Knee pain represents about 6% of GP consultations. We need to feel confident in how to assess and manage it. We may also see patients with a history of recent trauma and knee pain who present to primary care rather than minor injuries or A&E, and need to be able to work out which need same day referral.

An older systematic review looked at the evidence behind the best approach to evaluate acute knee pain in primary care (Ann Int Med.2003;139:575).

Causes of acute knee pain in primary care

It is helpful to know what is most common in our setting. This review defines acute pain as starting <7d prior to first consultation. It identifies the most common underlying causes in primary care as:

- Minor ‘sprains and strains’ 42%.
- Osteoarthritis (acute on chronic flair) 34%.
- Meniscal injury 9%.
- Collateral ligament injury 7%.
- Cruciate ligament injury 4%.
- Gout 2%.
- Fracture 1.2% (this rises to 6–11% if patients present directly to A&E).

Other causes, including pseudogout, septic arthritis, and inflammatory arthropathy presenting with a knee monoarthritis, make up the rest of cases. These are covered elsewhere in the handbook. Here, we focus on traumatic knee injuries.

History and examination

Is there a history of trauma?

Fracture and dislocation

The first thing to do is rule out a fracture/dislocation. This review recommends we use the Ottawa Knee Rules, as they have been well evaluated and will miss <1.5% of fractures.

**Ottawa Knee Rules:**

In the presence of an acute knee injury due to a fall or blow to the knee, plain X-ray and possible MRI are recommended if the patient has any one of these features:

- Age >55y.
- Tenderness over the fibula head.
- Discomfort confined to the patella on palpation.
- Inability to flex the knee to 90o.
- Inability to weight bear immediately and at presentation for at least 4 steps.

Using these rules will mean we X-ray many people who do not have a fracture, as their specificity is only 54%, but we will miss few cases. Evaluation suggests using the rules compared with clinical judgement alone reduces unnecessary X-rays by 25%.

Meniscal or ligament tears

Ask about the mechanism of injury.

History can help indicate the possibility of meniscal or ligament tears, but few studies have looked at its accuracy, and those which have show little benefit in distinguishing between which ligament, etc. may be affected. Examination can, however, be helpful. While history tells us there might be internal derangement of the knee, examination may help us to spot where it is. Note that in all the examination studies, the tests were performed by orthopaedic surgeons or sports physicians.

This systematic review indicated that a ‘normal’ careful physical examination is helpful in ruling out any significant internal derangement. Less helpfully, most studies did not state what aspects of the examination were included!

The value of special examination tests was considered separately by a JAMA rational examination review (JAMA 2001;286(13):1610). The quality of data was relatively poor, and no single test had excellent performance qualities.
A knee effusion will usually be present in an acute intra-articular injury:

- If the effusion appears within 2h of the injury, it is usually due to a fracture or cruciate tear (a haemarthrosis).
- Effusions appearing the next day are more likely a reactive synovitis due to a meniscal or cartilage injury.

In the team, we feel that a careful physical examination can be very difficult in the immediate few days after an injury. If we are confident we have ruled out a fracture, we usually reassess the knee at 10–14d to look for the underlying injury. In the meantime, we recommend ice and very gentle mobilization. A top icing tip from some friendly orthopaedic surgeons is to wet and wring out two tea towels and put them in the freezer – once frozen, apply one to the joint and there will always be another ready and waiting.

**Imaging**

A BMJ rational imaging article reviewed an approach to investigating these (BMJ 2012;344:e3167). MRI is the best test.

**Fractures and dislocations**

Bony injuries and dislocations need urgent treatment, and should be imaged/reviewed by orthopaedics on the same day. Plain X-rays will frequently miss fractures in the knee joint. If they are clear and fracture is still suspected, an MRI is the preferred imaging tool.

**Soft tissue injuries, e.g. cruciate tears**

If we don’t suspect fracture or dislocation, we then need to assess the knee. This can be difficult in the acute setting where there may be pain and effusion.

- If the physical examination is significantly abnormal, suggesting internal derangement of the knee, refer to knee service according to your local pathways.
- If the physical examination does not suggest instability/ligament or meniscal tears, conservative management for a short period is reasonable. If symptoms are not settling, re-examine and then consider referral for orthopaedic/ MRI assessment at that stage based on criteria below.

Interestingly, this review reminds us that, based on clinical assessment in orthopaedic outpatients, orthopaedic specialists got their clinical diagnosis wrong 50% of the time compared with findings on MRI. MRI scanning changed management in nearly two-thirds of cases.

**Referral criteria**

This is taken from NICE CKS, accessed September 2017. Any patients with a meniscal injury or collateral ligament injury that is not improving rapidly in the first 2w will need a physiotherapy referral.
<table>
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<th>Urgent outpatient referral</th>
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| Suspected fracture/dislocation. Neurovascular compromise. Septic arthritis. Compartment syndrome. Severe internal derangement:  
  - Rapid onset severe swelling.  
  - Positive clinical examination. Known coagulopathy, including on anticoagulant medication. | Suspected ACL/PCL injury (most will be offered reconstruction). Meniscal injury with locking knee, e.g. bucket handle tear. Suspected tumour. | Suspected meniscal injury with persistent symptoms impacting on work or persisting after 6–8w of physiotherapy rehabilitation. Medial or lateral collateral ligament injury not improving after 4–6w of physiotherapy. |

**Knee pain: traumatic**

- Rule out fracture using the Ottawa Knee Rules.
- Take a careful history and examine the knee. Decide if immediate referral or reassessment in 10–14d is appropriate.
- Offer physiotherapy for meniscal and collateral ligament injuries.
- All suspected acute ACL and PCL injuries should be assessed by orthopaedics.
- MRI is the test of choice for all knee injuries – fractures can be missed on plain film.

If you are working on your examination skills, consider keeping track of your knee referrals and comparing your clinical impression with the result of the MRI – how are you doing? *(Remember, orthopaedic surgeons only got it correct 50% of the time!)*

Videos of all the tests discussed in the article can be found at this great website, which includes details regarding the sensitivities and specificities: [https://www.physiotutors.com](https://www.physiotutors.com)

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We make every effort to ensure the information in these articles is accurate and correct at the date of publication, but it is of necessity of a brief and general nature, and this should not replace your own good clinical judgement, or be regarded as a substitute for taking professional advice in appropriate circumstances. In particular check drug doses, side-effects and interactions with the British National Formulary. Save insofar as any such liability cannot be excluded at law, we do not accept any liability for loss of any type caused by reliance on the information in these articles.
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- Unbiased: Completely free from any pharmaceutical company sponsorship.
- Fun!: Humorous and entertaining – without compromising the content!

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- General Practice Nurses, especially those seeing patients with chronic diseases.

What’s included?

- 6 CPD credits to help you with appraisal and revalidation, plenty of time for interaction, humour and video clips – to keep you focused and awake!
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- Coffee, snacks and lunch – plenty of breaks to fuel your mind.
- NEW! A fancy Red Whale re-usable cotton bag to carry your Handbook home! We’re happy to say we’ve banished plastic bags for good!

What’s not included?

Our courses contain NO theorists, NO gurus, NO sponsors, NO reps on the day! Just real-life GPs who will be back at the coal face as soon as the course has finished.

www.gp-update.co.uk
**The GP Update Course – our flagship course!**

With the amount of evidence and literature inundating us, it can be hard to know which bits should change our practice, and how.
The GP Update Course is designed to be very relevant to clinical practice and help you meet the requirements for revalidation.
We collate and synthesise the evidence for you so you don't have to! Using a lecture based format, with plenty of time for interaction, the GP presenters discuss the results of the most important evidence and guidance, placing them in the context of what is already known about this topic. The presenters also concentrate on what it means to you and your patients in the consulting room tomorrow.

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**The Women’s Health Update Course – ALL NEW CONTENT!**

Our Women's Health Update has ALL NEW CONTENT for 2018! This completely refreshed one day update will arm you with the skills to manage this area of general practice with confidence! Expect the latest on perimenopausal contraception, low libido, fertility, post-coital bleeding and the 'abnormal' cervix as well as benign breast disease and lots more! We promise it'll be interactive, entertaining and relevant for ALL GPs and GP STs!

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**The MSK and Chronic Pain Update Course – New**

MSK problems are the most common reason for seeing a GP and represent 30% of repeat GP visits. We want to help build your confidence. On the course we will tackle:

- The evidence-base for common MSK conditions including osteoarthritis, spondyloarthritis, polymyalgia, fibromyalgia and much more.
- Diagnosis: why waddling like a duck might help, and what to do when there is no diagnosis!
- Why chronic pain is ‘in the brain’ – and more importantly, what we and our patients can do about it.

We will provide you with a new narrative and a tool box of strategies you can take back to the surgery and start using the next day.

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The BRAND NEW Working at Scale Course!

If you're worried about the sustainability of your practice yet feel uncertain about working on a larger scale, then we are here to help! The Working at Scale Course is perfect for all GPs, Practice Managers and primary care practitioners who want to learn more about taking the next steps to working at scale, be it in a federation, through a merger or one of the other host of different models. We'll give you the confidence to weigh up your options and make the best choices for your practice – and we'll show you how to implement the changes successfully! This brand new course will help ease your transition and prepare you for the changes ahead!

London  Fri 22 Jun 2018

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If you’ve been waiting for a job as a leader to develop your leadership and management skills then you’re missing out! Leadership starts with identifying and taking control over what is in your hands right now! Lead, Manage, Thrive! will give you the confidence to skilfully negotiate, deal with difficult conversations, influence colleagues and bosses, delegate and be proactive about managing your workload. The course is for anyone who wants to step up, find a better way of working and gain a toolkit of strategies to become a successful and resilient practitioner!

London  Fri 18 May 2018  Edinburgh  Wed 7 Nov 2018
Manchester  Thur 7 Jun 2018  Brighton  SEE BACK PAGE  Sat 24 Nov 2018
London  Fri 5 Oct 2018
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The Cancer Update Course

Within the next 15 years the need for cancer care will double and you will look after as many cancer survivors as diabetics. Shared care follow up will become the norm, and secondary care will pass responsibility to us. A key 2015 Lancet Oncology commission paper warned that, “GPs are inadequately trained and resourced to manage the growing demand for cancer care in high income countries”. Education for GPs was one of their five key recommendations – we can help you get ahead of the curve! Established GPs and GP STs can use this course to bridge the gap in traditional GP cancer education which has focussed heavily on referral and end of life care missing out the whole journey in between. This course is able to look in much more detail at the big picture behind the disease perhaps most feared by our patients and, let’s face it, that 1 in 2 of us will be diagnosed with over our lifetime.

London  Wed 23 May 2018  Brighton  SEE BACK PAGE  Sat 24 Nov 2018
Manchester  Thur 7 Jun 2018
London  Sat 6 Oct 2018

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The Telephone Consultation Course

London  FULLY BOOKED  Thu 17 May 2018  London  Thu 4 Oct 2018
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Leeds  Fri 15 Jun 2018  Brighton  SEE BACK PAGE  Thu 22 Nov 2018
London  Thu 28 Jun 2018

The Effective Consultation Course

London  FULLY BOOKED  Fri 18 May 2018  Leeds  Fri 16 Nov 2018
Manchester  Thu 15 Nov 2018  London  Fri 23 Nov 2018

The Medically Unexplained Symptoms Course

Manchester  FULLY BOOKED  Thur 7 Jun 2018  London  Thu 18 Oct 2018
Prices

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Thurs 22nd The Women’s Health Update Course
The Telephone Consultation Course
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☐ The Working at Scale Course 
☐ Lead. Manage. Thrive! Course 
☐ The Cancer Update Course 
☐ The Women’s Health Update Course 
☐ The Telephone Consultation Course 
☐ The Effective Consultation Course 
☐ The Medically Unexplained Symptoms Course

(location) .......................................................... (date) ..................................................

I can’t attend a course, but would like to order your Handbook or DVD:

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