

# CONTINUING PROFESSIONAL UPDATE



## The Podiatric Consultation and Clinical Clerking



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### Introduction

Clinical clerking is an integral element of providing patient care and something we all do to a lesser or greater extent when we encounter a patient for the first time. Hayes & Collins describe history taking as the most important element of patient assessment (1). In medicine, clinical clerking is taught to medical students when they first step on to a ward and is then refined throughout their career. The importance of clinical clerking has not been so entrenched in podiatric education or routine podiatric practice. However, in recent years there has been an important sea change in the way patient care is provided and today many healthcare professionals are now taking on autonomous, advanced practice roles outside of traditional medical models of care. These roles include non-medical prescribing, nurse practitioners and extended scope physiotherapists, all of which require the practitioner to have strong history taking and diagnosis skills (1). Podiatrists have embraced some of these new advanced practice roles, but it is worth stating that as a group, we have historically tended to work in autonomous or independent practice and even now in contemporary NHS practice many still work in single chair podiatry clinics. Podiatrists therefore have a responsibility to perform accurate and comprehensive assessments before making a diagnosis or planning treatment.

### BOX 1. THE ESSENTIALS BEFORE YOU BEGIN

Check you have the correct patient by confirming two of the patient's: name, DOB, address, record number or NHS number.

Meet the patient in the waiting room – more on that below.

Check for any allergies to medicines, chemicals, foods, or materials. Particularly important if treatment is likely to include any use, contact with, or supply of any of the above.

Ensure the patient is not suffering a medical complaint which may be made worse by the planned treatment.

Be prepared to rule out 'red flag' diagnoses which might require urgent medical attention (Box 7). Red flags are symptoms or signs which may indicate serious diagnoses such as those listed in Box 7 and which may require more prompt medical or surgical attention.



## Why is clinical clerking important?

In short, clinical clerking encompasses the taking of a thorough history of the patient's presenting complaint, past medical history, surgical history, family history, social history, medication history and an assessment or enquiry of the key body systems. These elements can then be followed by appropriate physical examination of the patient and treatment planning.

Clinical clerking ensures that we know why our patient came to see us and perhaps more importantly ensures that we have taken every precaution to keep the patient safe. By the same token, in keeping our patients safe, we in turn keep ourselves safe, minimising the risk of complaints or claims of negligence. Simply put, wherever you work in podiatry, if you are patient facing, you will first need to assess your patient's needs and determine causative factors and associated risks.

## Where to start?

There is no universally agreed method for taking a history and assessing a person's health status. A quick search on the internet will reveal many different approaches all with their strengths and weaknesses. Coffey and Bowskill state that 'we do not take a history, rather we make a history with the patient' (2). The point being that the outcome of this initial consultation will be influenced by both the patient's and clinician's understanding, experience, and knowledge. Though there is little evidence to support one method of assessment over another, the Calgary-Cambridge Model is widely cited and largely described herein (1,3).

What follows is an approach I have used and adapted over the years. I have been fortunate to work with many podiatrists and podiatric surgeons and all have had an influence on how I approach patient assessment. One book I found particularly useful early in my career was Linda Merriman and David Tollafield's *Assessment of the Lower Limb* and in particular Dr Tim Kilmartin's chapter on Systems Assessments, which I have referred back to repeatedly in writing this CPD article (4).

When I started working as a podiatric surgery trainee in Staffordshire back in 2004, Paul Bewick instilled in me the importance of a robust and thorough patient assessment. Perhaps the practice of podiatric surgery focuses the mind, every time we operate, we place our patients at risk of injury or surgical complications, and we place ourselves at risk of clinical negligence claims as a result. As such it is always in our interest to be thorough and, where possible, mitigate risk. What I really want to stress is that podiatric surgery has taught me the importance of thorough patient assessment, but those lessons are directly relevant to anybody involved in the clinical practice of podiatry today.

### BOX 2. EVERY MOMENT COUNTS

It is always a good idea to meet your patient in the waiting room and walk back with them to the consultation room. Use this time to evaluate their core strength in rising from a chair, their co-ordination and balance, use of walking aids and of course their gait. For example, a patient with a severely painful foot may laterally off load and walk with an apulsive gait or limp, whilst a patient with Parkinson's disease might walk with a festinating or shuffling gait. Patients suffering with peripheral neuropathies such as Charcot Marie Tooth disease, which causes anterior muscle group weakness, may walk with a high stepping gait (steppage gait) due to an associated foot drop.

At the same time, observe the patient's face for clues as to their general health. A tired tense face may indicate chronic pain or depression, whilst certain anti-psychotic medications and Parkinson's disease can result in loss of facial expressions. The classic 'moon face' of Cushing's Syndrome and long-term steroid treatment is easily recognised. Cyanotic lips can indicate underlying respiratory or cardiovascular disease, while small brown plaques of cholesterol under the eyes may indicate atherosclerosis (4).

Finally observe the patient's overall body mass, do they appear obese, or underweight. These observations may relate to an underlying systemic condition you are about to diagnose.

Whatever method you ultimately choose to take a history, it is important to be structured and systematic. Being so minimises the risk of missing anything important (safety netting). Most of us today will likely use electronic record systems, particularly in the NHS. These systems will lay out the questions you need to ask but such systems are not infallible, and it therefore remains important to retain an ability to thoroughly investigate a problem in order to arrive at an effective treatment plan for the patient.

This CPD article cannot hope to cover the entirety of the subject in depth but intends to provide an overview which will hopefully stimulate further reading around patient assessment, and prompt further questions. I have purposely not touched on the psychological elements of patient assessment or interview techniques. I will also not focus on the physical elements of podiatric assessment such as vascular, neurological, dermatological and musculoskeletal assessments, each of these warrants substantial discussion in their own right.

### BOX 3. ELEMENTS OF THE PODIATRIC CONSULTATION

1. Presenting Complaint
2. History of Presenting Complaint
3. Current health Status
4. Medical and Surgical History
5. Current medication
6. Allergies
7. Family History
8. Social History
9. Systems Assessment
10. Physical examination
11. Diagnosis
12. Treatment Plan

### BOX 4. ABBREVIATIONS FOR CLINICAL CLERKING

Abbreviations were once commonplace in handwritten notes but with the advent of electronic record systems these annotations are becoming increasingly rare. I have included some of the most common abbreviations for completeness which I have adapted from the excellent Geeky Medics website (5).

#### History abbreviations

- PC = Presenting complaint
- HPC = History of presenting complaint
- PMHx = Past medical history
- SR = Systems review
- DHx = Drug history
- FHx = Family history
- SHx = Social history
- Number of days = number of days/7 - (e.g., 3/7 = 3 days)
- Number of weeks = number of weeks/52 - (e.g., 4/52 = 4 weeks)

#### Medicines Abbreviations

- OD = Once daily
- BD = Twice daily
- TDS = Three times daily
- QDS = Four times daily
- PRN = As required
- SC = Subcutaneous
- IM = Intramuscular
- IV = Intravenous

#### Examination abbreviations

- O/E = On examination
- BP = Blood pressure
- RR = Respiratory rate
- Sats = Oxygen saturation



## NEW PATIENT ASSESSMENT

### Presenting complaint

Start by describing the patient's presenting complaint in their own words. This is particularly important as we move towards a shared decision-making model of care where patients have an equal and shared responsibility for making decisions about their healthcare (6). We need to understand not only what the patient complains of but also what their expectations of care are. An example of a presenting complaint might be "big toe joint pain which is now preventing me from running".

### History of the presenting complaint

Having taken a note of the presenting complaint in the patient's own words, we now need to delve into more detail as we work towards formulating a differential diagnosis. The patient may present with several symptoms and if so, a history will need to be taken for each of these. It is necessary to ask open questions encouraging the patient to think and talk widely about their complaint(s). Several mnemonics are available to assist in a structured assessment of symptoms (see box 5). Make a note of the onset and duration of symptoms, exacerbating or relieving factors and any previous interventions. Make a note of the VAS score if the patient is complaining of pain. Active listening is a skill which all clinicians need to master; a good habit to get into following the initial conversation is to summarise and repeat back to the patient what they have told you. This gives the patient confidence that the clinician was both listening to and understanding of the patient's concerns.

#### BOX 5. ASSESSING A PATIENT'S SYMPTOM HISTORY

##### SOCRATES

**Site** – The location of pain or symptoms.

**Onset** – A timeline of the patient's symptoms, has the pain occurred rapidly or gradually developed.

**Character** – How does the patient describe their pain e.g., sharp, burning, aching?

**Radiation** – Does the pain move elsewhere or spread?

**Associated Symptoms** – Does the pain cause sleep disturbance, or is there an associated fever?

**Time** – When were the pain or symptoms first noticed (hours, days, or weeks)

**Exacerbating and relieving factors** – What makes the pain worse or better?

**Severity** – Ask the patient subjectively how bad the pain is on a scale of 0 to 10.

##### PQRST – AN ALTERNATIVE TO SOCRATES

**P**rovocation or palliation

**Q**uality or Quantity

**R**egion / Radiation

**S**everity scale

**T**iming

Both lists are adapted from Coffey and Bowskill (2).

### Current health status

This is an overview of any ongoing health conditions for which the patient requires regular treatment from a GP or hospital consultant. For a healthy individual you may go no further than recording 'Good General Health' or GGH, but you can extend this further by asking some additional general health questions; are you eating, sleeping, feeling well in yourself? A negative response may be an indication of systemic disease. Does the patient appear well? If not find out why. Also consider a patient's cognitive abilities, their ability to comprehend and retain information. Do they have the mental capacity to give informed consent for treatment and will they be concordant with treatment plans? Questions here should provide a broad overview of a patient's well-being.

### Past medical and surgical history

The past medical history should be recorded in chronological order, noting the onset and duration of periods of illness. In the case of diabetes for example, it helps to know how long a patient has been treating the condition to better understand how and why that disease might be affecting the patient more severely now. Ask the patient if they have had any previous operations noting when they were, and whether the treatment was under general or local anaesthesia, whether the procedure was successful and healing uneventful, a reasonable predictor of future healing potential. Also consider whether scarring relating to these surgeries was problematic, any history of hypertrophic or Keloid scarring should be recorded. In adults, always ask questions about any serious illnesses in childhood, rheumatic fever for example, can leave patients with heart valve damage which in turn can increase the risk of endocarditis, an infection of the heart tissue.

### Medication

Any current prescribed medication should be recorded, including dosage, route of administration and frequency. Enquire as to whether the patient receives prescriptions from their GP, hospital Doctor or other healthcare provider. In addition, ask about the use of over-the-counter medicines, homeopathic and herbal remedies. Some herbal remedies such as St. John's Wort can interact with prescribed medicines, whilst Garlic supplements can increase bleeding tendencies (7,8). Often women do not think of the oral contraceptive pill as a medicine, so it is reasonable to ask women of an appropriate age the question (2). Finally, as a healthcare professional it is entirely reasonable and proper to ask about illicit drug use. As podiatrists who may supply or administer medicines through our exemptions or prescribe medicines as non-medical prescribers, it is of crucial importance to identify any potential drug interactions.

### Allergies

Many patients today present with allergies, some of which will be severe Type 1 allergic reactions giving rise to anaphylaxis, a potentially life-threatening medical emergency necessitating prompt treatment including the administration of adrenaline. Therefore, it is imperative that this information is recorded at the earliest opportunity. Any known allergies should be documented along with an explanation of the reaction experienced. Of particular concern are allergies relating to specific medicines, plaster, tape, metal, iodine, latex, and foods. If the use of local anaesthetic is anticipated, as in the



case of nail surgery, it is always wise to enquire about previous exposure and whether there were any side effects.

Many patients confuse adverse drug reactions with allergies. It is therefore important to question patients further on the nature of any allergic reaction. A stomach upset whilst taking penicillin antibiotics is not uncommon but is also not an allergy. It is crucial that we do not miss potentially life-threatening anaphylactic reactions to penicillin, but at the same time failing to accurately record 'true' allergies and differentiate them from adverse drug reactions may well exclude patients from receiving lifesaving treatment for severe infection or sepsis. A recent audit found that 90% of those patients recorded as penicillin allergic were incorrectly labelled with no strong evidence of a proven penicillin allergy (9).

### Family history

Many diseases have a genetic element with inheritance passing through generations. This is even relevant to common podiatric conditions such as hallux valgus which has been shown to be an inherited trait (10). Common systemic conditions to ask about include heart disease, hypertension, stroke, deep vein thrombosis and diabetes. Where parents or siblings are deceased, a sensitive enquiry should determine what the cause of death was. Understanding a family history can give clues to the rationale behind your patient's hopes, fears, and expectations.

### Social and personal history

Questions here can provide further insight into the health and lifestyle of your patient, which may help to explain the presenting complaint (e.g., plantar heel pain in a postman or woman). Consider the patient's living arrangements, do they live alone or with a partner? Do they have to climb several flights of stairs or live far from public transport links? All of which can influence treatment options, outcomes and concordance. Also be mindful of the need to identify safeguarding issues such as self-neglect and be prepared to signpost to other services or escalate to the appropriate team. Questions to ask about social and personal history include the following.

#### ***Do you work? or How active are you?***

The patient's job as suggested above may be relevant to their presenting complaint but may also influence the choice of treatment. This is particularly relevant to invasive

treatments or those which require prolonged periods of rest. As with occupation, it is important to know how active a person is and whether they play any sports. This may help to explain the presenting complaint; Os Trigonum pain in ballet dancers, or Achilles tendinosis in runners. If a patient plays sport competitively, it will be necessary to understand their expectations of treatment and hopes for return to play.

#### ***Do you drink alcohol or smoke cigarettes, if so, how much?***

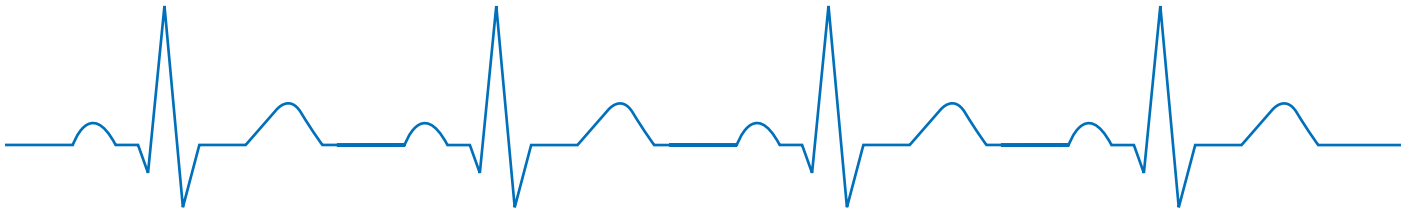
Excessive alcohol consumption raises concerns regarding liver function, peripheral neuropathy, and non-concordance with treatment plans. Smoking delays wound and bone healing and increases the risk of both infection and cardiovascular disease.

### Systems Review

The purpose of the systems overview is to ensure we have not missed anything important with respect to the patient's health. Though the patient will already have been asked a number of questions about their general health, there is a tendency for the patient to report only the most pressing health concerns. By spending a few moments asking probing questions about each of the body systems we can avoid missing any other important findings. Randle, Coffey, and Bradbury (2009) offer a comprehensive list of questions to ask as does Kilmartin (1995) and more recently Hayes and Collins (1,2,4,11). It is open to debate which questions should be asked, and when. Clearly not all these questions will have to be asked of all patients and of course there may be other pertinent questions to ask as a result of initial enquiries. In most cases a concise question or two in each body system will either suffice or alert the podiatrist to the need to probe further (1).

#### **BOX 6. 'CRAGCELS' SYSTEMS REVIEW**

- Cardiovascular
- Respiratory
- Alimentary
- Genitourinary
- Central Nervous system
- Endocrine
- Locomotor
- Skin



## CARDIOVASCULAR SYSTEM (CVS)

A functioning cardiovascular system is required to keep the foot, lower limb, and all other body systems in good health. The following questions might be considered useful to determine the presence of heart failure, ischaemic heart disease, peripheral vascular disease, anaemia, and hypertension. When the CVS fails to function normally, patients are at increased risk of stroke, myocardial infarction (MI), and early death.

### ***Do you experience any shortness of breath (SOB) or ankle swelling?***

SOB, breathlessness, and ankle swelling can signify congestive heart failure which can develop over time as the system slowly fails to meet demand. Any shortness of breath, especially when lying flat (Orthopnoea) or sudden shortness of breath when sleeping (paroxysmal nocturnal dyspnoea) can be a sign of left ventricular failure. As demand increases, the heart compensates by working harder (increased heart rate) and the heart muscle enlarges (left ventricular hypertrophy) but these compensatory changes will only go so far and eventually the system will begin to 'back up' resulting in pulmonary oedema and with it shortness of breath. As the right heart fails, return of circulation from the periphery will falter due to congestion giving rise to increased venous pressure and bilateral ankle or lower leg oedema. Over time, fibrous deposits will prevent the oedema from clearing (4). Unilateral oedema suggests an alternative diagnosis such as deep vein thrombosis, trauma, or cellulitis. Oedema may readily indent (pitting oedema), but in lymphoedema it may not be possible to indent (non-pitting) (12).

### ***Do you suffer chest pain at rest or with exercise?***

Chest pain, and upper arm pain may indicate ischaemic heart disease (angina) which may be stable, occurring predictably with effort (e.g., walking upstairs or climbing a hill) or unstable occurring unpredictably. Acute chest pain can signify a myocardial infarction requiring urgent medical attention whereas the pain of angina is often relieved by rest. It should be noted that chest pain can also be caused by problems with the oesophagus such as gastro-oesophageal reflux. In clinical practice chest pain that develops during a consultation is best treated as a medical emergency and medical advice should be sought. How that advice is sought will depend on the location of your practice and the severity of symptoms but may include a call to NHS 111 for advice or a 999 call in an emergency.

*Angina of increasing frequency which may wake the patient at night and is not quickly controlled with medication (GTN) is unstable angina and requires medical attention.*

### ***Do you suffer palpitations, arrhythmias, or heart valve problems?***

Patients experiencing palpitations with associated chest pain, dyspnoea or dizziness should be referred for ECG monitoring if

not previously diagnosed. Podiatrists with access to Dopplers will frequently recognise rhythm disturbance, most commonly Atrial Fibrillation which left untreated increases the risk of Stroke secondary to thromboembolism (13).

### ***Do you suffer from night cramps or cramps in your calves if you walk short distances?***

Peripheral arterial disease (PAD) may occur independently of cardiovascular disease. A history of rest pain or intermittent claudication should alert the podiatrist to the possibility of PAD. Exercise tolerance tests and formal assessment with a vascular laboratory should be considered. In addition, assessment of peripheral perfusion by manually checking pulses and where appropriate, listening to Doppler sounds should be performed for all patients.

### ***Do you suffer with anaemia or blood clotting disorders?***

Having considered the 'machinery' of the cardiovascular system we should also consider the blood itself. There are many causes of anaemia, but all will give rise to feeling excessively tired or fatigued. Sickle cell disease is a type of anaemia which contraindicates the use of tourniquets, owing to changes which occur to the haemoglobin when exposed to hypoxic conditions. Clotting disorders, such as haemophilia and von Willebrand disease, complicate decisions around injection therapies, surgery and use of scalpels in general. A prior history of venous thromboembolism places the patient at risk of post-thrombotic syndrome giving rise to venous ulceration of the ankles and can increase the risk of subsequent thromboses particularly with long haul travel or further surgery.

### ***Do you suffer with raised cholesterol or high blood pressure?***

Finally, it is worth asking the patient about hyperlipidaemia or hypertension as both increase the risk of later cardiovascular complications. However, unless these conditions have been diagnosed previously, the patient is unlikely to be aware unless suffering with severe hypertension. Serious symptoms of hypertension include dizziness, flushed face, headache, nose bleeds and fatigue (4). It is not uncommon for hypertension to be diagnosed in podiatric surgery clinics, where patients have previously been entirely asymptomatic. Both hypertension and hyperlipidaemia may be associated with coronary artery disease and atherosclerosis. It is important to note that people with coronary artery disease have a 10-fold increased risk of MI over the normal population. Generally where patients have experienced an acute cardiac event requiring medical or surgical treatment in the last 6 months, it may be wise to delay routine invasive treatments or at the very least consult with the patient's cardiologist (14,15).

## RESPIRATORY SYSTEM

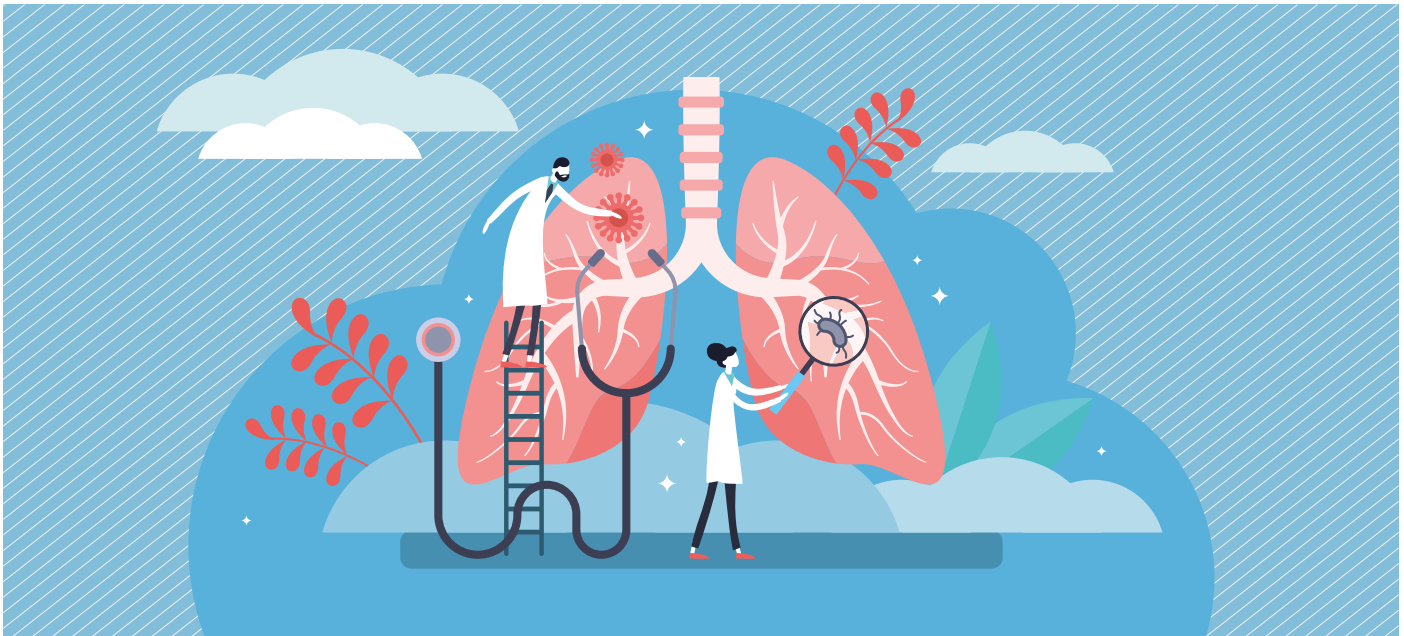
Symptoms of respiratory disease overlap with those of cardiovascular disease, and in practice although we examine each system as a separate entity, keep in mind that they work together to keep the body well perfused and oxygenated. A failure of one system will therefore directly impact on the proper functioning of the other.

### ***Do you suffer from asthma, bronchitis, recurrent chest infections or any other problems with your chest?***

Asthma may be provoked by stress so advise patients to bring reliever inhalers with them when treatment is planned. Bronchitis is generally seasonal, affecting patients in the winter months. If the patient has a persistent or recurrent cough, do they ever cough up blood? Haemoptysis lasting more than

two weeks is often a sign of serious lung disease and patients should be referred to their General Practitioner (GP) for further investigation. A persistent cough of more than 3 weeks duration should always prompt a visit to the patient's GP (13).

Podiatrists are not typically trained to examine the respiratory system, but you can look for obvious signs such as, breathlessness, wheeze (a whistling or rattling sound), stridor (a harsh grating sound), and increased or decreased respiratory rate, all of which may signify disease. Central cyanosis (lips, tongue, mucus membranes) and peripheral cyanosis are indications of chronic obstructive pulmonary disease (COPD), which when combined with peripheral oedema may suggest right-sided heart failure secondary to pulmonary hypertension (Cor Pulmonale). Clubbing of the nails is frequently observed in chronic respiratory disease.



## ALIMENTARY SYSTEM

### ***Do you have any dental disease or infections?***

Any bacterial infection presents a theoretical risk of haematogenous spread of infection to elsewhere in the body. This is of greatest concern when considering nail surgery or podiatric surgery but may also be relevant in immunocompromised patients with open ulceration.

### ***Do you have any history of mouth, stomach, or duodenal ulcers?***

Persistent or recurrent mouth ulcers can be a sign of anaemia. A history of duodenal ulcers and stomach ulcers contraindicates the use of non-steroidal anti-inflammatory drugs (NSAIDs) which are often used to manage musculoskeletal pain. Of note, NSAIDs such as Ibuprofen can be freely purchased by the public and so it is important to remain alert to their inadvertent use when contraindicated.

### ***Any history of liver disease, hepatitis or jaundice?***

Liver disease increases the risk of infection and bleeding following invasive treatments due to impaired production

of immunoglobulins and clotting factors. Patients with liver disease may present with jaundice (yellowing skin), spider naevi (minute clustered blood vessels under the skin), pruritis (itching), palmar erythema, and leukonychia. Patients with liver disease may also be at risk of drug toxicity because of an impaired ability to metabolise medicines, including amide local anaesthetics (4,16). Many drugs including NSAIDs, opioids and certain antibiotics are contraindicated in liver disease or require a dose reduction. Alcohol abuse will impact the normal function of the liver causing some drugs such as Warfarin to be rapidly metabolised (resulting in a loss of efficacy) while metabolism of others such as benzodiazepines, will be delayed resulting in a prolonged effect and potential toxicity.

### ***Any history of eating disorders?***

Bulimia and anorexia nervosa raise concerns about the patient's nutritional status. Malnutrition of any cause makes it much more difficult for the body to heal following injury or treatment.

## GENITOURINARY SYSTEM

### ***Any history of urinary tract infections (UTI)?***

Podiatrists would not typically examine the genitourinary system but there are still some important questions to ask. UTIs contraindicate invasive treatments such as nail surgery due to the risk of haematogenous spread of infection.

### ***Any possibility you may be pregnant?***

If so, defer any non-urgent treatment requiring local anaesthesia, particularly during the first trimester, or carry out a pregnancy test to confirm.

### ***Any history of kidney disease?***

The kidneys are not only responsible for maintaining our electrolyte balance but also have an important role in maintenance of blood pressure and bone metabolism. Patients with renal disease may present with nausea, lethargy, anaemia, ankle oedema, hypertension, osteoporosis, and gout. All of these findings can be considered nonspecific, a renal specific

symptom is a change in frequency of character of micturition (urinating). For example, dysuria (painful urination) occurs with inflammation and infection, polyuria (increased frequency) with Diabetes Mellitus, infection and bladder changes, and haematuria (blood in the urine) with bladder infections, ureteral stones, and prostatic disease. Patients may complain of pain in the renal triangle, the small of their back to the left or right of their spine, particularly so with disease or kidney stones (4).

Sexually transmitted diseases might be uncomfortable to ask about, but they can give rise to a range of lower limb symptoms and so should be enquired about. Gonococcal arthritis can occur secondary to gonorrhoea infections, and results in joint pain and destructive arthritis if left untreated. A form of reactive arthritis known as Reiter's disease can occur after gastrointestinal or genitourinary infections and is associated with a classic triad of arthritis, conjunctivitis, and urethritis. In the foot this can present as joint pain and dactylitis (4,17).

## CENTRAL NERVOUS SYSTEM

### ***Do you suffer with fits, fainting, blackouts, epilepsy, or headaches?***

Epilepsy, especially grand mal (seizures with loss of consciousness and violent muscle contractions), may present problems during any treatment. Ask about frequency and severity of attacks, are they triggered by stress? Where epilepsy is unstable, invasive treatments should be deferred and specialist advice sought.

A history of fainting alerts the clinician to the possibility of this happening during a treatment or while entering or leaving the premises. 'Black outs' may be a symptom of Transient Ischaemic Attacks (TIA), especially in the more elderly patient and if so, will relate to a cardiovascular history and possible hypertension. Patients with a history consistent with TIAs should be referred for further investigations. Likewise, stroke or cerebro-vascular accidents (CVA) also typically relate to a cardiovascular disease history. The resultant hemiplegia of severe stroke may pose difficulties for the patient ambulating and communicating. Patients with a history of TIA or CVA may also be taking antiplatelet medication (e.g., clopidogrel, dipyridamole or Aspirin) which will likely place them at increased risk of bleeding in the context of invasive treatments including nail surgery.

### ***Do you have any problems with balance or coordination?***

Cerebellar dysfunction may result in an abnormal gait pattern (ataxia) characterised by a broad stance to compensate for instability, with a slow unsteady gait and difficulty turning. These all pose problems for ambulating and can pose problems for attending clinic or outpatient appointments. As mentioned earlier, the patient's gait is best observed in the first instance as they walk with you from the waiting room. Patients presenting with undiagnosed problems with balance or coordination should be referred to their GP for further investigation. Cerebella disorders include the inherited condition Friedreich's Ataxia, and acquired conditions such as multiple sclerosis and traumatic brain injury (4).

Questioning around the central nervous system is, rather like the peripheral vasculature, enhanced by the physical examination which comes later. Brisk, clonus (involuntary and rhythmic muscular contractions and relaxations) or exaggerated reflexes including a positive Babinski sign suggest an upper motor neurone lesion such as following a stroke, brain or spinal trauma and tumours. Affected patients will present with muscle weakness and spasticity. On the other hand, weak or absent reflexes suggest a lower motor neurone lesion, such as Spina Bifida or Charcot Marie tooth. Patients with lower motor neurone lesions will present with muscle weakness and flaccidity (13). Slowly relaxing reflexes are also seen in hypothyroidism and reflexes generally slow-down in the elderly.

### ***Do you experience any numbness, loss of feeling or altered sensation?***

Peripheral neuropathies pose a significant risk to both life and limb, increasing the risk of falls which, in elderly populations can be fatal and increasing the risk of late detection of injuries, such as fractures and infections, both of which will give rise to prolonged morbidity if not treated promptly. Patients with a peripheral neuropathy will typically describe a variety of neuralgic symptoms sometimes including pain. Strait and Metcalf describe a sensation of wearing an invisible glove or sock, burning, or freezing pain in the extremities, numbness, tingling, or pins and needles. The symptoms will depend upon muscle groups affected and whether those involved are distal or proximal, but include difficulty in turning keys in locks, unfastening buttons, foot drop, and difficulty climbing stairs (18). Aetiologies of peripheral neuropathy include, Diabetes Mellitus, Vitamin B12 deficiency, Multiple Sclerosis, Spina Bifida, Charcot Marie Tooth Disease, spinal cord compression, peripheral nerve injury, alcoholism, and certain medications (e.g., amlodipine, carbamazepine, amiodarone, metronidazole). On examination, reduced appreciation of light touch, pain, and vibration suggests a peripheral sensory neuropathy. Patients with underlying neuropathies also face a greater risk of complications with local anaesthetic medicines, including prolonged duration of block and increased neurotoxicity to local anaesthetic agents (19).



## ENDOCRINE SYSTEM

### ***Do you suffer with diabetes? If so, is it well controlled?***

Type 2 diabetes is an epidemic problem in the United Kingdom and though well controlled diabetes is likely to pose no particular podiatric risk, poorly controlled diabetes will give rise to a number of complications across a range of body systems including retinopathy, nephropathy, neuropathy and peripheral arterial disease affecting the small vessels (20). All of which increases the risk of ulceration, infection, and subsequent amputation. Most patients will be aware of their long-term control measured with the HbA1c test, whilst those who manage their diabetes with insulin will likely have awareness of their daily blood sugars. These measurements will give the podiatrist a good idea of how concordant a patient is with their treatment and therefore how likely it is they will heal following any planned podiatric treatment.

### ***Do you have any problems with your thyroid gland?***

General health questions will often point to underlying thyroid pathology. Tiredness, balding, hair loss, dry skin, fatigue, forgetfulness, and weight gain can point towards hypothyroidism, whilst intolerance of heat, weight loss, tachycardia, hand shaking, change in handwriting and sweaty feet or hands can point to hyperthyroidism. In addition, hyperthyroidism may be implicated in nerve compression including Tarsal Tunnel Syndrome (4,13).

There are many other endocrine diseases, many of which have direct relevance to podiatry. Acromegaly, a condition of excess growth hormone secretion, manifests with enlarged hands and feet, nerve compression, arthritis, osteoporosis, heart failure and an increased risk of developing Diabetes (13). Primary Hyperparathyroidism is the most common cause of raised calcium levels (hypercalcaemia) giving rise to osteoporosis while secondary hyperparathyroidism is associated with low calcium (hypocalcaemia) and results in osteomalacia (13).

Disease of the adrenal glands may give rise to either excess or under production of glucocorticoids or mineralocorticoids (steroids) which are essential for the maintenance of homeostasis, blood pressure and the mounting of stress responses to illness, infection, or trauma. Addison's disease is a condition of chronic adrenal failure and may give rise to a life threatening Addisonian crisis in response to trauma, surgery or increased physiological stress as in infection. Patients with Addison's disease require lifelong steroid supplementation (12,13). Cushing's syndrome is a disease of excess glucocorticoid secretion, or perhaps more commonly as a side effect of exogenous glucocorticoid administration (steroid treatment). The syndrome may result in fat redistribution, a 'moon' face, hypertension, osteoporosis, hyperglycaemia, oedema, thin skin, delayed healing, and predisposition to infection.

## LOCOMOTOR SYSTEM

### ***Do you suffer with arthritis, bone, or joint pains elsewhere in your body?***

Rheumatoid arthritis is relatively rare affecting 1% of the UK population. Patients may complain of joint stiffness in the morning, lasting more than an hour and affecting at least three joints. It has a predilection for the small synovial joints of the hand and foot including the MTP joints but excluding the DIP joints. (17). The initial presenting feature is often foot pain (21) with the MTP joints commonly affected. In addition, hallux valgus, laterally subluxed lesser toes (frequently referred to as 'windswept' lesser toes) and the development of soft tissue nodules are common features of later disease. Patients with inflammatory arthropathies are often managed with biological medicines, such as the anti-TNF treatment Infliximab which can impair the body's ability to fight infection. It is usually recommended that such medicines are stopped ahead of invasive procedures, in conjunction with the patient's Rheumatologist.

By comparison, Osteoarthritis (OA) is much more common affecting 15% of the population of the United Kingdom (17). OA also causes joint pain, stiffness, swelling and bone enlargement (osteophyte formation). In practice we often see OA affecting the MTP joints, Lis Francs articulations, hindfoot and ankle. There are various forms of osteoarthritis including nodal generalised which tends to affect the large joints, involving the MTP joints but also causes nodules to form over the PIP joints (Bouchard's) or DIP joints (Heberden's). Erosive OA causes joint ankylosis and affects both the DIP joints and PIP joints. Large joint OA typically affects the knees.

Gout is one of the crystal arthropathies and has a predilection for affecting the 1st MTP joint but can affect other joints.

Seronegative arthropathies where a patient is negative for Rheumatoid factor may variably affect the foot with Psoriatic arthritis and Reactive arthritis both causing dactylitis, while Ankylosing Spondylitis may give rise to insertional Achilles tendinopathy (17). Osteoporosis may leave patients more prone to stress fractures of the lesser metatarsals and ankle fracture following falls.

Constant localised bone pain which does not ease with rest should always be investigated further and may signify fractures, bone tumours or metabolic disease. Bone pain which disturbs sleep is a particularly sinister finding and warrants prompt medical attention (17).

## SKIN

### ***Any skin conditions such as psoriasis or eczema?***

Psoriasis may be exacerbated by surgery and psoriatic reactions may occur along the incision line (Koebner's phenomenon). Patients with severe psoriasis may be taking methotrexate which can delay skin healing, though the evidence base is mixed about the importance of this effect. Eczema causes itchy, dry skin which cracks affecting the integrity of the skin and increases the risk of infection. Eczema may be familial, related to hay fever and asthma or may relate to allergens, particularly food allergies. As mentioned earlier, where a patient has undergone surgical procedures in the past, enquire about wound healing and scarring.

Consider skin colour which in Caucasians can signify disease. Jaundice may indicate liver anomalies, pallor may indicate anaemia, while cyanosis may indicate respiratory or circulatory problems. For people with darker skin tones, clubbing of the finger nails and vitiligo may indicate liver disease, whilst yellowing of the whites of the eyes may indicate jaundice (22).



## Initial physical examination

This is the element I think most podiatrists excel at thanks to the hands-on nature of our work. The initial physical examination will likely include an element of musculoskeletal assessment, neurovascular assessment, dermatological assessment, and appraisal of any wounds if present. Each of these subjects warrants a CPD article of their own and are beyond the scope of this paper. I would however include in this section the findings of any chairside investigations, such as ultrasound examination or make a note of any investigations which may have been requested e.g., x-ray or blood tests.

## Diagnosis

Making a diagnosis is arguably the primary reason for undertaking the whole clinical clerking exercise. To be able to formulate a diagnosis, practitioners will need an in-depth knowledge of podiatric pathology and medicine as it relates to podiatric practice. Some of this knowledge will come from formal education but much will be developed and refined over the course of a career. What is important early on is to be aware of the 'Red Flag' diagnoses which will likely require prompt podiatric or medical attention, see Box 7.

At this stage of clerking, you may well have a firm diagnosis e.g., hallux valgus, but often there is some uncertainty, so you may wish to record your provisional diagnosis. If there are a number of possible causes of, for example central metatarsal area pain, you may wish to record your differential diagnoses (DDx). You can then work through these possibilities with a series of further assessments, and investigations or by a requesting a second opinion from colleagues.

## Treatment plan

Having assessed the patient's presenting complaint, evaluated their health status, and made a diagnosis or differential diagnosis, it is now possible to move onto treatment planning. This may include foot health advice, conservative and surgical treatment options. In more complex cases the treatment plan may include the investigations required to confirm a provisional diagnosis. Where the podiatrist determines they are unable to help the patient, a recommendation may be made for further assessment or treatment with another provider.

### BOX 7. RED FLAG DIAGNOSES IN PODIATRIC PRACTICE

- Infection
- Fracture or Dislocation
- Tendon Rupture
- Critical Limb Ischaemia
- Ulceration (or any cause)
- Charcot neuroarthropathy
- Cancer



### BOX 8. CLINICAL CLERKING AND TELEHEALTH DURING THE COVID-19

Telehealth is nothing new, but the COVID-19 pandemic has resulted in a massive surge in telephone and video consultations over the last 18 months. Much of the clinical clerking model is readily adaptable to telehealth, most of the process being a series of questions, answers, and discussions. Telehealth can never replace the hands-on palpation of pulses or assessment of joint range of motion but what it can do, with a careful selection of questions, is identify those patients with the most pressing need (think Red Flag diagnoses). In the case of the pandemic, this has allowed clinicians to call into clinic only those patients who required an urgent face to face assessment. In normal times, telehealth can be used as a useful triage to determine waiting list prioritisation. Patients may appreciate an initial telephone consultation as a practical means of addressing their health needs with less interruption to work and caring commitments than a traditional clinic-based appointment would require. Telehealth can be further enhanced with instructional videos and online resources and as such is likely to become a far more common means of assessing, managing, and caring for our patients in the years to come.

### Conclusion

I hope this article has been a useful refresher and has given readers an understanding of why clinical clerking is such an important part of the patient assessment process. The structure I have suggested here is not a gold standard but is a model I have worked with for many years and which captures most of the important elements of health and medicine which ultimately impacts on my treatment planning and the safety of patients under my care. Now is probably a good time to reflect on your own assessment approach, perhaps it already hits the mark, perhaps it requires some refinement. For me, the key is to be structured and organised in asking my questions, clearly not all patients will require a thorough interrogation and in many cases a question or two for each body system will suffice. But those opening questions may lead on to more detailed questioning and possibly the need to investigate further, discuss with colleagues, MDT partners or general practitioners. If we do not ask the question, we will never know the answer! ■

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