Management services under the following circumstances

- Complex psychosocial issues impacting on patients managing pain
- Patients with chronic low back pain who 1) do not meet criteria for SCI Gateway Physiotherapy referral as above, 2) previous failed conservative management 3) require no further investigation

Do not consider a direct referral to secondary care Orthopaedic or Neurosurgical Services for this patient group. Do not consider need for requesting MRI or x-ray for this patient group.

What will be offered on referral?

- All referrals to the NHS Lothian Integrated Low Back Pain Service for this patient group are made via SCI Gateway Physiotherapy
- All referrals are triaged either to routine Physiotherapy or to the Spinal Advanced Physiotherapy Practitioner Clinic (see section “Service Triage” p32)
- A screening tool “STarT MSK” is used to stratify patients by their risk of developing chronicity. The cost effectiveness of targeting treatment by “risk category” has also been demonstrated.

- Patients are managed within physiotherapy services based on their complexity and “risk category”. Examples of physiotherapy management include
  - Advice and information (typically the “low risk” group)
  - Individualised physiotherapy including in addition to advice and education, manual therapy (mobilisation/ manipulation), group based exercise, acupuncture, individualised home exercise (typically the “medium risk” group)
  - Higher level individualised 1:1 physiotherapy with experienced, level 111 pain trained clinicians offering a higher level of combined physical and psychosocial programmes. There is the option of link and liaison with psychology and pain management services as required (typically the “high risk” group)
  - Physiotherapy led Pain management programmes providing a combined physical and psychological programme (typically the “high risk” group)

- Section; “Other service e definitions- Physiotherapy” p34 provides further definition and explanation of the role and services physiotherapy provide.

- If a thorough and intensive programme of conservative treatment is unsuccessful, patients with non-specific low back pain are escalated to the spinal advanced physiotherapy practitioner clinics. The APP’s can discuss the case at the MDT meetings or refer onward for specialist secondary care Orthopaedic/ neurosurgical surgical opinion.

- Patients with non-specific low back pain in whom complex psychosocial issues which are impacting on their management and require a full multi-disciplinary approach are referred to NHS Lothian Pain Management Services
### Radiculopathy/ Stenosis

<table>
<thead>
<tr>
<th>Definition</th>
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<tbody>
<tr>
<td>• Second largest group next to non-specific low back pain</td>
</tr>
<tr>
<td>• Fall mainly into two groups:</td>
</tr>
<tr>
<td>o Acute radicular compression by a prolapsed intervertebral disc</td>
</tr>
<tr>
<td>o Spinal stenosis - congenital or acquired. May be central, lateral or transforaminal</td>
</tr>
<tr>
<td>• Acute radicular pain (sciatica) tends to be in the distribution of a nerve root</td>
</tr>
<tr>
<td>o a shooting, lancinating, or electric shock type of pain radiating to below the knee often in the foot and/or toes and approximating a dermatomal distribution</td>
</tr>
<tr>
<td>o may be associated with muscle weakness, numbness, or tingling and change in reflexes</td>
</tr>
<tr>
<td>o segmental motor deficit</td>
</tr>
<tr>
<td>o severe radicular pain – radicular pain that is disabling, intrusive, and prevents the patient from going to work</td>
</tr>
<tr>
<td>o pain in the femoral distribution (L2,3,4) can go down the inner side of the leg below the knee</td>
</tr>
<tr>
<td>o positive straight leg rise (SLR)</td>
</tr>
<tr>
<td>o positive crossed SLR</td>
</tr>
<tr>
<td>o positive slump test</td>
</tr>
<tr>
<td>• Spinal stenosis tends to possess the following characteristics</td>
</tr>
<tr>
<td>o Referred leg pain, could be unilateral or bilateral</td>
</tr>
<tr>
<td>o Typically produced on walking/ standing</td>
</tr>
<tr>
<td>o Relieved by flexion/ sitting</td>
</tr>
<tr>
<td>o May not have neurological sings</td>
</tr>
<tr>
<td>o Important to exclude vascular claudication, osteoarthritic hip joints, peripheral neuropathy, parkinson’s disease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Incidence, Prevalence &amp; prognosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>• “The estimated annual prevalence of disc-related sciatica in the general population is estimated at 2.2%” (Spinal services review group, 2011, NHS Scotland)</td>
</tr>
<tr>
<td>• “The natural history of acute lumbar disc herniation with radicular (leg) symptoms then, is for a majority of patients to resolve. Eighty percent have had a major improvement by six weeks, 90% by twelve weeks, and 93% by 24 weeks (Weber 1994). In some series up to 30% will continue to have pain for one year or longer” (Spinal services review group, 2011, NHS Scotland).</td>
</tr>
<tr>
<td>• Surgery for prolapsed intervertebral disc is reported as a highly effective procedure, when symptoms are not improving with natural course/ conservative management (Spinal services review group, 2011, NHS Scotland).</td>
</tr>
<tr>
<td>• Spinal stenosis (including lateral recess and foraminal stenosis) is generally a disease of older people. It is the most common and fastest growing reason for spinal surgery in people over the age of 65 years (Ciol 1996). Degenerative change in the joints, discs and ligaments of the spine cause narrowing of the main spinal canal or the nerve root canals and compression of the nerves of the cauda equina. This can be compounded by degenerative slip of the vertebrae (spondylolisthesis). The onset is usually gradual. Pain weakness and numbness in the legs comes on when walking and eventually limits the ability to walk to a few yards. The pain is initially relived by sitting down but can become constant in the later stages. This can have a significant effect on an elderly person’s independence. (Spinal services review group, 2011, NHS Scotland).</td>
</tr>
<tr>
<td>• Spinal stenosis symptoms will often settle spontaneously in the early stages but often recur (Spinal services review group, 2011, NHS Scotland).</td>
</tr>
<tr>
<td>1st line management</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>• Check for presence of red flags</td>
</tr>
<tr>
<td>• Warn all patients with regards to cauda equina syndrome</td>
</tr>
<tr>
<td>• Provide typical advice including reassurance, to stay as active as possible, continue with normal daily activities, increase physical activity progressively over a few days to weeks, stay at work if possible or return to work as soon as possible.</td>
</tr>
<tr>
<td>• Address any additional yellow flag signs;</td>
</tr>
<tr>
<td>▪ Attitudes and Beliefs about back pain</td>
</tr>
<tr>
<td>▪ Behaviour</td>
</tr>
<tr>
<td>▪ Compensation issues</td>
</tr>
<tr>
<td>▪ Diagnosis &amp; treatment</td>
</tr>
<tr>
<td>▪ Emotions</td>
</tr>
<tr>
<td>▪ Family</td>
</tr>
<tr>
<td>▪ Work</td>
</tr>
<tr>
<td>• Optimise medication particularly the use of neuropathic medication (see below)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relevant guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>• NICE Clinical Guideline CG 96 Neuropathic Pain: the pharmacological management of neuropathic pain in adults in non-specialist settings.</td>
</tr>
<tr>
<td><a href="http://www.nice.org.uk/guidance/CG96">http://www.nice.org.uk/guidance/CG96</a></td>
</tr>
<tr>
<td>• SIGN 136. Management of chronic pain. A national clinical guideline</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient information</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.nhsinform.co.uk/msk/">http://www.nhsinform.co.uk/msk/</a></td>
</tr>
<tr>
<td>Patient Leaflets- “Back in Control”</td>
</tr>
<tr>
<td><a href="http://www.nhsinform.co.uk/msk/back/%20in%20control%2015_2.ashx">http://www.nhsinform.co.uk/msk/back/%20in%20control%2015_2.ashx</a></td>
</tr>
<tr>
<td>Patient leaflets “Back Problems”</td>
</tr>
<tr>
<td>Patient self help guides</td>
</tr>
<tr>
<td><a href="http://www.nhsinform.co.uk/health-library/articles/s/sciatica/introduction/">http://www.nhsinform.co.uk/health-library/articles/s/sciatica/introduction/</a></td>
</tr>
<tr>
<td>Other patient resources</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider <strong>SCI Gateway Physiotherapy referral under the following circumstances</strong></td>
</tr>
<tr>
<td>• Symptoms not settling within 4-6 weeks despite optimal initial conservative management including the use of neuropathic medication</td>
</tr>
<tr>
<td>• Consider earlier referral in cases of sciatica with intractable symptoms and/ or developing motor deficit</td>
</tr>
<tr>
<td>• Cases of suspected spinal stenosis in which symptoms are beginning to affect quality of life and the ability of the patient to look after themselves</td>
</tr>
</tbody>
</table>
What will be offered on referral?

- All referrals to the NHS Lothian Integrated Low Back Pain Service for this patient group are made via SCI Gateway Physiotherapy.
- All referrals are triaged either to routine Physiotherapy or to the Spinal Advanced Physiotherapy Practitioner Clinic (see "Service Triage" section p31).

- Acute radicular pain (sciatica); Local agreement has suggested that if there are no signs of improvement by 8 weeks, MRI will be arranged within the spinal advanced physiotherapy practitioner clinics.
  - In cases with positive MRI result demonstrating disc prolapsed which could account for the symptoms and the patient would consider surgery, direct referral from the spinal advanced physiotherapy practitioner clinic to the spinal surgeons (neurosurgery/orthopaedics) is made. Cases will be prioritised based on clinical need.
  - Cases with equivocal, negative or complex presentations will be discussed at the multidisciplinary clinic.
- Other cases of acute radicular pain (sciatica) including those with intractable symptoms and those with symptoms of longer than 2 year duration at time of presentation will be discussed within the multidisciplinary clinic/with the on call Spinal Neurosurgical/Orthopaedic Consultant as required.
- Spinal advanced physiotherapy practitioners are integrated and work in close collaboration with the neurosurgical and orthopaedics spinal consultant team (see appendix 2 for specific pathway/guidance documents).
- Spinal stenosis; Local agreement has suggested that if symptoms are beginning to affect quality of life and the ability of the patient to look after themselves, MRI will be arranged within the Spinal Advanced Physiotherapy Practitioner Clinics.
  - In cases with positive MRI result demonstrating disc prolapsed which could account for the symptoms and the patient would consider surgery direct referral from the Spinal Advanced Physiotherapy Practitioner Clinic to the Spinal Surgeons (Neurosurgery/Orthopaedics) is made. Cases will be prioritised based on clinical need.
  - In cases with an equivocal, negative or complex presentation cases will be discussed at the multidisciplinary clinic.

Coccydynia

<table>
<thead>
<tr>
<th>Description</th>
<th>Prevalence unknown, thought to affect women &gt; men (5:1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Classify as idiopathic or traumatic</td>
</tr>
<tr>
<td></td>
<td>In rare cases neoplasm or infection can be the cause</td>
</tr>
</tbody>
</table>

| 1st line management | Provide typical advice including use of analgesia, non-steroidal anti-inflammatory, coccygeal cushions. |

| Referral | Consider SCI Gateway Physiotherapy referral if the patient wishes to try manual/exercise therapy. Consider direct Orthopaedic Referral in refractory cases for clinical opinion, further investigation, invasive intervention as indicated. |
## Potential Serious Pathology

### Cauda Equina Syndrome

- Current or imminent compression of the lumbosacral nerve roots resulting in neurogenic bladder and bowel dysfunction
- Symptoms typically include:
  - Severe low back pain and bilateral nerve root pain
  - Urinary retention (may include increased frequency/urge)
  - Sensory changes in the saddle or peri-anal area
  - Loss of anal tone
  - Faecal incontinence
  - Multilevel bilateral motor deficits
  - Gait disturbance
  - Sexual dysfunction
  - The presentation is a combination of symptoms
  - The majority of people do not have bilateral leg pain – most do, however, have leg pain, a range of urinary symptoms may be present, ranging from increased frequency through to incontinence

- Direct patient immediately to Accident and Emergency. If required discuss immediately with On-Call Neurosurgical team, Western General Hospital via switchboard 0131 537 1000, or the on-call Orthopaedic Team, The Royal Infirmary of Edinburgh via switchboard 0131 536 1000

### Spinal Metastases

- Defined in NICE Clinical Guideline CG 75 as “spinal cord or cauda equina compression by direct pressure and/or induction of vertebral collapse or instability by metastatic spread or direct extension of malignancy that threatens or causes neurological disability”
- Lothian Metastatic Spinal Cord Compression Pathway
  - A pathway of care for patients with suspected metastatic spinal cord compression with the aim of ensuring optimal co-ordination and early investigation. In addition the protocol strives to reduce the time spent in hospital and to enhance the healthcare experience for patients.
  - Direct patient immediately to Accident and Emergency. If required discuss immediately with On-Call Neurosurgical team, Western General Hospital via switchboard 0131 537 1000, or the on-call Orthopaedic Team, The Royal Infirmary of Edinburgh via switchboard 0131 536 1000

- Discuss immediately with Clinical Oncology SpR on call, tel 07798774842 or 0131 537 1000 any patient with previous history of cancer and one of the following:
  - Severe intractable progressive pain especially thoracic
  - New spinal nerve root pain (burning numb, shooting)
  - Any new difficulty walking
  - Bowel/bowel disturbance
  - Reduced power/altered sensation in limbs


**Spinal Infection**

- National Spinal Taskforce report (2013) details two main microbiological causes in the UK and many less frequent causes;
  - Pyogenic bacterial infection - usually spontaneous but may follow medical intervention at sites other than the spine. Incidence in healthy people remains very low. Incidence overall has increased as often occurs in those with compromised immunity i.e. diabetics, those with tuberculosis, those on steroids, immune-suppression for any cause, chemotherapy, dialysis, intravenous drug user, those with sickle cell disease.
  - Tuberculosis - more common, though not exclusively in some immigrant communities and those living in close proximity to those infected with active pulmonary tuberculosis.

- Consider particularly in those patients with history of fever/ systemically unwell and those with compromised immunity, i.e. diabetics, those with tuberculosis, those on steroids, immune-suppression for any cause, chemotherapy, dialysis, intravenous drug user, those with sickle cell disease.

- **Direct patient Immediately to Accident and Emergency**

- **If required discuss immediately with On-call Neurosurgical Team, Western General Hospital via switchboard 0131 537 1000 or the On-Call Orthopaedic Team, The Royal Infirmary of Edinburgh via switchboard 0131 536 1000**

**Primary spinal tumours**

- Rare, consider in;
  - Age <20 or >55
  - Unexplained weight loss
  - Constant, progressive non-mechanical pain
  - Rapid onset, deteriorating neurology
  - Deteriorating neurology

- **Refer patient urgently to Orthopaedics/ Neurosurgery for Clinical opinion +/- investigation**

**Spinal Deformity**

- All new cases of spinal deformity, worsening deformity or a deformity causing symptoms in both children and adults should be referred routinely directly to Orthopaedics. Orthopaedics will arrange onward referral to specialist spinal deformity services.

**Inflammatory Back Pain**

- younger age
- awakening in the second part of night
- alternating buttock pain
- morning stiffness (typically longer than 30 minutes)
- pain improves with exercise
- At least 4/5 parameters (1) age at onset <40, (2) insidious onset, (3) improvement with exercise, (4) no improvement with rest, (5) pain at night (with improvement upon getting up).
- History inclusive of Arthritis, Enthesitis (heel), Uveitis, Dactylitis, Psoriasis, IBD, Good response to NSAID, Family history of SpA

- **Refer Direct to Rheumatology**
Spinal Fragility fractures

- Insufficiency fractures are estimated to affect one in four adults over the age of 50.
- Typically only 50% of osteoporotic vertebral fractures are symptomatic.
- Only 33% are clinically diagnosed.

- In patients with risk factors for osteoporosis presenting with height loss, back pain or new onset of kyphosis or scoliosis arrange plain radiograph of dorsal and lumbar spine.

- If thoracic or lumbar fracture confirmed and depression >30% refer immediately to A&E/ If required telephone call to A&E Consultant
- If thoracic or lumbar fracture confirmed and depression <30% refer direct to Orthopaedics

### Serious pathology indicators/ Red flags for Low Back Pain (simple list format)

- Sphincter disturbance
- Saddle anaesthesia around anus, perineum or genitals
- Progressive motor weakness in the legs or gait disturbance not due to leg pain
- Difficulty with micturation not associated with medication
- First episode of low back pain <20 or >50 years of age
- Non mechanical pain
- Violent trauma
- Previous history of cancer, steroids, drug abuse, osteoporosis, TB, HIV
- Systemically unwell, weight loss
- Widespread neurology
- Previous history of cancer + new onset of low back pain + no improvement with 4 weeks conservative management
- Night pain (e.g. sleeping in a chair, pacing the floor)

Note: A useful resource for more information about red flags is “Red flags. A guide to identifying serious pathology of the spine” by Sue Greenhalgh and James Self. Published 2006 by Churchil Livingstone.
Service Triage

The following section provides detail of the various clinics and triage criteria.

Primary care based physiotherapy

Patients will be triaged directly to primary care physiotherapy under the following criteria:

- Acute/ acute on chronic simple low back pain not settling within 4-6 weeks
- Chronic low back pain in the absence of a dominant psychological component whom; 1) have not previously received physiotherapy for their condition, 2) have experienced a substantial change in their presentation, 3) whom have previously attended physiotherapy but require assistance with achieving a functional goal.
- Nerve root leg pain not settling within 4-6 weeks
- Symptoms of lumbar spinal stenosis
- Note; The diagnosis of non-specific low back pain will be kept under review at all times

Primary care based Spinal APP clinics

Patient’s will be triaged directly to the spinal APP clinics or escalated through physiotherapy to the spinal APP clinics under the following criteria;

- >8/52 history of radicular leg pain without improvement despite conservative treatment including as example use of neuropathic medication and physiotherapy,
- severe/ worsening radicular leg pain despite optimal medical management including use of neuropathic medication +/- physiotherapy
- neurogenic claudication (spinal stenosis) with significant restriction of walking distance and affect on quality of life
- Patients with non-specific low back pain who have failed to improve to a satisfactory level with all appropriate conservative management and whom 1) wish to be investigated with a view to consideration of spinal surgery, 2) require further input/ opinion to assist in the management of their condition.
- Patients who have clinical features suggestive of an underlying specific cause for their low back pain i.e. spondylolisthesis, spondylolysis, in which further investigation would guide management (other than inflammatory or suggestive of serious pathology i.e. fracture, infection, cauda equina lesion, cord compression)

Spinal APP/ Neurosurgery/ Orthopaedic Multidisciplinary Clinics

Spinal APP’s will discuss patients at the spinal MDT clinic under the following criteria;

- Equivocal findings on the MRI scan
- MRI findings which do not correlate with clinical features
- Incidental MRI findings which require medical opinion
- Complex case presentations
- Presentation of radicular leg pain (nerve root pain) of more than 2 years in duration
Direct Neurosurgical/ Orthopaedic Referral

Spinal APP’s will make a direct referral to Neurosurgery/ Orthopaedics under the following conditions;

- Unequivocal MRI findings, correlating with clinical presentation and patient who wishes to be considered for spinal surgical procedure/ invasive procedure (i.e. spinal injection) – lumbar spinal nerve root compression, spinal stenosis
- Incidental findings of serious pathology identified on investigation- cases will be discussed directly with on-call Neurosurgical Consultant/ Registrar, Orthopaedic Consultant Registrar.
- Clinical findings suggestive of serious pathology at consultation- cases will be discussed directly with on-call Neurosurgical Consultant/ Registrar, Orthopaedic Consultant Registrar/ A&E referral as per pathway

GP’s will be able to make direct referral to Orthopaedics/ Neurosurgery under the following conditions;

- Presentations where serious spinal pathology is suspected
- Complex psychosocial issues impacting on patients managing pain

Referral from Pain Management Services

Direct referral from NHS Lothian pain management services to primary care based physiotherapy Services (as part of the integrated low back pain service) will be made under the following conditions;

- Persistent pain with a greater musculoskeletal bias than psychological bias
- Patient requires an activation programme
- Well controlled and currently managed pre-existing mental health issues
- Willingness to attend physiotherapy and exercise

The following are specific exclusion criteria from referral

- Uncontrolled inflammatory spondyloarthropathies, arthritis
- Pain from non-musculoskeletal origins i.e. visceral pain, gynaecological pain
- Passive treatments i.e. acupuncture.

Referral to Pain Management Services

Spinal APP’s/ Experienced Primary Care Physiotherapists (level 111 pain trainers) will refer directly to Pain management services under the following conditions;

- Primary treatment failure
- Significant barriers to reactivation
What will success look like?

- **Patient advice and information:** Patients will have access to reliable, trustworthy advice and information about low back pain from NHS inform: [www.nhsinform.co.uk/msk](http://www.nhsinform.co.uk/msk)
- **Patient access:** All routine cases of non-specific low back pain, nerve root pain and lumbar stenosis which require referral for further help will do so through a single point of access - SCI gateway referral physiotherapy
- **Sustainable clinical pathways:** All professions utilize the agreed NHS Lothian wide low back pain pathways.
- **Service utilization:** Each individual service is used in the most effective way. In particular the most effective use of consultant spinal specialist (neurosurgery and orthopaedics) is made identified in part through improved surgical conversion rates.
- **Investigations:** Standardized MRI request protocols for spinal APP clinics to ensure equitable use of radiology services for patients with routine low back pain/ lumbar related leg pain. Opportunity for results to be reviewed within MDT context with Consultant neurosurgical/ orthopaedic/ radiology colleagues.
- **Performance management:** continuous data monitoring as per overleaf.

Performance management

The NHS Lothian integrated back pain Service will be underpinned by strong performance management.

Continuous data monitoring will include;
- Attendance rates
- Diagnostic utilization i.e. numbers of MRI
- Clinic outcomes
- Multidisciplinary Team Meeting utilization
- Surgical intervention rates within secondary care
- Capacity and demand monitoring
- National waiting times
- Adverse events

Patient related Outcome measures (PROMs) and Patient Related Experience Measures (PREMs) will also be used to evaluate the service effectiveness.

Audit

The agreed pathways of care will form the standard against which practice will be audited.

The audit cycle process will be completed with recommendations for change made where necessary.
Other service definitions

Physiotherapy

“Physiotherapy helps restore movement and function when someone is affected by injury, illness or disability”.

“Physiotherapists help people affected by injury, illness or disability through movement and exercise, manual therapy, education and advice”.

“They maintain health for people of all ages, helping patients to manage pain and prevent disease”.

“The profession helps to encourage development and facilitate recovery, enabling people to stay in work while helping them to remain independent for as long as possible”.

What physiotherapists do

“Physiotherapy is a science-based profession and takes a ‘whole person’ approach to health and wellbeing, which includes the patient’s general lifestyle”.

“At the core is the patient’s involvement in their own care, through education, awareness, empowerment and participation in their treatment”.

The Chartered Society of Physiotherapy has produced Physiotherapy Works briefings which demonstrate the effectiveness of physiotherapy in treating a wide range of conditions.

http://www.csp.org.uk/professional-union/practice/your-business/evidence-base/physiotherapy-works

Examples of services provided in physiotherapy for patients with low back pain across NHS Lothian

- 1:1 individual consultation
- Group based exercise classes
- “Back to fitness” class
- Hydrotherapy
- Physiotherapy led Pain Management Programme
- Referral to community based exercise schemes (Xcite/ Edinburgh Leisure/ PACE as examples)
- Referral to weight management services
- Triage to appropriate component(s) of the NHS Lothian Integrated Low Back Pain Service –
  - referral to spinal APP clinics
  - Pain Management Services

Spinal Advanced Physiotherapy Practitioner

Physiotherapists who are highly specialist and have extended their practice beyond the scope of traditional physiotherapy. This includes the ability to arrange and interpret investigations such as MRI and xray. They are able to make onward referral to other members of the multidisciplinary NHS Lothian integrated back pain service i.e. surgical opinion, therapies, diagnostics, pain management. They work in close collaboration with neurosurgical and orthopaedic consultant colleagues and other team members.
"Physiotherapist’s CARE"

It is well accepted that patients consistently rate empathy and the human aspects of care as top priorities (Mercer & Reynolds 2002). During 2014/15 Musculoskeletal Physiotherapists across NHS Lothian evaluated this aspect of patient experience using The Consultation and Relational Empathy (CARE) Measure - a validated, person-centered process measuring empathy in the context of a therapeutic relationship.

During a 2 month period in 2015 a total of 1890 patients completed the CARE questionnaire of their experience in physiotherapy across NHS Lothian adult musculoskeletal services. A total of 88 physiotherapists were evaluated such that each physiotherapist had between 30-50 questionnaires completed of their care.

The CARE measure is composed of 10 questions each scored on a 5 point likert scale from 1= Poor to 5= excellent, thereby giving a total possible score of 50. The figure below illustrates the mean score for each question across the dataset. Mean scores for each question ranged from 4.7419- 4.8115. These are excellent results demonstrating that patients rate their experience of the therapeutic relationship in physiotherapy as consistently near excellent.
An example of the use of a Patient Reported Outcome Measure (PROM) within NHS Lothian Adult Musculoskeletal Physiotherapy Services

Recently, physiotherapists at the Western General Hospital, Edinburgh have been piloting use\(^1\) of the EQ-5D-5L\(^2\) as a routine outcome measure for outpatients presenting with musculoskeletal problems. Between March 2013 and April 2015 EQ-5D-5L scores were obtained routinely at initial assessment and discharge appointments from over 2,000 MSK outpatients. A median change over treatment of 0.16 on the EQ-5D-5L Index Value was both statistically and clinically significant (see figure below). This represents a 16% average improvement in patients’ health-related quality of life over a median of 4 physiotherapy contacts spanning a median of 58 days. Significant improvement was also demonstrated on all 5 of the measure’s individual questions i.e. mobility, self care, usual activities, pain/discomfort, anxiety/depression. Further, when surveyed during the first year of the pilot, the participating staff overwhelmingly regarded EQ-5D-5L as easy to use and score. This pilot demonstrates the positive outcomes for patients attending this outpatient physiotherapy service. It also provides evidence to support future use of the EQ-5D-5L as a routine generic PROM in this and similar services to complement condition-specific outcome measures used.

![Histogram showing median change over treatment of 0.16 on the EQ-5D-5L Index Value](image)

\(^1\) Under licence from Chartered Society of Physiotherapy
\(^2\) [www.euroqol.org](http://www.euroqol.org) EQ-5D-5L is one of the best developed generic patient-reported outcome measures (PROM) and is recommended by NICE for measuring health-related quality of life in adults. The Chartered Society of Physiotherapy (CSP) recommends it as the generic PROM of choice for adult MSK out-patient use. EQ-5D-5L is capable of contributing to evaluation of both the effectiveness and cost-effectiveness of a broad range of healthcare services. NB: It is not suitable as a measure of change at the individual patient level, but rather, when many measurements are aggregated e.g. as a measure of change at service level.
Red Flags

Signs and symptoms which are found in the patient history and clinical examination that may tie a disorder to a serious pathology. In general red flags may warrant further diagnostic workup and potentially immediate onward referral to a spinal specialist service. Their use is recommended in numerous national and international guidelines. Incidence of serious pathology in patients with back pain in primary care is around 1%.

Yellow Flags

Involves the consideration of factors which are predictors of risk of a patient developing chronicity. They include factors such as work, family, social circumstances, mental health, coping mechanisms, beliefs and attitudes. Can be formally assessed with tools such as STarT back, Orebro questionnaires.

STarT tool

A “simple prognostic questionaire that helps clinicians identify modifiable risk factors (biomedical, psychological and social) for back pain disability. The resulting score stratifies patients into low, medium and high risk categories thereby allowing the implementation of targeted appropriate treatment.

Lothian Metastatic Spinal Cord Compression Pathway

A pathway of care for patients with suspected metastatic spinal cord compression with the aim of ensuring optimal co-ordination and early investigation. In addition the protocol strives to reduce the time spent in hospital and to enhance the healthcare experience for patients.

http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/OOQS-TheOncologyOnlineQualitySystem/Pages/MalignantSpinalCordCompression.aspx

Patient leaflets

Patient leaflets
Physiotherapy specific Low Back Pain Pathways

As part of the NHS Lothian Integrated low back pain service, physiotherapy will be provided in primary care settings in clinic locations across the health board. These are depicted in figures 3-8, p17-22.

The physiotherapeutic management of patients with low back pain and lumbar related leg pain conditions will be guided by specific clinical pathways of care which are designed to fit seamlessly with the overriding principles of the NHS Lothian integrated back pain Service. These pathways which are for use by Physiotherapist’s across NHS Lothian and are provided in appendix 1, p41.

These pathways also serve to provide detail as to the indications and timeliness of considerations of referral from physiotherapy to other services with the multidisciplinary NHS Lothian integrated back pain service. Examples include the action necessary for cases of red flags should they present in a physiotherapy clinic, onward referral to the Advanced physiotherapy practitioner spinal clinics, onward referral to pain management services.

These profession specific pathways are included in this document for completeness. It is acknowledged that the specific detail of these pathways need not be relevant to all.

Spinal Advanced Physiotherapy Practitioner specific clinical Pathways

As part of the NHS Lothian Integrated back pain service, the advanced physiotherapy practitioner spinal clinics are delivered in primary care settings across the health board. These are depicted in figures 3-8, p17-22.

Patients seen by the spinal advanced physiotherapy practitioners will have their care guided by collaboratively developed clinical pathways/ framework which are provided in appendix 2, p49.

Note: The specific detailed pathways relating both to the physiotherapy clinics and spinal advanced physiotherapy practitioner clinics contain are designed to be consistent with the recommendations as established in the document “Allied Health Professional (AHP) Musculoskeletal Pathway Framework (National Minimum Standard) 2013.”
Appendix 1

Physiotherapy clinics

Underpinning specific Low Back Pain Framework/ Clinical Pathways
Patient Completes STarT Back form

Assess patient and screen for Red Flags. If present refer to Appendix 1

Establish if Neurogenic. If so refer to Appendix 2

Children under 9 should see a Consultant. Edinburgh Community children aged 14 or under refer to Sick Children’s Hospital Physiotherapy. Under 18’s should be assessed within secondary care spinal services initially

<table>
<thead>
<tr>
<th>Low Risk</th>
<th>Medium Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 or less positive responses</td>
<td>More than 3 positive responses but less than 4 positive psychological responses i.e. Questions 5-9. (Question 9 +ve if “very much” or “Extremely”)</td>
<td>4 or 5 positive psychological responses i.e. Questions 5-9 (Question 9 +ve if “very much” or “Extremely”)</td>
</tr>
</tbody>
</table>

One off session - Advice and reassurance - Refer to Appendix 3

Physical barriers to recovery
Conservative course of treatment
Refer to Appendix 4

Physical and Psychological Barriers to recovery - both need addressing
Refer to Appendix 5 & 6
Appendix 1

**SUSPECTED SERIOUS PATHOLOGY PATHWAY**

- **Suspected Cauda Equina Lesion**
  - Refer to A+E with discussion/ phone call to A+E Consultant / send letter with patient

- **Previous history of cancer + one of:**
  - Severe, intractable, progressive pain;
  - New spinal nerve root pain;
  - New difficulty walking;
  - Reduced power/ altered sensation in limbs;
  - Bowel/ bladder disturbance
  - Use MSCC pathway- Tel with clinical oncology SpR 07798774842/ 0131 537 1000

- **Suspected Infection**
  - Refer to A+E with discussion/ phone call to A+E Consultant / send letter with patient

- **Suspected fracture**
  - Refer Orthopaedics- via GP

- **Structural deformity- new, worsening, symptomatic**
  - Refer to GP to consider Rheumatology referral- Consider use of clinical email box

- **Suspected inflammatory condition**
  - Refer to GP urgently with a view to onward referral for Orthopaedic referral- Use clinical email box

- **Presence of other significant red flags**
Appendix 2

NEUROGENIC PATHWAY

Confirmed with Leg Pain, + NTPT, +/- Nerve Palpation, +/- Positive Hard Neurological Tests:
Altered Reflexes/ Altered Sensation/ Muscle Weakness (consistent with single level nerve root involvement)

PHYSIOTHERAPY ASSESSMENT

STABLE HARD NEUROLOGICAL SIGNS with
Mild or Moderate pain or Severe pain showing initial signs of improvements. Or no
Neurological deficit but presentation consistent with radicular pain.

PHYSIOTHERAPY MANAGEMENT STRATEGIES
Medication/ Pacing & Spacing/ Education/ Positions of Comfort/ Pain
relieving exercises. Can be done 1-1 Review or Telephone Follow Up as
required
Monitor Hard Neuro Regularly.

IMPROVING:
Continue Management

D/C with self management.
May take 9-18 months to resolve

NO IMPROVEMENT within 8/52 from onset despite
appropriate management:
Discuss with Senior

Refer to APP clinic

Refer to APP clinic while
Continuing with Physiotherapy Management

NEW OR PROGRESSIVELY
WORSENING HARD NEURO/
OR SEVERE PAIN/
DETERIORATING FUNCTION

IF SEVERE PAIN WITH NO IMPROVEMENT
OR Significant or worsening NEUROLOGICAL CHANGES (i.e. foot drop):

Refer to APP clinic
URGENT

IMPROVING:
Refer to APP clinic while
Continuing with Physiotherapy Management

NO IMPROVEMENT within 8/52 from onset despite
appropriate management:
Discuss with Senior

Refer to APP clinic

D/C with self management.
May take 9-18 months to resolve

IMPROVING:
Refer to APP clinic while
Continuing with Physiotherapy Management

NO IMPROVEMENT within 8/52 from onset despite
appropriate management:
Discuss with Senior

Refer to APP clinic

D/C with self management.
May take 9-18 months to resolve

IMPROVING:
Refer to APP clinic while
Continuing with Physiotherapy Management

NO IMPROVEMENT within 8/52 from onset despite
appropriate management:
Discuss with Senior

Refer to APP clinic

D/C with self management.
May take 9-18 months to resolve

IMPROVING:
Appendix 3

LOW RISK OF CHRONICITY
NON-SPECIFIC MECHANICAL LOW BACK PAIN

Specific conditions may need onward referral eg Spondylolisthesis, Stenosis, Osteoporotic #, Suspected #’s, Scoliosis, Ankylosing Spondylitis, Suspected Inflammatory Pathology, otherwise:

Self management. Give advice and reassurance as per The Back Book/Lothian Low Back Pain Advice Leaflet

- Stay active
- Get on with life despite the pain
- The back is strong
- It will get better
- Use something to control the pain -Medication (take as a course)
  - ice/ heat
  - Relaxation
  - Gentle rubbing (massage)

- Relieve anxiety about the problem
- Deal with stress where possible
- Home Exercise Programme
- Establish aggravating activities and give advice to minimise the symptoms
- Check work/ sitting postures and advise where necessary
- Refer to local classes/local Leisure facilities
- Only give FU appointment if need to teach/check changes in posture/provocative movement patterns

Give an SOS date for 6 weeks. It could take this long to improve.

No contact- DC

Contact- Ask patient to complete another STarT Back form. If risk of chronicity has changed refer to the relevant appendix. If still low risk re-visit the advice given on first attendance and check understanding/ beliefs and whether the patient is heeding the advice. Manage as necessary.
MEDIUM RISK OF CHRONICITY
NON-SPECIFIC MECHANICAL LOW BACK PAIN

Peripherally driven +/- Yellow Flags -
Specific conditions may need further review eg: Spondylolisthesis, Osteoporotic #’s or Suspected #’s, Scoliosis, Ankylosing Spondylitis and Suspected Inflammatory Pathology

PHYSIOTHERAPY ASSESSMENT
Consistent Pain Behaviours with Specific Aggs & Eases
–ve hard Neuro Examination

Possible Management Strategies:
- Self Management
- Education
- Deal with Psychosocial issues
- Home Exercise Programme
- Individual Treatment
- Address movement patterns & postures
- 1:1 Class
- Pain Management Class
- Back Fitness Class
- Local fitness class
- Referral to local Leisure facilities

IMPROVING
Continue management strategies
Advise re Self Management
SOS/ Discharge

Continue Physiotherapy management
Escalate to Specialist Senior physiotherapist
(further physiotherapeutic opinion on management of patient)

NO IMPROVEMENT
Discuss with senior

Escalate to APP
(see escalation guidelines)
Appendix 5

HIGH RISK OF CHRONICITY WITH CENTRALLY DRIVEN PAIN AND PSYCHOSOCIAL ISSUES

Make senior physiotherapist aware of the patient. Hand over to senior or clinical specialist if necessary.

Centrally driven pain mechanisms, often with poor response to analgesia. Non – dermatomal referral with poor association of objective and subjective findings. Negative scans & x-rays common.

Yellow/blue/black flags, fear avoidance, anxiety, catastrophising depression.

High risk of co-morbidity eg fibromyalgia, Irritable Bowel Syndrome

PREVIOUS ATTENDANCE AT PAIN MANAGEMENT CLINIC?

YES

Revision of coping strategies and coping mechanisms

Discharge to Continue Self Management
- Pain Association Scotland (http://www.painassociation.com)
- Local fitness classes
- Local Leisure facilities

IMPROVING
Continue Management Strategies

NOT IMPROVING > 3 treatments
- Establish if more Psychological drivers (see Appendix 6)
- Refer Level 3 Pain Management trained physiotherapist

Pain Management Training with local physiotherapist and/or Local Pain Management Classes

- (Education, pacing and spacing, relaxation, exercises/ baselines, self management), Pain Association Scotland (http://www.painassociation.com)
- Local classes e.g. Relaxation, Back Fitness, General Fitness as appropriate
Appendix 6

HIGH RISK OF CHRONICITY WITH PSYCHOLOGICAL ISSUES
Make senior physiotherapist aware of the patient. Hand over to senior or clinical specialist if necessary.

Presence of Psychiatric Illness/ Substance Abuse/Psychological issues (key drivers) Orange flags

** Suspicions may be raised at any time during the patient’s assessment/treatment when aspects of the patients’ lifestyle/behaviour/coping mechanisms may give cause for concern. Complete DRAM Questionnaire/ or equivalent.

Diagnosis OR Suspicion of Psychological/ Psychiatric Condition

- **IMPROVING**
  - CONTINUE TREATMENT on appropriate pathway – Monitor impact of Psychological Influences on Outcomes
  - Discharge/ Self Management as per appropriate Pathway (Appendices 2-5)
  - Possible Referral to other relevant services i.e. Local Mental Health Services/classes, Voluntary services, OT
  - May Liaise with GP/ CPN/Royal Edinburgh if appropriate

- **NOT IMPROVING**
  - Liaise with GP
  - D/C to care of GP/ Consultant - with view to onward referral to Psychiatry/ Psychology/Local Mental Health Services etc
Appendix 2

Spinal Advanced Physiotherapy
Practitioner Clinics-

Underpinning Specific Low Back Pain Framework/ Clinical Pathways
APP Pathway for Neurogenic Leg Pain with no red flags

- Presenting symptoms can include: Back pain, Leg pain +/- neurological deficit (in keeping with mono-radiculopathy) and reduced straight leg raise.

- Conservative management for 8 weeks - see Physiotherapy Pathway. If no previous conservative management, consider referring for this first.

- If NO IMPROVEMENT in leg pain by 8 weeks:
  - assessment by APP
  - refer for MRI
  - continue with conservative management
  - Patients with chronic symptoms unchanged for 2 years or more should be investigated and discussed with Neurosurgery/Orthopaedics on case by case basis (no direct referral).

- Further action guided by MRI findings:

  **Ongoing Severe Pain + Severe Compression**
  Identified on MRI which could account for patients symptoms

  Patient would consider surgery

  Refer to Neurosurgery or Spinal Orthopaedics

  Patient would not currently consider surgery

  Continue with Conservative management at present
  *APP review at request of treating Physio

  **Ongoing Pain + Moderate/Mild Compression**
  Identified on MRI which could account for patients symptoms

  Patient currently requiring escalated management

  Discuss with DCN

  Patient able to continue with conservative management

  Continue with Conservative management at present
  *APP review at request of treating Physio

  **Ongoing Pain + No Compressive Lesion**
  Identified on MRI which could account for patients symptoms

  Use clinical judgement based on overall case presentation to guide further management. If further investigations required re-route via GP

  **Serious Pathology**
  Identified on MRI

  Action as per MRI SOP
APP Pathway for Lumbar Spine Stenosis with no red flags

- Presenting Symptoms can include: back pain, unilateral or bilateral neurogenic claudication (leg pain, fatigue, heaviness, neurological deficit and nocturnal cramps)
- Conservative management trialled in first instance - see Physiotherapy Pathway.
- If ongoing symptoms are affecting their quality of life and ability to look after themselves:
  - assessment by APP (consider vascular risk factors and peripheral vascular exam to exclude vascular source of symptoms)
  - refer for MRI
  - continue with conservative management principles (advice on weight loss if overweight, flexion exercises, pacing advice, liaise with GP to ensure pain medication is optimised)
- Further action guided by MRI findings:

**Severe Stenosis**
Identified on MRI which could account for patients symptoms

- Patient would consider surgery
  - Refer to Neurosurgery or Spinal Orthopaedics
  - Patient would not currently consider surgery
  - Continue with Conservative management at present
    *APP review at request of treating Physio

**Moderate/Mild Stenosis**
Identified on MRI which could account for patients symptoms

- Patient currently requiring escalated management
  - Discuss with Neurosurgery / Spinal Orthopaedics
  - Patient able to continue with conservative management
  - Continue with Conservative management at present
    *APP review at request of treating Physio

**No Spinal Stenosis**
Identified on MRI which could account for patients symptoms

- Use clinical management based on overall case presentation to guide further management. If further investigations required re-route via GP

**Serious Pathology**
Identified on MRI

- Action as per MRI SOP
APP Pathway for Non-specific Low Back Pain

- All patients with non-specific low back pain should have conservative management in the first instance to address relevant issues. Conservative management may include: home exercise programme, exercise classes, exercise referral, manual therapy, advice on remaining active, promoting self-management and normal activity, liaise with GP to ensure optimal pain control via medication

- Conservative management to address relevant issues (may include home exercise programme, exercise classes, exercise referral, manual therapy, advice on remaining active, promoting self-management and normal activity, liaise with GP to ensure optimal pain control via medication

- Chronic pain management input (physiotherapy or AHH) if evidence of significant psychological distress and/or high disability

- If ongoing significant symptoms despite above input and patient would consider surgical intervention
  - **APP assessment**
    - to exclude specific spinal condition / suspected serious pathology
    - determine if management to date has been appropriate

  - refer for Orthopaedic assessment (discuss need for MRI prior to referral with Consultant)

Do not offer: (taken from NICE guidelines)
Laser therapy
Interferential treatment
Therapeutic ultrasound
TENS
Lumbar supports
Traction
Spinal Injections
Radiofrequency facet joint denervation
**APP Pathway for Suspected Serious Pathology**

*APP to contact On-call Neurosurgical Consultant if requiring advice/action that cannot wait till next MDT (as advised by Mr Fouyas)*

- **Suspected Cauda Equina Lesion**
  - Refer to A+E with discussion/ phone call to A+E Consultant / send letter with patient

- **Previous history of cancer + one of:**
  - Severe, intractable, progressive pain;
  - New spinal nerve root pain;
  - New difficulty walking;
  - Reduced power/ altered sensation in limbs;
  - Bowel/ bladder disturbance
  - Use MSCC pathway-
    - Tel with clinical oncology SpR 07798774842/ 0131 537 1000

- **Suspected Infection**
  - Refer A+E with discussion/ phone call to A+E Consultant / send letter with patient

- **Suspected fracture**

- **Structural deformity- new, worsening, symptomatic**
  - Refer Orthopaedics- via GP

- **Suspected Inflammatory Condition**
  - Refer to GP to consider Rheumatology referral-
    - Consider use of clinical email box

- **Presence of other significant red flags**
  - Discuss case with on-call Neurosurgical consultant
Appendix 3

MRI request protocol for
Advanced Physiotherapy
Practitioners
Requesting of Diagnostic Imaging by Advanced Practitioner Physiotherapists
NHS Lothian Community Physiotherapy Services

PROTOCOL

February 2014

<table>
<thead>
<tr>
<th>Approved</th>
<th>Designation</th>
<th>Date</th>
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<tbody>
<tr>
<td>Tracey Gillies</td>
<td>Medical Director</td>
<td></td>
</tr>
<tr>
<td>Lynne Douglas</td>
<td>AHP Director</td>
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<td>Paul Allan</td>
<td>Clinical Director, Radiology</td>
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<tr>
<td>Fergus Perks</td>
<td>Consultant Radiologist</td>
<td></td>
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<tr>
<td>Clint Heseltine</td>
<td>Chief Radiographer/Radiology Manager</td>
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Circulation, comment, contributions

<table>
<thead>
<tr>
<th>Service/Circle</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Lothian Physiotherapy Services (Community Adult MSK Outpatient) and MSK Subgroup</td>
<td>Wendy Johnson, Eddie Balfour, Claire Henderson, Orla Crummey, Brian Brockie</td>
</tr>
<tr>
<td>Lothian Medical Committee</td>
<td>Catriona Morton</td>
</tr>
<tr>
<td>GP representative to OutPatients Review Board</td>
<td>Mike Ryan</td>
</tr>
<tr>
<td>Radiology</td>
<td>Stephen Evans</td>
</tr>
</tbody>
</table>
Requesting Diagnostic Imaging by Advanced Physiotherapy Practitioners

**Aim**

The aim of this protocol is to ensure that diagnostic imaging is requested appropriately for patients by Advanced Physiotherapy Practitioners (APP).

The protocol is intended for use by APPs in a community outpatient clinic setting.

**Introduction/Background**

Patients referred to the APPs in the community may present with spinal symptoms that require imaging investigation.

Following appropriate training, APPs will be authorised to request imaging investigations for those body regions in which they have been assessed as competent, as detailed in the standard operating procedures (including nature of the assessment, assessor and responsible clinician).

If the imaging results indicate a condition requiring surgical or medical intervention the APP will contact the appropriate medical/surgical team to transfer care, the urgency dependant upon the nature of the findings and the recommended action in the radiology report.

**Objectives**

- To define the scope of the pathway
- To define the characteristics required of the staff authorised to request diagnostic imaging
- To establish the management responsibility for the protocol and the mechanism by which it can be maintained.

**Process**

**Patient Group/ Patients involved:** Adults – 16 years or over, outpatients seen by the APPs working in MSK Out Patient Physiotherapy setting.

**Clinical Situation:** Imaging may be appropriate when the patient presents with symptoms and signs to suggest

- Fracture
- Joint Osteoarthritis
- Peripheral Nerve Compression
- Radiculopathy
- Inflammatory Arthropathy
- Spinal Nerve Root Compression (e.g. spinal stenosis, sequestrated disc, other space-occupying lesions, etc.)
- Possible Cancer

**Responsibility for Management of Results:**

It is the responsibility of the APP to review the imaging report and whether it concurs with clinical findings. Where the report indicates a musculo-skeletal condition, the APP will be responsible for recommendations for further management, and will refer to the appropriate surgical/medical team as required. Any referral will also be communicated to the GP by the APP.

On the rare occasion that non-musculo-skeletal MRI findings are reported the APP will discuss best course of action with the patient’s GP as a matter of urgency.

If there is an unexpected critical result, the radiologist will contact the APP to agree and make appropriate clinical referral on radiological advice. The APP will be responsible for informing the patients’ GP and agreeing that the GP discuss results and future proposed plans with the patient.

If a patient requires emergency imaging the APP will discuss this patient with the spinal surgery, neurosurgery or oncology team beforehand, and confirm the management plan for this patient prior to imaging request, including the named individual responsible for receiving the verbal report (bleep/mobile phone).

**Exclusion Criteria:**

- Patients under 16 years of age
- Patients who do not consent to having the investigation
- Patients who report contra-indications to investigations (Appendix 1)

**Actions for patients unsuitable for imaging referral:**

The APP will discuss with DCN or Spinal Orthopaedic consultant on appropriate management of the patient.

**Characteristics of Staff Authorised by this protocol**

Qualified physiotherapists, with Health and Care Professions Council registration, who are currently employed within NHS Lothian as an APP (Band 7).

These members of staff must demonstrate compliance with the referrer requirements of the Ionising Radiation (Medical Exposure) Regulations (IRMER).

**Staff Training needs:**

The APP will be trained and competent to work beyond the normal scope of physiotherapy practice in the community setting, which includes:

- Knowledge of appropriate musculo-skeletal investigations (this will be spinal conditions only until further competencies and pathways are active within NHS Lothian - see Appendix 1).
Knowledge of serious pathologies that may present as musculoskeletal conditions

**Documentation**

Electronic requesting via TRAK is required (Note: the request for this through EHealth is in process, January 2014).

The request form must be filled out accurately and completely, including relevant patient details, clinical information and investigations required, making note of any precautions to investigation (Appendix 1).

The form should clearly include the name, job title and contact number of the APP requesting the investigation.

The consultant team (where appropriate) must also be documented to allow urgent communication by the Imaging Department out-of-hours if required.

The APP who has requested the investigations will document in the clinical notes:
- Symptoms and examination findings
- Diagnosis
- Investigation requested
- Name of persons (e.g. consultant or registrar) with whom the patient was discussed.

**Review**

This protocol will be reviewed every two years, or sooner if required.

**Further reading**

APPENDIX 1:
INDICATIONS AND CONTRA-INDICATIONS FOR IMAGING INVESTIGATIONS

Indications for MRI Scan Investigation

Emergency (same day referral imaging within 24 hrs)
Request a full medical opinion of the patient via A&E on the same day, as opposed to the physiotherapy practitioner arranging an MRI scan then awaiting the result.

- Cauda equina or cord compression signs including
  - Acute sphincter or gait disturbance
  - Rapidly deteriorating motor loss
  - Saddle anaesthesia

<table>
<thead>
<tr>
<th>MRI LUMBAR SPINE Clinical Situation:</th>
<th>Urgent (within 2-3 weeks)</th>
<th>Routine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imaging may be appropriate when the patient presents with symptoms and signs to suggest: Fracture Joint Osteoarthritis Peripheral Nerve Compression Radiculopathy Inflammatory Arthropathy Spinal Nerve Root Compression (e.g. spinal stenosis, sequestrated disc, other space-occupying lesions, etc.) Possible Cancer</td>
<td>Age &lt;20 or &gt;55 years Previous malignancy Known immune deficiency Weight loss Non-mechanical pain / Unremitting night pain Fever (Note: multiple causes of fever – very few have a relevance to warrant MRI) Inability to weight bear due to severe radicular pain Relevant trauma</td>
<td>Radicular pain that has shown insufficient improvement with conservative treatment. Symptoms and/or signs of spinal canal stenosis. Chronic back pain under consideration for spinal surgery (Previous spinal surgery is not a specific indication for MRI)</td>
</tr>
</tbody>
</table>

See [http://www.irefer.scot.nhs.uk](http://www.irefer.scot.nhs.uk)
**Contra-indications/ precautions to MRI Scan Investigations**

Although some modern devices are described as MR compatible all patients with the following must be discussed in person with the radiology department prior to MR imaging.

- Implanted devices
  - Pacemakers
  - Nerve stimulators
  - Infusion pumps
  - Cochlear or stapedial implants
  - Aneurysm clips
  - Artificial heart valves

- Metallic foreign body in the orbit (e.g. metal workers)

- Obesity/ large girth
  - MRI weight limits are 159kg and 160cm maximum girth

- Most orthopaedic prostheses and implants are safe but may cause reduced image quality in the region of the prosthesis.

- MR is generally avoided for 6 weeks post implantation of any device

- The safety of MRI in the first trimester of pregnancy is uncertain. However MRI may be safer than alternative investigations. All imaging of pregnant women should be discussed with the radiology department.

If the patient is likely to need contrast (previous lumbar disc surgery), **renal function needs to be checked** and eGFR documented. Gadolinium based contrast agents are contraindicated in advanced renal impairment.

At present there is no access to MRI in NHS Lothian for implanted pacemakers or defibrillator devices.

Only recently-implanted aneurysm clips with documentation of clip make and model can be scanned. This takes place in DCN only, and MRI safety and compatibility should be discussed with the radiology department directly.
APPENDIX 2: DIAGRAM OF COMMUNICATION & RESPONSIBILITIES

Patient assessed by Advanced Physiotherapy Practitioner (APP)

- Imaging required?
  - Yes
    - APP considers potential non-MSK causes of symptoms.
      - Low likelihood of non-MSK causes
        - Yes
          - APP discusses with GP whether any non-MSK causes are likely to be relevant in this patient e.g. HIV+, TB, Cancer.
          - Proceed with MRI request?
            - Yes
              - GP manage case
            - No
              - APP manage case
      - Moderate or high likelihood of non-MSK causes
        - No
          - GP manage case
  - No

**During training period until competencies signed off**

The APP must discuss the patient case with a member of secondary care team that is most likely to receive referral.

- The APP completes:
  - Imaging request form completed fully, including urgency.
  - Where the case has been discussed with a secondary care team, the name/ bleep is included.
  - Plan and process discussed with patient.
  - Indications/ contraindications considered and documented on image request form
  - The APP contacts the GP to inform them that imaging has been requested

- Image request sent to Radiology
  - All URGENT requests discussed by phone with Radiology, and with surgical team (e.g. Neurosurgery or Oncology)

- Radiology returns image report to APP.
  - Radiology uploads report and images to TRAK.

  **#1 Serious or unexpected pathology seen e.g. tumour, cauda equina compression**
  - Radiology urgently contact APP with result
    - If cauda equina compression:
      - APP alerts and discusses with duty DCN doctor to urgently transfer case.
      - APP alerts GP and patient.
    - For all other serious or unexpected pathology
      - APP urgently discusses with GP involved in patient’s care wherever possible, not the ‘duty’ doctor
      - GP and APP agree arrangement of onward referral to appropriate clinical team and any work-up required
      - GP to inform patient
      - APP confirms discussion, findings & plan in writing to the GP (& verbally where possible)
      - APP contacts patient once patient has seen GP

  **#2 Radiology result to APP**
  - APP considers if MRI findings concur with clinical presentation, &/or warrant neurosurgical opinion according to neurosurgical criteria for referral
    - Yes
      - APP contacts patient (in writing or verbally) to alert the patient that they will be contacted by Neurosurgical team for further assessment.
      - APP writes referral letter with clinical findings to Neurosurgery to accompany MRI results, cc to GP.
    - No
      - APP communicates results & proposed plan with GP in writing (and verbally if required).

Background

It is felt necessary to further clarify specific points (detailed below) with respect to the training of APP’s in the use of the radiology department with regard to the requesting of MRI scan investigations.

Page 1, section 2 (Introduction/Background), paragraph 2 “Following appropriate training, APPs will be authorised to request imaging investigations for those body regions in which they have been assessed as competent, as detailed in the standard operating procedures (including nature of the assessment, assessor and responsible clinician).”

Other relevant documents; Within the Draft Standard Operating Procedure for MRI request and action on results” under point 2. “MRI request made as per protocol in pathway / training documents.”

Proposal

1) For any new member of the Advanced Physiotherapy Practitioner team, the first 10 requests for MRI investigation will be discussed and counter signed/ requested by an appropriate and responsible senior clinician. Examples of such a clinician include Consultant Orthopaedic Surgeon, Consultant Neurosurgeon, Experienced Advanced Physiotherapy Practitioner/ Extended Scope Practitioner in relevant clinical specialty. The MRI results and action will be discussed with the said appropriate and responsible senior clinician upon their receipt.
2) Following completion of the requirements above in section 1), APP’s in joint collaboration with an appropriate and responsible clinician (as detailed above) will record competency in the ability to request MRI investigation in line with the protocol “Requesting of diagnostic imaging by Advanced Practitioner Physiotherapists NHS Lothian Community Physiotherapy Services”.
3) An audit of practice against the protocol will be undertaken at a regular interval. The audit cycle will be completed with any necessary action identified and undertaken.
4) It is the responsibility of the Advanced Physiotherapy Practitioner to maintain knowledge, skills and competence through continuing professional development.
Appendix 4

Referral pathway between
NHS Lothian Musculoskeletal
Physiotherapy Service and
NHS Lothian Pain Services
Referral criteria to MSK Out-patient Physiotherapy from NHS Lothian Pain services.

- Persistent pain with a greater MSK bias than psychological bias
- Patient requires an activation programme
- Well controlled and currently managed pre existing mental health issues
- Willingness to attend physiotherapy and exercise

Exclusion criteria

- Uncontrolled inflammatory arthritis
- Pain from non MSK origin e.g. visceral pain, gynaecological pain
- Passive treatments, e.g. acupuncture

Please refer to appropriate location mailbox

- PhysioreferralsEAM@nhslothian.scot.nhs.uk for East and Midlothian Community and Outpatient Physiotherapy
- Ecps.mskphysio@nhslothian.scot.nhs.uk for Edinburgh Community Outpatient Physiotherapy
- PhysioWGH.Referrals@nhslothian.scot.nhs.uk for Western General Out Patient Physiotherapy
- RefPhysioWestLothian@nhslothian.scot.nhs.uk for West Lothian Out patient physiotherapy
Referral criteria to pain management services from NHS Lothian MSK Physiotherapy Services

Advanced Physiotherapy Practitioners and Level 111 pain trainers can refer direct to Pain Services

- Primary treatment failure
- Significant barriers to reactivation
- Complex psychological issues impacting on patient managing pain

Referrals to be sent to:

Pain Consultant
Pain Clinic
Leith Community Treatment Centre
12 Junction Place
Edinburgh
EH6 5JA

Awaiting confirmation of test proforma to pain mail box:
Lothianchronicpainservice@nhslothian.scot.nhs.uk
Musculoskeletal Physiotherapy to Pain Management referral Pathway

- GP/self referral received at physiotherapy
- MSK physiotherapy assessment/treatment
- Physiotherapy escalation process:
  - Level 111 pain trainer or APP review
- Discuss with Psychology (Caroline Cochrane/Shona Brown details of how tbc telephone email etc)
- Continue with MSK physiotherapy with ongoing remote psychology advice
- Refer to pain management services (send letter to mail box)
  - D/c from physio with GP informed of onward ref
- Triaged by pain services
  - Pain clinic LCTC
  - Pain management AAH
Appendix 5

NHS Lothian Musculoskeletal
Physiotherapy options for
patients with Low Back Pain
<table>
<thead>
<tr>
<th>Type of Intervention</th>
<th>Intervention/Management options</th>
<th>Referral Criteria</th>
<th>Details of Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Physiotherapy options</strong></td>
<td>General Gym Classes</td>
<td>Patient would benefit from gym based rehab with no contraindication to group exercise</td>
<td>Individualised gym programme supervised by physiotherapist and updated as required. Usually twice weekly, duration dependant on individual circumstances.</td>
</tr>
<tr>
<td></td>
<td>Hydrotherapy</td>
<td>Patient would benefit from hydro programme with no contraindications to hydrotherapy</td>
<td>Individualised hydrotherapy programme supervised by physiotherapist and updated as required. Usually twice weekly, duration dependant on individual circumstances, but with a view to long-term independent exercise in water.</td>
</tr>
<tr>
<td></td>
<td>Physio Led Pain Management Programme</td>
<td>Referral by MSK physio following assessment and relevant 1:1 treatment</td>
<td>6 * 2 ½ hour session helping chronic pain patients understand and manage their pain (includes relaxation, pacing, flare-up management, posture, movement and the role of pain, stress and mood).</td>
</tr>
</tbody>
</table>

**Inclusion criteria:**
- Chronic musculoskeletal pain
- Pain duration >6/12
- Willingness to participate in programme
- Some acceptance that a cure may not be possible
- No further investigation or treatment planned
- An understanding of purpose and content of group
- High risk score on STarTBack tool and not improving after 4 sessions
- Has been introduced to chronic pain
<table>
<thead>
<tr>
<th>Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Exclusion criteria:</strong></td>
</tr>
<tr>
<td>• Active mental health problems where referral to mental health service would be more appropriate</td>
</tr>
<tr>
<td>• Any condition which would prevent full participation e.g. language or communication difficulties</td>
</tr>
<tr>
<td>• &lt;16 years old</td>
</tr>
<tr>
<td>• Ongoing investigations into pain</td>
</tr>
<tr>
<td>• Current alcohol or drug abuse</td>
</tr>
</tbody>
</table>

| **External referral options**                                           |
| Exercise referral to Xcite (local gyms) for ongoing exercise based  |
| Patient would benefit from ongoing exercise in gym with no contraindications to exercise. |
| 3 month free membership to local gyms. Activity plan established by gym staff, can include gym exercise or swimming |

| **Referral to other areas/specialities**                                |
| Referral to AAH pain management program (Pain trainer level 3 and APP only) |
| Primary treatment failure Significant barriers to reactivation Complex psychological issues impacting on patient managing pain |
| Assessment within Pain Management and further treatment as deemed necessary |

| Referral to pain clinic (Pain trainer level 3 and APP only)            |
| Primary treatment failure Outcome of MDT with neurosurgical team that spinal injections could be considered |
| Assessment within Pain Clinic and further treatment as deemed necessary |

| **Escalation clinics available**                                       |
| MSK 1 (Specialist physiotherapist) review of physiotherapy management|
| Patient not improving as expected with physiotherapy                   |
| 1 hour assessment by specialist MSK Physiotherapist                    |
| Offers further physiotherapeutic opinion on management of patient       |

| APP clinic – review of patient to consider further investigation and referral onwards |
| LBP: Patient not improving as expected with physiotherapy and requiring assessment to consider further investigations with a view to secondary care referral |
| Radicular leg pain: Patient not improving as expected with               |
| 30 minute assessment by Advanced Physiotherapy Practitioner             |
| Offers specialist opinion on LBP and radicular leg pain with a view to considering investigations and referral to secondary care as appropriate |
| Other |  | physiotherapy within 8/52.  
- Or severe leg pain with no improvement  
- Or significant or progressive neurological deficit in keeping with a monoradiculopathy |
**NHS Lothian Physiotherapy Conservative Management options for Low Back Pain:**

**Area:** EDINBURGH COMMUNITY PHYSIOTHERAPY SERVICE

<table>
<thead>
<tr>
<th>Type of Intervention</th>
<th>Intervention/Management options</th>
<th>Referral Criteria</th>
<th>Details of Intervention</th>
</tr>
</thead>
</table>
| **Group Physiotherapy options** | Back to Fitness Class | Referral completed by Physiotherapist at their discretion  
Inclusion Criteria  
- Mechanical low back pain or other stable/ controlled low back pain  
- Red Flags excluded  
- Yellow flags considered  
- No referred pain below the knee  
- Patients should be able to get up and down from the floor (mat work included)  
- Can be post surgical but should be 6/52+ post op.  
- Medically fit to be able to take part in a cardiovascular class. | 4 weeks (8 sessions of circuit class with tip of day based on Klaber MOffat research) |
| Hydrotherapy | Patients can be referred to Hydrotherapy at WGH or AHH  
Patient would benefit from hydro programme with no contraindications to hydrotherapy | Individualised hydrotherapy programme supervised by physiotherapist and updated as required. Usually twice weekly, duration dependant on |
Referral completed by Physiotherapist at their discretion **Inclusion criteria:**
- Chronic musculoskeletal pain
- Pain duration >6/12
- Willingness to participate in programme
- Some acceptance that a cure may not be possible
- No further investigation or treatment planned
- An understanding of purpose and content of group
- High risk score on STarTBack tool and not improving after 4 sessions

**Exclusion criteria:**
- Active mental health problems where referral to mental health service would be more appropriate
- Any condition which would prevent full participation e.g. language or communication difficulties
- <16 years old
- Ongoing investigations into pain

<table>
<thead>
<tr>
<th>External referral options</th>
<th>Exercise referral to Edinburgh leisure (local gym membership)</th>
<th>With discussion with patient (Patient referred by GP)</th>
<th>See shared drive for all details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Access programme through Edinburgh leisure which allows discounted access to gyms and activities within Edinburgh Leisure</td>
<td>NHS worker can apply for cards to distribute responsibly to patients. (see under Edinburgh Leisure on shared drive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exercise/ mindfulness referral to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thistle Foundation</strong></td>
<td><strong>Health All round and Active steps in southwest Edinburgh</strong></td>
<td>See link <a href="http://www.healthallround.org.uk/WhatsOnHealthAllRound.pdf">http://www.healthallround.org.uk/WhatsOnHealthAllRound.pdf</a></td>
<td>See leaflets and link</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Referral to other areas/specialities</strong></td>
<td><strong>Referral to AAH pain management programme (Pain trainer level 3 and APP only)</strong></td>
<td>At the discretion of the APP’s/Clinical specialist. Patients that need the multidisciplinary team in particular psychology input</td>
<td>1:1 of group sessions</td>
</tr>
<tr>
<td><strong>Escalation policy</strong></td>
<td><strong>Review by team lead or clinical specialist of physiotherapy management APP clinic – review of patient to consider further investigation or referral onwards</strong></td>
<td>Use the Lothian Physio LBP pathways see escalation policy under shared drive Patients that potentially may need surgery</td>
<td></td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
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</tbody>
</table>
**NHS Lothian Physiotherapy Conservative Management options for Low Back Pain:**  
*Area: EAST AND MIDLOTHIAN*

<table>
<thead>
<tr>
<th>Type of Intervention</th>
<th>Intervention/Management options</th>
<th>Referral Criteria</th>
<th>Details of Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Physiotherapy options</td>
<td>PACE1.1 rehab</td>
<td>Patients who have an MSK condition which would benefit from physio or exercises specialist lead programme.</td>
<td>Intervention based on clinical need. Rehab may be in the physiotherapy department or in a leisure centre. 1.1 rehab is lead by a physiotherapist, all other groups are lead by and exercise referral specialist.</td>
</tr>
<tr>
<td></td>
<td>PACE General Rehab</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PACE Low Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PACE Gym Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain management group</td>
<td></td>
<td>Would benefit from and is able to attend the pain management group.</td>
<td></td>
</tr>
<tr>
<td>External referral options</td>
<td>MAC –Midlothian</td>
<td>MAC and ACE have specific referral forms with referral criteria. They are run by the Leisure sector.</td>
<td>Support in to Leisure based physical activity.</td>
</tr>
<tr>
<td></td>
<td>ACE- East Lothian</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral to other areas/specialities</td>
<td>Weight management</td>
<td>Specific referral form</td>
<td>As weight management team see fit.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>East Lothian Falls service</td>
<td>Patients who would benefit from falls intervention.</td>
<td>Falls prevention advice and exercise guidance.</td>
</tr>
<tr>
<td>Escalation clinics available</td>
<td>• Band 5 to Band 6</td>
<td>MSK cases which need escalation. The physio thinks the patient is not responding to treatment as expected or Case discussion/review</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Specialist Experienced Senior</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Band 7 APP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Band 8a ESP</td>
<td>the clinician feels they need more clinical guidance due to the complexity of the condition.</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
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</tbody>
</table>
# NHS Lothian Physiotherapy Conservative Management options for Low Back Pain:

**Area:** WESTERN GENERAL HOSPITAL

<table>
<thead>
<tr>
<th>Type of Intervention</th>
<th>Intervention/Management options</th>
<th>Referral Criteria</th>
<th>Details of Intervention</th>
</tr>
</thead>
</table>
| **Group Physiotherapy options** | Back to Fitness Class | **Inclusion Criteria:**  
- Simple mechanical LBP  
- Red flags excluded  
- Yellow flags considered  
**Exclusion Criteria:**  
- Referred pain below the knee (avoid severe nerve root pain)  
- pregnant patients,  
- patient unable to get up/down to floor,  
- spinal surgery within past 6/52 | BTF info attached |
| | Hydrotherapy | Referrals accepted from WGH, RIE and ECPS along with a copy of initial assessment. | Hydrotherapy x 1-6 sessions depending on requirement.  
Group of patients supplied with individual exercise programmes, lead by physiotherapist |
| **External referral options** | Edinburgh Leisure Exercise Referral Scheme |  | Gym programme designed by ED fitness trainer following referral by PT staff. |
| **Referral to other areas/specialities** | Referral to AAH pain management programme (Pain trainer level 3 and APP only) | Significant distress requiring pharmacology review, psychology intervention and/or pain management group | |
| **Escalation clinics available** | Patient discussion/clinical reasoning session with Kay Hildersley (spinal) +/- |  | Patient not progressing in line with  
- Discussion +/- assessment |
| Subsequent assessment | the LBP or Pain management pathways.  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• leg unremitting or worsening pain / radicular symptoms</td>
</tr>
</tbody>
</table>
|                      | • Clinical reasoning and advice for 1:1 pain patients for all grades of staff +/- transfer onto KH’s case load.  
|                      | • Potential for KH to refer to ECPS pain classes or into LCPS clinic. |
| Level III pain trainer review (Kay Hildersley) | • Clinical reasoning and advice for 1:1 pain patients for all grades of staff +/- transfer onto KH’s case load.  
|                      | • Potential for KH to refer to ECPS pain classes or into LCPS clinic. |
| Other                |                                                              |
## NHS Lothian Physiotherapy Conservative Management options for Low Back Pain:

### Area: ROYAL INFIRMARY EDINBURGH

<table>
<thead>
<tr>
<th>Type of Intervention</th>
<th>Intervention/Management options</th>
<th>Referral Criteria</th>
<th>Details of Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Physiotherapy options</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External referral options</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral to other areas/specialities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Escalation clinics available</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Other</td>
<td>The physiotherapy staff at the RIE only take consultant referrals, the pt would go back to the relevant con if there were any problems. A&amp;E referrals are consultant referrals. ESP triage GP referrals into orthopaedic clinics. Pt’s from these clinics can be referred on as tertiary referrals to physiotherapy or chronic pain service. The physiotherapy staff can refer the pt back to the ESP if they are not progressing.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>