

Year 1 Tutor Guide Clinical Contact

Case 1: The musculoskeletal system

Centre for Academic Primary Care

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How to use this guide:

This guide starts with the background to the students learning. **The busy GP teacher will find all you need to know for the session in the session plan on pages 5 & 6; it outlines the learning objectives, the types of patients to find for students to visit at home, some tasks the students can be set when they are sitting in observing you consult and some discussion points you can raise with your students at the end of the session.** The subsequent pages (page 6 onwards) is copied from the information provided to the student about the particular things they should be thinking about and observing when they are on clinical placement this week. This is the background information to help the students make links between the patients they see and their learning on the case and the Effective Consulting course. This is there for your reference if you find it useful. The GALS screen especially is only for information (students should be directed to look at this in their own time). This guide is also interspersed with questions you can pose your students with model answers if you want to direct discussion in this way.

Dear GP tutor

Thank you for taking students for their first session in Primary Care during their Case Based Learning. You should have been sent a link to the Tutor guide which gives you an overview of case-based learning in Year 1 of MB21 and an overview of the Effective Consulting course with links to general information you need to run the sessions.

This is a short guide to running a session in the MSK case (you will be sent a link to similar information in each case 2 weeks before the students are due)—and you can also find these on our website <http://www.bristol.ac.uk/primaryhealthcare/teaching/teaching-in-practice-by-year/one/>

We would like the students to be as hands on as possible when they are with you, especially in terms of talking with patients and “presenting” them back. Please try and maximize the amount of time students spend talking directly with patients. Sessions in GP are quite flexible; you may have 1-2 students sitting in a reduced surgery with you and the rest out on home visits or you may choose to send all students on a home visit to patients one week with a slightly longer tutorial at the end. If students are sitting in observing a surgery then perhaps they can meet one (suitable) patient in a separate room before the patient consults with you. On hospital placements, the groups are bigger and the sessions are more structured, often students will rotate through “stations” to speak to an expert patient, practice a clinical skill or visit the ward.

I hope it goes well and you enjoy having the students.

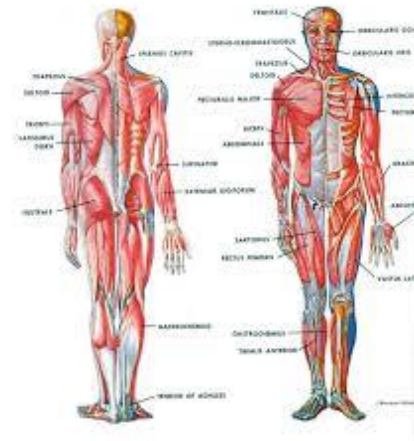


Dr Jessica Buchan
Year 1 GP lead

Musculoskeletal—overview of the case

In the MSK case, the students will study the impact that breaking bones have on two patients – an 85-year-old man and an 18-year-old girl.

They should be thinking about the impact that these fractures might have on the lives of the patients, as well as the underlying biology of the bone, why these particular breaks happened and how they will heal.



Lectures:

1. Healthy bones and metabolism
2. Bone and cartilage biology
3. Bone fracture and healing
4. Function of skeletal muscle including excitation contraction coupling
5. Coping with Pain: coping responses (both adaptive and maladaptive) & pain assessment
6. The limbs over time
7. Rehabilitation
8. The stance phase and swing phase of normal gait and recognise antalgic gait
9. Muscle pain during and after exercise

Practicals:

1. Histology of bone and muscle
2. Applied Anatomy of the Musculoskeletal System:
 - Anatomical structure of neurovasculature of the upper and lower limb
 - Identify the structures of the upper and lower limb as seen in the clinical setting (radiology and procedures) e.g. X-ray/MRI
 - Consider examples of how anatomical knowledge is important when there is musculoskeletal damage/injury: in Compartment syndrome/pulled elbow/ACL rupture/fractures

Helical Themes:

- Disability, Disadvantage and Diversity
- Behavioural and Social Sciences
- Ethics and Law
- Digital Environment

Musculoskeletal session plan

Objectives:

- Describe how doctors prepare for clinical encounters with patients and how patients might prepare to see their doctors
- Explain how to open a consultation effectively with a patient and facilitate rapport (students to practice or observe this)
- Describe the principles of gaining consent as a medical student (students to read about this prior to session and practice gaining consent to talk to patients when on home visit)
- Describe what can be learnt from active, purposeful observation of patients
- Describe how musculoskeletal conditions impact on patients
- Describe aspects of the environment that can impact on patients' functional ability
- Describe the elements of a functional assessment including functional loss, limitation of activity, and restriction of participation.

Musculoskeletal Session Plan Primary Care	
<p>Check in. Review of last session e.g. reflective forms. Run through session objectives</p>	10 mins
<p>Tutor time:</p> <ul style="list-style-type: none"> • Discuss how doctors, and their patients, prepare for clinical encounters • Look at the electronic medical record • Prepare to meet the patient—briefing on any important information • Set tasks to achieve e.g. <i>the focus this week on how consultations are opened and rapport can be built with patients, what we can observe in patients and how conditions (esp MSK) can impact on patients and by understanding the functional ability of patients and their goals and aspirations we can help find solutions.</i> 	10 mins
<p>Meeting a patient or observing surgery</p> <ul style="list-style-type: none"> • Home visit in 2/3s or observing clinic (if sitting in on GP consultations use the following as observation tasks) <p>Tasks:</p> <ol style="list-style-type: none"> 1. Practise introducing yourself, your role, and the purpose of the interview to the patient (if sitting in on GP surgery observe how your GP prepares for and opens each consultation) 2. Discuss which areas of the patient's life have been most affected by the condition (if sitting in with GP consider the impact of problems seen on the patient's life) 3. Identify some solutions for problems that have been encountered and some problems that remain an issue for the patient 4. Discuss what information can be gathered from active, purposeful observation of patients (if sitting in with GP make notes on what you observed about each patient—present this back to the GP) 5. Reflect on how you or the person you observed facilitated rapport with the patient 	1.5-2 hours

<p>*OPTIONAL TASK: If the students return early from the home visit you could ask them to sit in the waiting room and consider what they can learn from patients by simply observing. Or make a computer available so they can access their digital notebook and read about functional assessment.</p>	
<p>Discussion time</p> <p>Topics to discuss in light of the patient/s you have encountered</p> <ol style="list-style-type: none"> 1. The impact of a mobility issue or musculoskeletal condition 2. Functional assessment <p>Tasks:</p> <p>Reflect on the experiences of having a mobility issue and how these issues impact on patient's lives</p> <p>How you will use your experiences from this session to help shape your future practice e.g. what you can do as a medical student such as ask patients I meet if there is anything I can do for them?</p> <p>Discuss with your GP about when and how they assess function e.g. the Get up and Go test</p> <p>Discuss the functional ability of the patient/s you have seen</p> <p>Consider interventions that reduce the impact of injuries and immobility</p>	<p>Approx. 45 mins</p>
<p>Feedback and Close:</p>	<p>5 mins</p>

Preparing for a clinical encounter (tutor time at the start of the session)

- Describe how doctors prepare for clinical encounters with patients and how patients might prepare to see their doctors



Consultations start before a patient enters the clinic room, or on a ward before the doctor goes to the patient. Firstly they need to prepare themselves. Are they ready to concentrate on a new patient? Then they need to make sure they know who they are seeing, and

consider what tasks need to be addressed when they meet the patient.

First impressions count, for instance doctors may need to tidy their room from the previous patient. It's important to reduce distractions, this includes having a sip of water or going to the toilet or complete a task from the previous patient.

Check information on the patient's notes.

- Vital information. How are doctors informed not to see the patient alone or warned that the patient has a hearing or visual impairment? In Primary care medical records screen messages can pop up automatically when the notes are opened.
- Why might the patient be attending? The last consultation may have clues, and it's important to be prepared by reading referral letters and recent correspondence from the patient's GP or hospital doctor. Look at recent results—a patient will be unimpressed if they are attending for their results and they are not available.
- What other tasks need attending to? Does the patient need an up to date blood pressure or their medication reviewing?
- Finally do you know how to pronounce the patient's name—you may need to ask them!

GP TUTOR TASK: How doctors prepare

Discuss with students how you prepare to see patients? How you prepare yourself and find information about the patient before they attend. Show the students the electronic medical record you frequently use to prepare e.g. last consultation/recent hospital letters/results

Opening consultations, building rapport and gaining consent (Student task to observe self or others)

You will think about these skills as part of your Effective Consulting lab this week. You can put these skills into practice when you meet patients or use as an observation task if you watch your GP consult.

- Explain how to open a consultation effectively with a patient and facilitate rapport

Patients are often nervous about visiting the doctor. A warm, friendly start is important. In a study of visits to a paediatric outpatient department in 1960's America, the doctors lack of warmth and friendliness was strongly associated with poor patient satisfaction and compliance. During your training you need to actively consider how you start consultations, observe doctors and peers and consider what works best for you.

Here are some openers you may hear:

Possible Openers:
"Hello! I'm Dr X (or X, a first year medical student)"
"Mrs X? Come in, have a seat."
"What can we do for you today?" "What are we doing today?"
"How can I help you?"
"Thanks for waiting, I'm here for you now."

Consider traps, a common one is saying "What's brought you here today?", only for the patient to respond that they got the bus. Making assumptions can also damage rapport, for instance, a doctor may assume a patient is coming back for their results or seeing someone on crutches and launch into asking about the injury. It does no harm to ask, the problems come when the doctor doesn't give the patient the opportunity to explain the reason that they are attending. In her book, *The Naked Consultation*, Liz Moulton argues that any time we ask a patient a question, even a neutral one such as "How are you?", we risk distracting the patient and crowding their thoughts. Instead we can gather a lot of information and help build rapport by letting the patient have space at the beginning of a clinical encounter so that they can control their story. Other than a brief introduction the doctor can try being friendly but silent and encourage the patient to speak through active listening. That way the doctor can observe not only *what* the patient says but *how* they say it. What do you think?

Observation as part of the clinical examination (Student observation task during session)

You will think about observation skills as part of your Effective Consulting lab this week. You can put these skills into practice when you meet patients.

APPROACH AND OBSERVATION

You will start thinking about the clinical examination from your CVS/RESP CBL cycles onwards. But the clinical examination starts from the moment you first see your patient. You can learn a lot from observation. This week we want you to think about what you can observe in people before you even get to the clinical examination.

- You may notice their gait as they walk across a room, are they steady on their feet? Do they move quickly or slowly? Do they have a stooped posture? Do they use a walking aid?
- You may notice their appearance as you talk with them. Do they look well-groomed or not? Is their clothing appropriate for the weather and the setting? Do they seem anxious or seem chatty and relaxed? How near or far do they sit from you or the doctor? Do they sit on the edge of their seat or fidget?
- What clues can you pick up from their possessions or the things around them? On a home visit you might notice a walking frame in the room, or inhalers on the table.

GP TUTOR TASK: Ask students to consider aspects of patients you can observe before you have even started talking to them

Students might consider the following areas:

- Gait
- Posture
- Facial expression and general demeanour
- Clothing and grooming
- Height and weight
- Odour
- Use of aids e.g. walking stick

Impact of musculoskeletal conditions on patients (Discussion time at end of session)

- Describe how musculoskeletal conditions impact on patients

SYMPTOMS ARISING FROM THE MUSCULOSKELETAL SYSTEM

- Pain
- Reduced function including stiffness
- Joint swelling

Pain and stiffness can occur in the normal healthy musculoskeletal system e.g. after significant exercise. Joint swelling is always pathological. Symptoms can be **acute** (sudden onset or short time scale) or **chronic** (persistent, recurrent. Often insidious onset) Injuries usually present acutely (though can cause chronic problems) arthritis is chronic (though symptoms can flare up acutely)

IMPACT

When we are talking to patients it is important to be curious not only about *what* symptoms they experience but *how* they are affected. We need to consider how someone is affected by a condition in a broad range of areas and a variety of situations. Someone recovering from a fractured tibia may appear to be mobilising with no problems in the clinic or at home, but not able to mobilise enough to work if they have a physically active job. We should try and understand what goals and aspirations our patients have – what does someone want to do that they have difficulty with or need help to do? Only when we understand this can we start to develop solutions. If most of us injured the little finger of our non-dominant hand this is unlikely to have much impact on us (unless pain levels are severe) but it would significantly impact a professional pianist.

Consider the relationship between these 3 areas:

- Function
- Activity
- Participation

For instance, someone with a fractured tibia may mean that they can't weight bear (**function**) which impacts on walking (**activity**) which means the patient is unable to take part in a marathon (**participation**).

GP TUTOR TASK: Areas of impact

Ask the students to consider what areas of a patient's life may be impacted by an acute or chronic musculoskeletal condition?

Students might consider the following areas:

- Physical symptoms e.g. pain, loss of function, mobility
- Emotional wellbeing
- Work
- Social life
- Hobbies

GP TUTOR TASK: Solutions

Think of or discuss broad interventions that can reduce the impact of reduced mobility or musculoskeletal condition on a patient?

Students might consider the following areas:

- Symptom control e.g. Pain relief or reducing inflammation through rest, ice, compression and elevation of a swollen joint.
- Information
- Aids/Adaptations
- Support—physical, financial, social, emotional
- Psychological intervention
- A change to their working hours or role

Video resources provided in student digital notebook:

<http://www.healthtalk.org/young-peoples-experiences/arthritis/ruth>

The 4th video explains how Ruth relies on her parents for help, the 5th video talks about how Ruth has to plan "the most trivial basic things" and the final video discusses adapting her social life.

<http://www.healthtalk.org/young-peoples-experiences/arthritis/sara#ixzz4ymiR0tMw>

In the 4th video Sara talks about being in a wheelchair, and in the 5th video she discusses the difficulty with dressing. Sara talks about the impact of arthritis on her body image and talks about emotional wellbeing. She felt depressed at one stage with the pain and physical problems and says it has taken time to come to terms with her illness, she was helped by focusing on the things she *can* do, rather than those she can't.

Functional assessment

- Describe the elements of a functional assessment including functional loss, limitation of activity, and restriction of participation.
- Describe aspects of the environment that can impact on patients' functional ability

There are 2 parts to assessing a patient's function ability:

1) History

- Ask simple, direct, open questions.
- It can be useful to ask the patient to describe a typical day from getting out of bed in the morning to preparing a meal.
- It is also helpful to find out what someone would like to be able to do that they currently find difficult or can't do? The patients' needs and goals influence their ability to adapt to their condition or situation.
- Remember, you should consider symptoms in the context of function, activity and participation.

2) Examination

- Observation e.g. gait
- Look, feel and move the different aspects of the musculoskeletal system e.g. arms, legs, spine
- Assessing the patient in action e.g. the "get up and go" test

The World Health Organisation's [International Classification of Functioning, Disability and Health](#) is way too long to be useful in most doctors clinical practice but it is a very comprehensive list of areas that can be assessed with some useful questions you can ask.

ASKING ABOUT ACTIVITIES OF DAILY LIVING

One way of understanding how patients are affected by a condition is the person's ability or inability to perform "Activities of Daily Living" ADLs –a term used in healthcare to describe the things adults can normally do ranging from simple tasks such as feeding ourselves, bathing, or dressing to more complex tasks e.g. shopping. Please note that the following are examples of CLOSED QUESTIONS which are useful for clarifying information but don't really allow the patient to elaborate.

	Example of items and questions on the Activities of Daily Living (ADL) scales (adapted from the Barthel Index ³).
Feeding	Are you able to feed yourself? Can you cut up food without help?
Bathing	Are you able to take a bath or shower without help?
Grooming	Do you need help with brushing hair, shaving, or applying make-up
Dressing	Can you get dressed without help? Can you manage buttons? Can you put your shoes on/tie laces?
Transfers	Are you able to get out of a bed and onto a chair without help?
Mobility	Are you able to walk 50 yards on the flat with no help? Do you use any walking aids? Have you fallen or stumbled in the past year?
Stairs	Are you able to climb a flight of stairs without help?

A BMJ article on [functional assessment in older people](#) is a useful read, and contains full version of an ADL scale adapted from the Barthel Index.

PHYSICAL ASSESSMENT OF FUNCTION

While it is helpful to assess a patient's musculoskeletal system, other than gait it doesn't tell you *what* the patient is able to do. It is helpful for healthcare professional to observe patients in action performing a task e.g. to see how a patient holds a pen and writes, or puts down or picks up an object from the floor. The Get up and Go test helps a doctor assess a patient's gait including power in the muscles and balance.

GET UP AND GO TEST

- Rise independently from an armless chair or with arms folded
- Stand still
- Then walk 3 m (10 ft)
- Turn 180 degrees
- Return to chair
- Sit down

The linked video in the BMJ article on [functional assessment in older people](#) shows a doctor in Australia assessing her patient's function. One of the key points the article makes is that when recording information about a patient you keep it simple and functional. *"When taking a history and examining the patient do not just record the pathology but include a description of the impact on physical functioning. "For example, in a stroke survivor, a report of "weakness MRC grade 4 lower limb" may be technically correct, but a functional descriptor, such as "leg weakness, leading to frequent falls and inability to climb stairs," is more useful."*

PHYSICAL ASSESSMENT OF THE MSK SYSTEM: THE GALS SCREEN

Note to GP tutors this is for interest only, GALS is a screen for musculoskeletal conditions that students will run through on their hospital placement this week. There is unlikely to be time in the GP session to teach this directly. If students are waiting around e.g. after a home visit they can access this on their digital notebook or read the section on GALS screening to assess a patient's musculoskeletal system at [Arthritis U.K. medical student handbook](#) which also contains a video. Otherwise they can look at this in their own time.

Students are NOT expected to learn *how* to do the GALS screening at this stage, it is just to make them think about the elements of the MSK system doctors can assess.




GALS screening examination: checklist assessing gait, arms, legs and spine.

The GALS screen recommends the following questions to screen for musculoskeletal conditions:

"Do you have any pain or stiffness in your muscles, joints or back?"

"Can you dress yourself completely without any difficulty?"

"Can you walk up and down stairs without any difficulty?"

<p>Gait</p> <ul style="list-style-type: none"> • Observe gait • Observe patient in anatomical position 	<p>Anatomical Position</p> <ul style="list-style-type: none"> • Anatomical position • Body erect with feet together • Arms at side with palms forward • The anatomical position is the common visual reference point 
<p>Arms</p> <ul style="list-style-type: none"> • Observe movement – hands behind head • Observe backs of hands and wrists • Observe palms • Assess power grip and strength • Assess fine precision pinch • Squeeze MCPJs 	
<p>Legs</p> <ul style="list-style-type: none"> • Assess full flexion and extension • Assess internal rotation of hips • Perform patellar tap • Inspect feet • Squeeze MTPJs 	

Spine

- Inspect spine
- Assess lateral flexion of neck
- Assess lumbar spine movement

The diagrams illustrate four types of spinal alignment:

- Vertical alignment:** A straight vertical line through the center of the spine.
- Lordosis:** An exaggerated inward curve of the lower back.
- Kyphosis:** An exaggerated outward curve of the upper back.
- Scoliosis:** A lateral (side-to-side) curvature of the spine.

(a)		
	Appearance	Movement
Gait	✓	
Arms	✓	✓
Legs	✓	✓
Spine	✓	✓

(b)		
	Appearance	Movement
Gait	✓	
Arms	✗	✗
Legs	✗	✗
Spine	✓	✓

Swelling over dorsum of both wrists and knee effusions - early RA?

How to record GALs:

This shows a) normal b) a patient with wrist and knee swelling and loss of movement