

Year 1 GP Tutor Guide

Clinical Contact in Human Health and Wellbeing Block

The cardiovascular system

Centre for Academic Primary Care

2018-19 MB21



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Much of the clinical examination information and pictures are from the ICS year 2 handbook, many thanks to Dr Barbara Laue.

How to use this guide:

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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) includes information provided to the student about the particular things they should be thinking about and observing when they are on clinical placement this week. There are some GP Tutor tips included here to help the students make links between the patients they see and their learning on the case and the Effective Consulting course.

Dear GP tutor

Thank you for taking students for the first session in Primary Care during their Human Health and Wellbeing teaching block. 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.

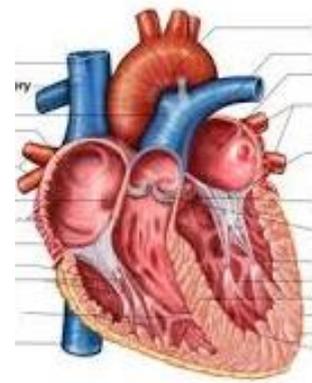
This is a short guide to running the Cardiovascular primary care session (you will be sent similar information each case 2 weeks before the students are due)—and you can also find these on our website <http://www.bristol.ac.uk/primaryhealthcare/teaching/teaching-inpractice-by-year/one/>

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 Juliet Brown Year 1 GP lead

Cardiovascular—overview of the case

In the CVS case, the students will consider a male student who is training for a marathon. He is motivated by body image. He has considered buying anabolic steroids. He has noticed he gets light headed getting out of the bath. Older members of his family have hypertension. He asks his GP for advice.



Lectures:

1. **Introduction to the cardiovascular system:** structure and function of heart and vessels
2. **Cardiac physiology:** the electrical and mechanical events in the Cardiac Cycle
3. **The Heartbeat:** control of heart rate (bradycardia, tachycardia and contractility. Lead II rhythm strip to identify sinus rhythm, sinus arrhythmia, sinus tachycardia, sinus bradycardia, ventricular fibrillation and ventricular tachycardia
4. **Pressure:** tissue fluid, the strength of the pulse, the relationships between mean arterial pressure, central venous pressure, cardiac output and total peripheral resistance. Regulation of mean arterial pressure and changes in CVS system with orthostasis, vasovagal syncope, white coat hypertension.
5. **The Cardiac Cycle and Starling's Law:** how preload, afterload and contractility affect stroke volume, the mechanical events (pressure and volume) in a heartbeat.
6. **Perceptions of risk:** psychosocial determinants of cardiovascular health and disease, factors that influences individual's perception of risk, challenges of conveying medical information to patients.
7. **Lifecycle of the Red Blood Cell:** including haematopoietic stem cell differentiation, the process of erythropoiesis, number of blood groups and the existence of rare blood groups
8. **The Cardiovascular System During Exercise:** how the actions of the cardiovascular system alter and the effects of aerobic training upon cardiovascular function
9. **The Ethical Duties of a Medical Student:** Describe the ethical duties and limitations of being a medical student
10. **PPD: Regulation and Protection:** Introduction to the GMC's role with Medical Students

<p>Practicals:</p> <p>ECG practical</p> <p>SIM practical—to investigate the regulation of mean arterial pressure and the effect of haemorrhage on the CVS system</p> <p>Anatomy—Structure of the heart and great vessels</p>	<p>Helical Themes:</p> <ul style="list-style-type: none"> • Behavioural and Social Sciences • Ethics and Law • Whole person care • Self-care and resilience
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Cardiovascular session plan

Objectives:

- Describe the structure and components of a medical history
- Describe the structure and components of the clinical examination
- Describe how underlying anatomy and physiological processes of the cardio-respiratory system can be assessed clinically
- Describe the risk factors for cardio-respiratory disease and the role of the clinician in health improvement and illness prevention

Clinical communication ILOs:

- Practise gathering information from a patient building on skills of active listening
- Explain the use of signposting and summarising in the clinical encounter
- Discuss how to manage emotion in the consultation

Patient perspective ILOs:

- Describe the importance of eliciting the patient's agenda
- Describe how the patients' ideas, concerns and expectations inform the health professionals understanding of the problem

Cardiovascular Session Plan Primary Care	
<p>Check in. Review of last session in your practice, and catch up on students' learning in secondary care during their MSK clinical contact Run through session objectives for today</p>	10 mins
<p>Tutor time:</p> <ul style="list-style-type: none"> • Brainstorm the broad areas of the medical history • Consider the elements of the cardio-respiratory system that can be assessed clinically e.g. pulses, O2 sats, BP, heart sounds. • Prepare to meet the patient—briefing on any important information • Set tasks to achieve e.g. <i>the focus this week is on the information doctors need from their patients; history and examination. Included in this is the importance of finding out the patient's agenda and their ideas, concerns and expectations.</i> 	10 mins
<p>Meeting a patient or observing surgery Home visit in 2/3s or observing clinic (if sitting in on GP consultations use the following as observation tasks)</p> <p>Tasks for students:</p> <ol style="list-style-type: none"> 1. Consider the broad areas of the medical history when you are interviewing a patient this week (if sitting in on GP surgery observe the broad areas your GP finds out information in) 2. If you are observing your GP (or a colleague interviewing a patient) identify any signposting or summarizing. 3. Discuss what you think the patient's agenda was in the consultation (or when they first presented) what do you think were their ideas, concerns and expectations about what was going on? 	1.5-2 hours

<p>4. Consider the anatomical and physiological processes of the cardio-respiratory system can be assessed clinically e.g. pulse, heart sounds, blood pressure, ECG.</p> <p>5. Reflect on how doctors might manage emotion in the consultation. Did you observe any particular emotion in any of the consultations you saw?</p> <p>*OPTIONAL TASK: If the students return early from the home visit you could ask them to practice taking each other's blood pressure or pulse. Or make a computer available so they can access their digital notebook</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 broad areas of the medical history 2. The patient agenda and their ideas, worries, hopes... 3. Managing emotion in the consultation 4. Risk factors for cardio-respiratory disease 	Approx. 45 mins
Feedback and Close:	5 mins

Additional GP Tutor tasks to help with the running of this session can be found on

P 11: GATHERING: the medical history

P14: GATHERING: examination

P19: GATHERING: presenting/debrief

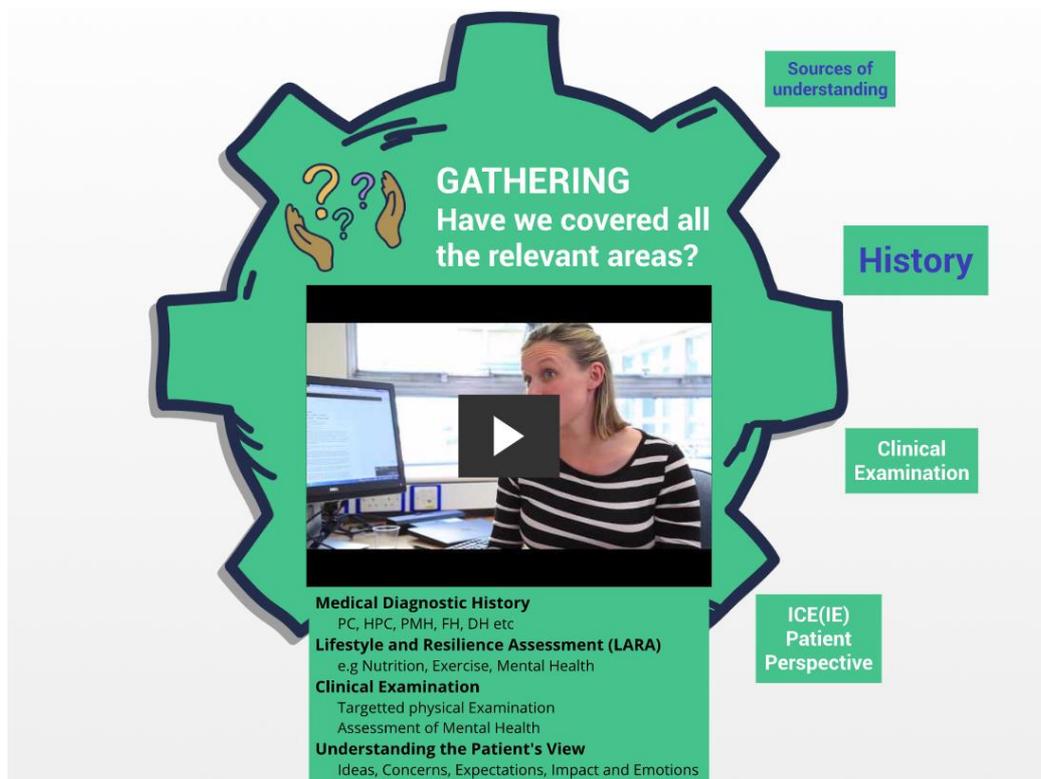
The following pages are extracted from the Students' digital notebook (OneNote) and covers the relevant stage of COGConnect (a tool for understanding clinical encounters). Each fortnight students will be focusing on a different stage. In this session students are asked to consider GATHERING which includes sources of information, history, and clinical examination.



<p>PREPARING <i>Am I prepared?</i></p> <ul style="list-style-type: none"> ⚙️ Preparing oneself ⚙️ Preparing the space ⚙️ Checking the medical record 	<p>OPENING <i>Are we off to a good start?</i></p> <ul style="list-style-type: none"> ⚙️ Establishing the agenda ⚙️ Establishing relationships ⚙️ Initial observations
<p>GATHERING <i>Have we covered all the relevant areas?</i></p> <ul style="list-style-type: none"> ⚙️ Sources of understanding ⚙️ History ⚙️ Clinical examination 	<p>FORMULATING <i>What is going and what is next?</i></p> <ul style="list-style-type: none"> ⚙️ Bias checking ⚙️ Considering the options ⚙️ Red flag signs and symptoms
<p>EXPLAINING <i>Have we reached a shared understanding?</i></p> <ul style="list-style-type: none"> ⚙️ Chunking ⚙️ Checking ⚙️ Visual Aids 	<p>ACTIVATING <i>Is the patient better placed to engage in self-care?</i></p> <ul style="list-style-type: none"> ⚙️ Identifying problems and opportunities ⚙️ Rolling with resistance ⚙️ Building self-efficacy
<p>PLANNING <i>Have we created a good plan forward?</i></p> <ul style="list-style-type: none"> ⚙️ Encourages contribution ⚙️ Proposing options ⚙️ Attends to ICE (IE) 	<p>CLOSING <i>Have I brought things to a satisfactory end?</i></p> <ul style="list-style-type: none"> ⚙️ Summary ⚙️ Patient questions ⚙️ Follow Up
<p>DOING <i>Have I provided a safe and effective intervention?</i></p> <ul style="list-style-type: none"> ⚙️ Formal and informal consent ⚙️ Due regard for safety ⚙️ Skilfully conducted procedure 	<p>INTEGRATING <i>Have I integrated the consultation effectively?</i></p> <ul style="list-style-type: none"> ⚙️ Clinical record ⚙️ Informational needs ⚙️ Affective progressing

Gathering information (taken from the student guide)

- Describe the structure and components of a medical history



If the link doesn't work or you are viewing this guide in printed format you can watch the video on gathering information here: https://www.youtube.com/watch?v=YT2lv8_ID80&

In order to form a well-rounded impression of what's going on, you should be able to answer 3 questions:

1. What is the nature of the current medical problem?
2. What is the patient's perspectives on the problem?
3. What are the relevant background (lifeworld) factors?

As a medical student, you will learn how to gather information about the nature of the current medical problem, from your patients, in a structured way known as the "medical history." It is an important skill to learn because to be a doctor you need to find out all the relevant information you need from a patient in an efficient way to make a diagnosis or solve a problem, so that you can make a plan of what to do next.

The medical history is a structured assessment which, done well, helps to answer the first questions above and contributes to the other two. It includes:

- The patient's current health and health problems
- The patient's previous health problems
- Current and previous treatment
- Factors which might affect the patient's health and their response to treatment e.g. their perspective or risk factors, current lifestyle choices etc
- The patient's family's health

The medical history is only a *part* of the medical assessment as useful information also comes from the clinical examination, and results from tests and investigations, and sometimes from other people (third parties). Making a diagnosis is not the only goal; to make an overall medical assessment (clerking) and form a plan you need to know the patient's perspective (what's important to them about their symptom and situation, how it impacts them, what they think is going on, what they are worried about and what they are hoping for or what their goals are.) Part of this is sometimes shortened to Ideas, Concerns and Expectations (I.C.E), although there is a broader picture to be gained. Be curious about your patient, their condition, their experience and their circumstances.

Your goals as a medical student

- Understand, learn how, and then practise how to assess the medical history
- Understand, learn how, and then practise how to do a clinical examination
- Be able to gather enough information to define the problem to be solved
- Be able to gather enough information to form a sensible idea of what might be going on
- Give a clear presentation of the medical history, examination, investigation and test results and your differential diagnosis to your colleagues

Learning to do this takes time, observation of more experienced peers and doctors and LOTS of practise. In Year 1 the focus is on health, not pathological symptoms. We do not expect you to learn to do a complete medical assessment just yet, that will be introduced in Year 2. But we do want you to think about the **broad areas** that a doctor can assess in a patient, and to be introduced to the concept and structure of the medical history.

The patient's current health and health problem ('presenting complaint')

This really means the main symptom/s the patient is seeking medical advice about, it helps define the problem to be addressed. This may or may not be obvious. A patient may tell you a clear symptom "*I've got chest pain*" or you may have to do a little more investigation to identify any symptoms. For instance, in your CBL case, Harry may start with: "*I've come for advice; I want to run a marathon but I am worried about my health.*" Harry's presenting complaint is his symptom e.g. light-headedness. There is often more than one presenting complaint, and these may or may not be linked. In emergency situations where the patient is not able to articulate the presenting complaint may be "*collapse.*" In small children and babies, or in patients who are unable to articulate the problem, it may be expressed by a carer or witness "*they seem a bit breathless compared to usual.*" Sometimes the presenting complaints not entirely clear until you've really listened to the patient and asked some clarifying questions.

Practising doctors often work with problem lists more than symptoms: In Harry's case although his "*presenting complaint*" is light-headedness, it's not his only *problem*—he has come for advice on exercising, he is also worried about his risk factors for hypertension. Also, patients have their "*agenda*" (the things they want to discuss) and the doctor has theirs. In Harry's case his doctor would also want to address anabolic steroids with him and find out his perspective on body image. The doctor would need to gather information about all these problems in the same way that information is gathered about a symptom.

Medical students talking to patients who are describing past rather than current events often find it tricky to know what the presenting complaint is. You can tackle this in two ways; it really depends what your purpose is. If you want to learn how to structure a history, practise forming a diagnosis and present a history to your tutors you can focus on a past event as if you were seeing the patient at the time. Consider the presenting complaint of the patient *at the time* they first sought medical

advice. For instance, if you meet a patient with a pacemaker ask them about the events that led up to their diagnosis and treatment, they may describe how they noticed their heart racing and felt dizzy before they passed out. In this case palpitations, light-headedness, and collapse would be the presenting complaints.

The other way to structure a patient's history is to start with a *problem list*, which is what doctors in clinic often do. The patient visiting a cardiologist (heart specialist) may have come for a review of their medication and not need a diagnosis making. So rather than start with a symptom or symptoms, you start with key diagnoses and a problem list e.g. 1) Hypertension. 2) Depression.

Background to the current health problem ('History of the presenting complaint')

You can use open questions "*Tell me more about that.*" or "*Talk me through exactly what happened.*" For each symptom, there are a number of possible diagnoses, and in time you will learn the questions doctors need to find out the answers to help them decide what is going on.

- Before you ask more questions, clarify exactly what the patient means. What exactly are they experiencing?
- Remember to use open questions at first to let the patient explain in their own words. Later you can use more closed questions to clarify.
- To assess a particular symptom further you need to ask specific, often closed, questions about it. Does the symptom come on suddenly or gradually? How severe is the symptom, or what does it stop you doing? When and how often does it happen and what is it associated with? It's important to know the context in which the symptoms happen. What happens, where and when? Is there a clear trigger? What relieves the symptom or makes it better? MacLeod's Clinical Examination chapter on history taking has a box of questions to further assess specific symptoms.
- Red Flag symptoms. You will also learn about specific symptoms for a presentation that may be serious or urgent that must not be missed. These are called Red Flags.
- What does the patient think about their symptom or problem? They will often have read about it or spoken to friends or family. They may be worried about what's going on, even if they don't really think it's serious they may want to be sure. How is it affecting them? What are they hoping for? They might want an explanation, reassurance or advice, medication or further investigation.

More about the nature of the patient's health: Systematic enquiry

When you are learning a medical assessment, this is often put at the end as a catch all "sweep" of all bodily systems in case you or the patient has forgotten anything. It's useful to practise these questions when you are learning. As you get more experienced you will learn to target the systematic enquiry to the presenting complaint and then it is more useful early in the medical history. MacLeod's Clinical Examination chapter on history taking has a useful table on the Systematic Enquiry listing all the cardinal symptoms for all different systems e.g. cardiovascular.

The patient's previous health issues ('Past medical history')

Here you want to consider the patient's other health problems current or in the past. Have they had any operations or serious illnesses?

Current and Previous Treatment ('Drug history' and other interventions tried)

For all medications (prescribed and non-prescribed) find out the name, the dose, the route by which they take it, how often they use it and for how long. Does the patient remember to take their medications or not? Patients may only mention prescribed medicines so ask about medication they've bought from a pharmacy, on-line, or herbal or homeopathic remedies. What have they taken in the past? Is there any medication they are known to be sensitive or allergic to?

The patient's family's health ('Family History')

You should ask general questions about the patient's family "Are there any illnesses that run in your family?" and then about relevant illnesses linked to the presenting complaint. It can also be useful to find out details about the family members. This will give you an indication of a patient's support network. It can be useful to draw a family tree including parents, siblings and children.

Social history/Lifestyle and resilience assessment:

This really is last but very definitely not least. **Here you want to really understand all about the patient's life, their lifestyle and their circumstances.** This is the area of the medical history that often sheds light on the cause of the problem and holds the key to making a good management plan. There are many aspects you can find out about so consider what is relevant to the situation. In a patient who is at risk of blackouts or falls it's important to know if they live alone. A patient who has come with palpitations might be drinking excess alcohol or caffeine. There are a few areas to consider which are laid out in MacLeod's Clinical Examination "The social history" which includes diet, exercise, mood assessment, sleep, home life, occupation, finances, support and hobbies and interests. Alcohol, smoking and recreational drug use are often important, as are a relationship and sexual history if relevant. Again, being curious about your patient, their condition, their experience and their wider circumstances will enable you to gather lots of relevant background and lifestyle information. More broadly, it will also help when making management plans: A patient with constipation might not be able to easily alter their diet based on your recommendations if they are only able to eat tinned food from a foodbank. A patient who is well supported by a community or family network might cope with a life changing health condition more easily than someone who is very isolated.

GP TUTOR TASK: Gathering information: The medical history

Students sitting in with you might like to use the template in the appendix (you can print it for them if they haven't brought a copy) and identify the different areas you find out information about when you are consulting with patients.

Students on the home visit might like to take a copy to use as a prompt.

When you discuss the patients with the student you could ask:

- What other information might you need?
- What other information might you want to ask and why?
- How might you phrase the questions you want to ask?

Risk Factors for Cardiovascular disease

Several factors increase the risk of a person developing disease of the heart, blood vessels or a stroke. These include:

- Smoking
- High blood pressure
- Blood lipids
- Other conditions such as Diabetes, Rheumatoid arthritis, Depression
- Older age
- Family history
- Stress
- Indian subcontinent or Afro-Caribbean ethnicity

As you can see, some risk factors are modifiable e.g. smoking, in other words the patient can do something about them such as stop smoking or take medication or change their lifestyle to reduce their blood lipids and blood pressure. Other risk factors such as ethnicity, family or age are not modifiable. Doctors identify risk factors to help predict the likelihood of someone developing disease and focus on the modifiable risk factors to try and prevent disease occurring (primary prevention).

Top tips for medical students in gathering information

Help! The patient isn't giving me the information in the right order.

Medical students often worry that they are not finding out information in the same order that they document it, or present back to their tutors. Don't worry. Consulting with patients is a very different thing to writing up a medical history or presenting structured information about a patient to your tutor. When you are talking to patients please don't get hung up at this stage about the order in which you ask questions or even asking "the right" questions. We just want you to have *conversations* with patients. We suggest you use the broad headings of the medical history as conversation prompts to remind you of areas to talk about. That's why in *Effective Consulting* we call this part of the consultation "Gathering Information." When you review and think about the information you've gathered and consider what might be going on (the stage we call "Formulating") or write up a patient's medical history or present it in a formal, structured way you will realise areas you missed or questions you wish you'd asked. The more you talk with patients in this way the more you will move towards a more structured conversation. If you realise you've forgotten to ask something while you are with the patient you can always go back and ask it.

"Have you experienced any dyspnoea?"

"Excuse me?" As a medical student, you are learning a new language and you will do so remarkably quickly. Medical terminology is known as "jargon" and it may be efficient, concise and precise when it comes to writing up a history but it shouldn't be a part of talking to patients. Be natural. Use the words you use every day, even better use the terminology and analogies that the patient uses. *"You said you're training for a marathon, have you noticed getting more out of breath than usual when you're running?"* Be careful with terms that can mean different things to different people for example asking about "drugs" when you mean medication. Also clarify any terminology the patient uses.

I can't ask that!

All sorts of questions may seem embarrassing to ask about when you start out. You may not be used to asking about people's feelings or their bowel habit. Remember to ask these questions in the same matter-of-fact manner as you ask the rest of the questions in the history. It can help to "signpost" a sensitive question, or ask permission or explain why you need to know first. *"Tummy pain can come from the gut so I want to ask you about your bowels."*

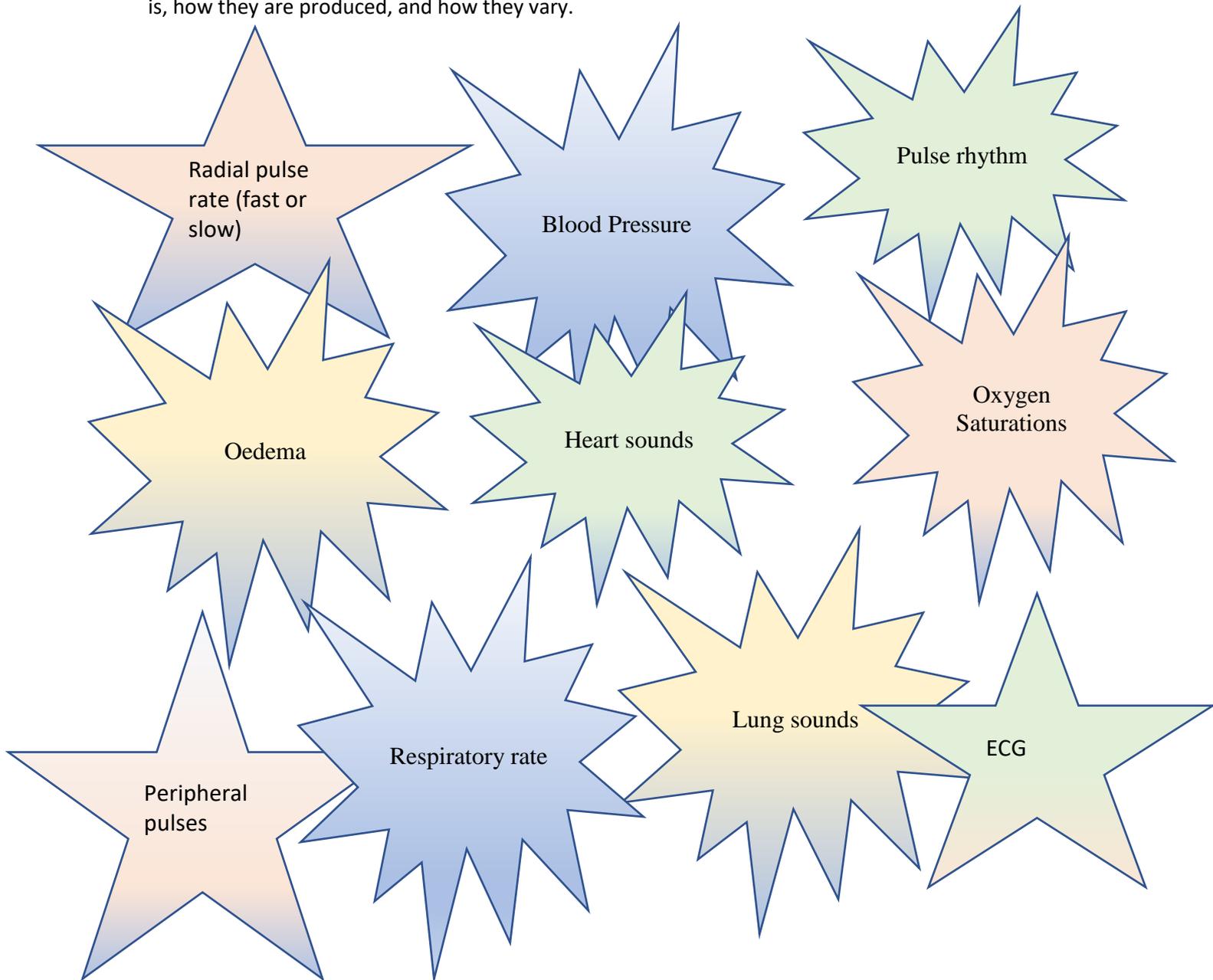
Write down phrases you hear doctors or colleagues use. Above all practise phrasing questions in a way that feels right for you and reflect on how they are working.

I can't remember all the questions (Warning: Do not simply rote learn lists of questions to ask).

When you are learning to gather information, it can be useful to have a list of questions to practise, or to fall back on when you get stuck. However, if you routinely run down a list of questions with the patient you will exhaust yourself and them, and end up with a lot of information that you don't know the meaning of. Try not to ask questions for the sake of it, but think about what you need to ask and why. Every symptom has a number of different causes, think what those causes might be and what questions will help decide if a cause is more or less likely.

Assessing the cardiovascular systems.

You will be introduced to pathology and symptoms such as chest pain in Year 2. In Year 1 you are looking at how the normal cardiovascular and respiratory systems are structured (anatomy) and how they work (physiology). You will now be aware of that the processes of the heart, lungs, and cardiovascular system can be assessed clinically. What can we measure to assess the cardio-respiratory systems? Here are some ideas to get you started, for each item consider what “normal” is, how they are produced, and how they vary.



GP Tutor task: GATHERING: examination

The students should not expect you to teach them a full cardiac examination, they will cover an introduction to the cardio-respiratory examination during their hospital placement, and they can watch videos (links at end) if they are keen! If you get a chance to show them how to feel the radial pulse, a blood pressure, listening to heart sounds or an ECG you can use the following notes.

The clinical examination.

(Do not examine patients without a tutor present. You may not cover examination on GP placement but this will be covered on hospital placement.)

- Describe the structure and components of the clinical examination

Once you have obtained verbal consent from the patient you should ask them whether they would like a chaperone present. Make sure the patient is comfortable; position them semi-supine at an angle of 45°. Ask the patient to remove any clothing to expose the chest for examination but leave a loose cover over the chest if they are women or if it is cold as you are going to start with a general inspection followed by looking at the hands. Before you start, make sure you wash your hands.

You will notice within all the systems we follow the following order:



1. Observation around the patient, look for clues to help you work out what is going on – a patient may have brought a walking aid with them, portable oxygen or be carrying an inhaler.
2. General appearance Look at the patient from the end of the bed:
 - a. Do they appear to be in pain or breathless?
 - b. Do they look unwell? Consider their complexion.
 - c. Do they have any obvious scars?

Feeling the radial pulse

Place the pads of your index and middle fingers over the radial pulse. This can be felt at the base of the thumb, just lateral to the flexor carpi radialis tendon.

Normal values:

Pulse: Most adults have a resting heart rate of 60-100 bpm (beats per minute) Athletes may have a lower rate.

Respiratory Rate: Normal respiration in an adult is 12-18 breaths per minute with expiration slightly longer than inspiration



3. Look at the hands and nails. You will learn a systematic approach to examining the hands and nails and all the things you need to look for in Year 2. For now, just consider what you can observe, your tutor will point out anything that may be significant.
4. Radial pulse. It is important to assess the rate and rhythm. For the rate, count for 15 seconds and multiply by 4. Is the rhythm regular or not? If irregular, you should feel the pulse for at least 30 seconds.
5. Respiratory rate. Count the respiratory rate by finding the number of breaths every 15 seconds and multiplying by 4.

6. Blood pressure. Blood pressure measurement is an important skill to start to develop competence in. More information here <https://bihsoc.org/wp-content/uploads/2017/11/BP-Measurement-Poster-Manual-2017.pdf> (accessed Jan 2018)

General tips:

- The patient must be rested for at least 5 minutes before having their blood pressure taken
- Ensure that the arm is supported at the level of the heart
- The bladder or the sphygmomanometer should be over the brachial artery (there is usually a marker for the artery) and it covers about 80% of the arm circumference
- Put the *right-sized cuff* on tightly enough so it does not slip off
- Palpate the brachial artery
- Pump up the cuff while keeping your finger on the pulse. When you can no longer feel pulsation go up another 30 mmHg
- Then put your stethoscope over the artery
- Slowly lower the pressure 2-3 mm/second listening for when the first noise appears (1st Korotkoff sound)
- This is the **systolic pressure**. Record to the nearest 2mm/Hg
- Let the pressure drop again
- Keep going down until the sounds disappear altogether (5th Korotkoff sound). This is the **diastolic pressure**

7. Before you look at the patient's chest you should look at the face. At this stage, you are learning to systematically observe the patient, we just want you to spot if anything particular stands out to you. Your tutor will tell you if it's significant.

- Consider the patient's complexion
- Look at the patient's eyes, is there anything that stands out to you?
- Look at the patient's lips and tongue.
- Look at the patient's neck. You will learn to feel the carotid pulse and assess the jugular venous pressure.

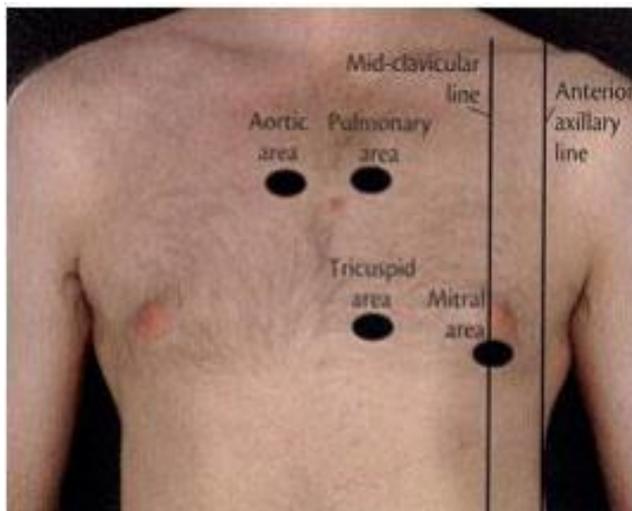
8. The thorax:

- Have a look at the chest. Consider the shape of the chest and have a closer look for any scars or pulsations.
- What is the movement of the chest wall like? Is it symmetrical? Is there any difficulty breathing?
- Find the apex beat (Normal position is in the 5th intercostal space in the mid-clavicular line) and place your fingers horizontally across this area and see if you can feel it.

Listening to the heart sounds (Auscultation).

- Try to identify the first and second heart sounds. Listening to the heart takes practice and is a difficult skill to master. You will need to listen to lots of 'healthy' hearts first to work out what normal heart sounds should be.
- If you can hear the heart sounds try timing them with the carotid pulse.
- The first heart sound is usually loudest at the apex or between the apex and the lower left sternal border.
- The second heart sound is usually best heard at the upper left sternal edge using the diaphragm of the stethoscope.

We listen in 4 main areas:



1. Mitral area

5th intercostal space mid-clavicular line

2. Tricuspid area

4th inter costal space left sternal edge

3. Pulmonary area

2nd inter costal space left sternal edge

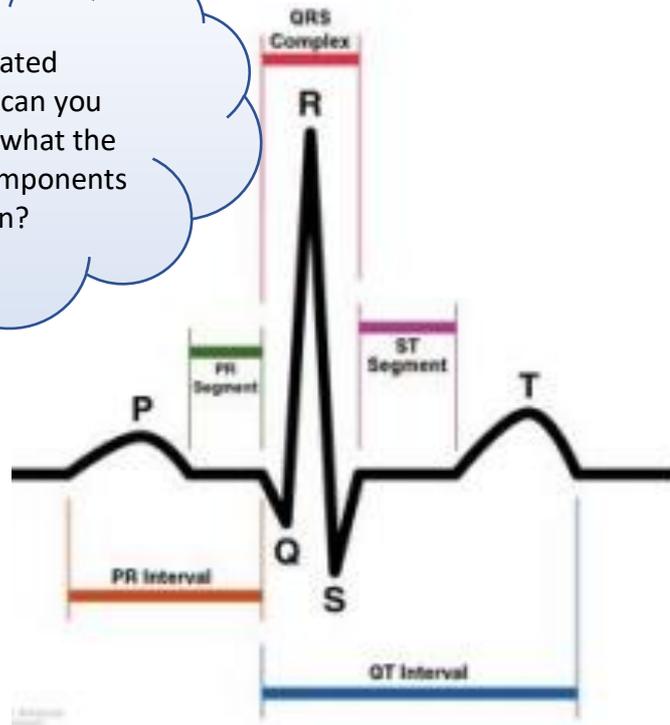
4. Aortic area

2nd inter costal space right sternal edge

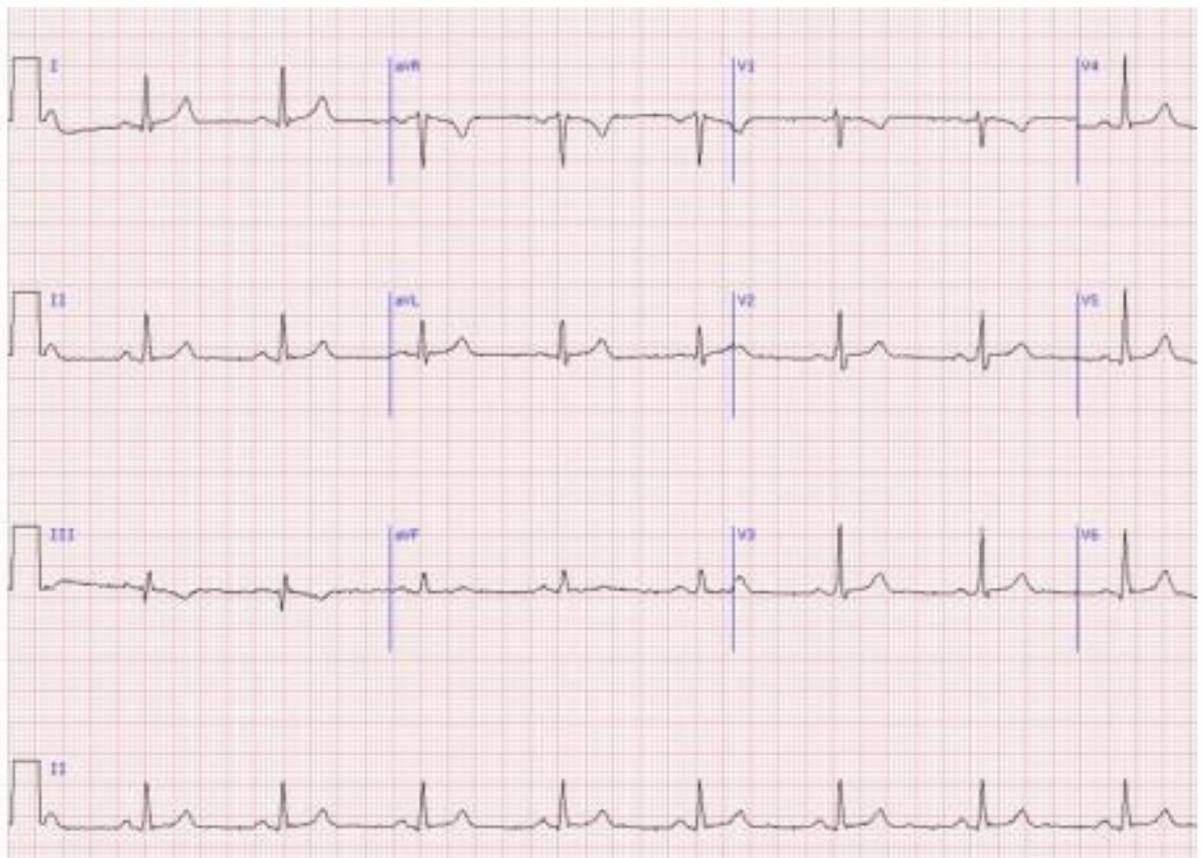
The first heart sound, or lub, is S_1 . It is produced when the tricuspid and mitral valves simultaneously close. S_1 marks the onset of systole, or ventricular contraction.

The simultaneous closing of the pulmonary and aortic valves produces S_2 , or dub. S_2 marks the end of systole. The brief silent period between S_2 and S_1 represents diastole, or ventricular relaxation. During diastole the ventricles fill with blood coming from the atria.

An isolated complex...can you remember what the different components mean?



This is a picture of an ECG showing (normal) sinus rhythm.



GP TUTOR TASK: GATHERING: presenting and debrief

- Discuss the patients seen today.
- Students who have been on the home visit should now start to be able to “present” the case back to you. Students who have observed a patient in clinic can present a patient you have seen together back to their colleagues.
- Students are unlikely to be able to present the case in the way you would present a medical history, instead ask them to try and “tell a story from beginning to end”.
- Use the template to identify some of the areas they covered and other areas that they might try and discuss with a patient next time.
- If the student has met any patients with cardiovascular disease can they identify any risk factors from the history?

Student Resources:

Your main text book for Clinical Contact is Macleod's Clinical Examination. This can be accessed through the reading lists and library link on blackboard [here](#). Before Clinical Contact this week you will find it helpful to read the following sections:

Handwashing page 4

Chapter 2: History taking; pages 6-9; and Gathering information on pages 11-20.

Chapter 3: General Examination; pages 42-47.

Chapter 6: The Cardiovascular examination; Anatomy pages 98-99. The history 105-6. The physical examination sequence. p106-7. The radial pulse 108-9. Normal findings 109-111. Blood pressure 112-114. The precordium 116-9.

For patient experience videos see health talk on line:

<http://www.healthtalk.org/peoples-experiences/heart-disease/heart-attack/topics>

You can watch the overview of heart attack. Ranulph Fiennes and others talking about how heart disease affected them.

<http://www.healthtalk.org/peoples-experiences/heart-disease/atrial-fibrillation/topics> you can watch the overview on what atrial fibrillation is for interest.

<http://www.healthtalk.org/peoples-experiences/heart-disease/heart-failure/topics> Clips of patients talking about heart failure and adaptations they made to their life

<http://www.healthtalk.org/peoples-experiences/heart-disease/heart-failure/peoples-ideas-about-causes-heart-failure> watch Interview HF37 who talks about his ethnicity and effect on risk factors.

<http://www.healthtalk.org/peoples-experiences/heart-disease/heart-attack/preventing-another-heart-attack> various videos on risk factors and preventing heart disease

Appendix 1: Gathering a well-rounded impression

From the student digital notebook

Nature of the current medical problem			Presenting problem	
			Current health and current health problem	
			History of presenting problem	
			Background to the current problem	
				Systems review
				More about the nature of the patient's overall health
				Past medical and surgical history
				Patient's previous health issues
				Drug and treatment history
				Current and past treatments and interventions Prescribed medication Allergies Over the counter meds Other interventions
			Social history	
			Social history: occupation, smoking, alcohol, accommodation, etc	
		Relevant Background / lifestyle	Other background information	
			Risk factors – modifiable, and non-modifiable	
Patient perspective on the problem				<i>Assessment of wellbeing, lifestyle and relevant background</i> - <i>Connectedness (family, friends, community, self)</i> - <i>Physical and Mental wellbeing (sleep, healthy eating, exercise, emotional health)</i> - <i>Daily life (finance, work, environment, fun)</i>
				Ideas, concerns, expectations, impact, emotion (ICEIE)
		Ideas the patient has about their health and condition		
		Things the patient is hoping to happen in the consultation today		
		Concerns that patient has about the consultation, their health, their condition or anything else		
		Impact that the patient feels this is having/ will have on their health, or more generally		
			Emotions around the consultation (anger, fear, relief etc)	

As you progress through your medical degree you will be introduced to the concept of a 'medical history': the formalized way in which we clinically record and present information both verbally and in writing. P11-20 and 32-39 of McCleod's Clinical Examination (13th Ed) provide an outline of content and format.

You are not expected, nor encouraged, to have clinical conversations with patients in this checklist fashion. The template here is provided to illustrate how GATHERING information through history overlays with a more traditional clerking structure. Remember, Gathering is broader than just 'history' it includes other sources of information, previous results, examination findings etc.

How to use this template: use this as an observation and reflection tool. Did you, your peers or your GP gather this information? How was it obtained? What worked well?