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Guidelines in practice

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Guidelines Live 2020 companion issue

- **Key learning points**
  Eczema
- **Top tips**
  Dermoscopy
- **Implementing guidelines**
  Venous thromboembolic diseases
- **Implementing guidelines**
  COVID-19 and respiratory conditions
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Guidelines Live 2020

17–18 November 2020

Guidelines Live

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Key

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Welcome to *Guidelines Live* 2020

I would like to take this opportunity to wish you a very warm welcome to *Guidelines Live* 2020. This year's event is an exclusively virtual event, with over 36 presentations on a range of topics, presented by experts in their respective fields. I hope you find this new virtual way of conferencing an enjoyable learning experience.

The *Guidelines in Practice* and *Guidelines Live* teams have been working hard to ensure that you are still able to get the most from the conference; even though this year's event is virtual, we are still able to provide you with an abundance of expert sessions and supporting resources to enhance your guidance-focused learning.

Within this special companion issue of *Guidelines in Practice*, you will find a selection of expert articles that are closely aligned with the topics discussed by expert speakers during the event. You can use this companion issue to learn more about the topics discusses in specific sessions; we have highlighted the corresponding speaker session at the beginning of each article contained within this issue. We have also included a couple of CPD exercises, so you can test your knowledge after reading an article or watching a session. At the end of the event, you can take this companion issue away with you to read later and refer back to—just email this and other *Guidelines Live* resources to yourself from your delegate bag.

If you like what you see and you want to read more *Guidelines in Practice* articles, visit the *Guidelines in Practice* stand where you can read and download the November 2020 issue. You can also head over to our website, **guidelinesinpractice.co.uk**, where new articles are published every week. If you're not already registered, head over to **guidelinesinpractice.co.uk/register**—it's completely free if you're a doctor, nurse, or pharmacist.

I am always interested to hear your feedback about *Guidelines in Practice* as well as any suggestions you have for future topics we should cover. It would be lovely to me you at one of a number of 'Meet the Editor' sessions throughout the event:

- Tuesday 17 November
  - 10.00–11.00 at the *Guidelines in Practice* stand
  - 13.30–14.30 in the Clinical Networking Lounge
- Wednesday 18 November
  - 10.00–11.00 at the *Guidelines in Practice* stand
  - 12.00–13.00 in the Clinical Networking Lounge.

If you don't get the chance to watch all of the sessions and want to extend your *Guidelines Live* experience, all of the sessions will be available on demand—details will follow by email after the event.

Gemma Lambert, Editor
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Guidelines in Practice | *Guidelines Live* 2020 companion issue

independent content

Key learning points: PCDS eczema

Dr Kash Bhatti presents five key learning points from updated Primary Care Dermatology Society guidance on eczema in adults and children

Guidelines Live

This article was first published in *Guidelines in Practice* in March 2020. Read it alongside Julie Van Onselen's *Guidelines Live* session on 17 November, 10.00

Read this article to learn more about:

- what to consider when assessing patients with eczema
- how to advise patients about applying the ABC principles of eczema management
- when to refer patients with eczema to a specialist.

0.5 CPD CREDITS

Read this article at: **GinP.co.uk/455224.article**

Eczema is a common, chronic, inflammatory skin disorder, which has a relapsing–remitting course, and is characterised by itch.[1] Eczema (also termed atopic eczema or atopic dermatitis) can present in any age group, with the majority of cases (approximately 60%) diagnosed before the age of 1 year.[2] Overall, up to 30% of children and 10% of adults may be affected.[2,3] Uncontrolled eczema can lead to chronic skin changes and predispose to secondary infection.[1,2] Beyond the skin, many deleterious sequelae can develop, such as profoundly disturbed sleep, impact on self-esteem and mood, poor physical and social development in children (including disrupted educational attainment), and loss of earnings in adults.[2,3]

Although no cure for eczema exists, most patients with eczema can be managed very well in general practice. Guidance for the diagnosis and management of atopic eczema in under 12s was published by NICE in 2007,[4] and SIGN published a guideline on the management of atopic eczema in 2011.[5] This article distils the key learning points from the treatment pathways for paediatric and adult eczema published by the Primary Care Dermatology Society (PCDS) in 2019.[6,7]

The PCDS paediatric and adult treatment pathways describe and detail how to recognise and manage specific variants of eczema that may occur in these respective groups.[6,7] The paediatric pathway describes infant facial eczema, eczema herpeticum, and discoid and chronic lichenified eczema.[6] In adults, stasis, discoid, pompholyx, contact, and asteatotic eczema (also known as eczema craquelé) are described.[7]

> Although no cure for eczema exists, most patients with eczema can be managed very well in general practice

1 Assess the severity of symptoms

Assessment begins by evaluating the presence and severity of symptoms such as itch, a hallmark of the condition, and typical skin findings. Eczema is characterised by erythematous rashes, which are usually distributed bilaterally.[1] Rashes generally have diffuse or ill-defined borders (one cannot usually draw a border around them, compared with psoriasis, for example). Scratch marks (excoriations) may be present. Skin may be thickened (lichenified), with increased skin markings, suggesting a chronic itch–scratch cycle. There may be secondary bacterial infection. The presentation of rashes may vary according to age. Eczema in infants often presents on the cheeks and extensor surfaces; with advancing age, eczema tends to localise more to flexural sites and the hands, face, and neck.[1,8,9]

Eczema can have a significant impact on quality of life, and important symptoms to ask about are its effects on the patient's sleep and wellbeing.[2,10] Caring for children with eczema can be time consuming: it can affect relationships, and cause sleep loss among family members of affected patients.[10,11] It is, therefore, important to recognise the widespread burden of eczema.

2 Ask about previous treatments

Patients often present after trying different treatments, over-the-counter medications, or natural remedies. It is important to know what they have tried, what helped and what did not, how long any treatments were used for, and what the expectations of treatments were. For example, topical corticosteroids (TCS) may have not been used long enough for any meaningful effect, or they may have been overused. Similarly, patients often try different moisturisers, and express frustration that '*nothing works*', with the belief that moisturisers will rapidly improve inflamed patches of skin, rather than understanding that these treatments are used to repair and maintain the skin barrier. However, some moisturisers can irritate skin, as a particular ingredient may exacerbate eczema. A common reason for unsatisfactory outcomes in eczema is a lack of treatment adherence.[2,12] It is vital to understand what patients or parents believe and do. This can help frame the conversation about management and improve concordance.

3 Apply the ABC principles of management

The PCDS guidance breaks management down into the simple algorithm of 'ABC':[6,7]

- avoid triggers
- bland moisturisers
- control inflammation.

Avoid triggers

Eczema is a multifactorial disorder that principally causes a disruption to the skin barrier, leading to dry skin and inflammation.[1] Triggers such as cigarette smoke, woolly fabrics, or anything that lathers (soaps, shower gels, and bubble baths) should be avoided to minimise exacerbation of eczema.[6,7] Some patients will have specific triggers; for example, particular animals or pets, chlorine in swimming pools, extremes of temperature, or even stress.[13,14]

Bland moisturisers

Fragrance-free bland moisturisers and emollients are a fundamental mainstay of eczema management.[6,7] These facilitate skin barrier maintenance and repair, and reduce inflammation. Regular moisturiser use will reduce the frequency of flares.[15,16] Patients require adequate quantities of moisturiser to be prescribed. Typically, this will be 250–500 g a week for a child, and 500 g or more a week for an adult.[6,7] The amount needed may vary with the dryness of the skin and the severity of eczema. Not all moisturisers are created equally, and they come in different formulations: ointments are preferred for very dry skin, but are greasier and more occluding; creams are better tolerated, but may need to be applied more often; and lotions may be suitable for minimally dry and well-controlled skin, or for areas such as the face.[17]

Many different moisturisers are available. Generally, the aphorism '*the best moisturiser is the one the patient will use*' holds true as it is considered to improve patient tolerance and adherence. CCGs often recommend moisturisers that are cost-effective for the NHS. For treatment-naive patients, these can be useful to start off with. Where available, patients may want to sample different moisturisers to see what they prefer to use or, if patients already have favourites, GPs are advised to continue prescribing these. Prescribing minimal amounts or treatments that patients will not use is a false economy if it leads to worsening eczema, referrals, or the need for systemic treatments or expensive biological agents. Several manufacturers can provide sample pots for patients to trial.

Moisturisers should be used as leave-on moisturisers and as soap, applied before getting the skin wet. Moisturisers can also be used as bath additives by adding a capful or two to bath water. Ideally, hair should be shampooed over a sink to avoid the detergent action of shampoos stripping moisture from the rest of the skin.[6,7] After bathing, patients should be advised to pat the skin dry and apply the moisturiser.[15] It is important that moisturisers are applied in a downwards direction, i.e. in the direction of hair growth, to avoid irritating hair follicles and causing secondary folliculitis.[17]

> Generally, the aphorism '*the best moisturiser is the one the patient will use*' holds true …

Control inflammation

Inflammation should be tackled using an appropriately potent TCS or topical calcineurin inhibitor.[18] An important aspect is the titration of the TCS; a more potent preparation should be used until the eczema is settled—in other words, it is no longer red or itchy (usually 1–6 weeks)—and then the potency and frequency of application should be decreased for maintenance. An example would be reducing the frequency of TCS application from daily to twice a week on eczema-prone areas.[6,7,18]

The order in which topical steroids and moisturisers are to be applied is an eternal debate, and it is hoped that research will answer this question in future.[1] In my own clinical practice, I advise patients to apply the topical steroid to the areas needed in a particular order (for example, working down the body from head to toe,

Implementation actions for STPs and ICSs

written by Dr David Jenner, GP, Cullompton, Devon

The following implementation actions are designed to support STPs and ICSs with the challenges involved with implementing new guidance at a system level. Our aim is to help you consider how to deliver improvements to healthcare within the available resources.

- **Circulate** the PCDS eczema pathways widely among primary care health professionals and community pharmacies
- **Update** local formularies to include a range of emollients and anti-inflammatory agents, ideally of low acquisition cost
- **Publish** self-help guides for patients on trigger avoidance and to support adherence to prescribed medications
- **Design** and circulate local care pathways that identify when patients should be referred to secondary or specialist care, and how this should be done.

STP=sustainability and transformation partnership; ICS=integrated care system; PCDS=Primary Care Dermatology Society

applying the topical steroid to affected areas). Moisturiser is then applied in the same order as the steroid was applied. This is practical advice designed to make the application of topical preparations efficient. Other sources suggest different strategies.[19]

Topical calcineurin inhibitors are particularly helpful for use as second-line treatments, or on delicate areas such as the eyelids, face, or flexures, where concerns may be raised about prolonged TCS use.[6,7,18] NICE guidance on topical calcineurin inhibitors was published in 2004.[20] Since then, several review articles (funded by pharmaceutical companies) have been published, which assert the efficacy and safety of this class of agent.[18,21,22] Equally, warnings that topical calcineurin inhibitors may increase the risk of skin cancer or lymphoma have not been substantiated, and there is currently no clear evidence that the incidence of malignancy is any greater than that for the general population.[18,21,22]

A practical point is that a few patients will experience stinging with the application of topical calcineurin inhibitors;[18] in most patients, this will resolve after a week. Some may need concomitant application of a TCS of mild-to-moderate potency for the first week, or to apply cream from a cooled tube.[23] Topical calcineurin inhibitors should not be applied to weepy, clinically infected skin. It is also worth noting that topical calcineurin inhibitors should only be initiated by a specialist and are unlicensed in children aged under 2 years. GPs must prescribe within their experience and expertise; topical calcineurin inhibitors should not be viewed as exclusively secondary-care medicines as they are invaluable adjuncts in managing eczema.

4 Take a holistic approach

It is very common for GPs to be faced with anxious parents or patients. They will often ask questions about allergy, particularly about food allergy.[24] It is important to state that eczema itself is not an allergic disorder; however, there is sometimes an association between eczema and allergic disorders. Unless there are obvious features in the history, there is no role for allergy testing in primary care, nor should exclusion diets be encouraged without dietitian or other specialist guidance.[24,25] However, infants under the age of 6 months with moderate-to-severe or difficult-to-control eczema can be offered a trial of extensively hydrolysed milk protein formula for 4–8 weeks while awaiting referral to dermatology.[6]

The PCDS recommends that TCS are **not** used in combination with antibiotics or antifungal agents. TCS with fusidic acid (1% hydrocortisone or 0.1% betamethasone valerate with fusidic acid) should be used only under specialist direction; misuse leads to fusidic acid resistance.[6,7]

Similarly, topical antifungal and TCS combinations do not have a role in eczema. If treating a fungal infection, combination products may lead to tinea incognito, complicating diagnosis and treatment.[26]

Sedating antihistamines may be of some benefit to some patients in the short term to improve sleep or break the itch–scratch cycle.[27] However, histamine is not a principal mediator in the pathogenesis of eczema, and so antihistamine agents are not disease-modifying.

A written eczema action plan is worth considering for patients. There may be a lot of information to provide, and a documented plan can serve as an aide-mémoire. Several are available online, and GPs may wish to adapt a plan to their organisation or needs.[28,29]

5 Know when to refer

Patients should be referred when there is diagnostic uncertainty, failure to respond to treatment, where there are concerns about steroid overuse or adverse effects from TCS, or where there is suspicion of allergic contact dermatitis. Urgent referral is needed for patients with severe eczema covering more than 90% of their skin (erythroderma), for patients with severe eczema who are systemically unwell, or for patients

with worsening eczema herpeticum or bacterial-infected eczema that is not responding to treatments.[6,7]

Summary

Eczema is the most common chronic skin disorder encountered in primary care. The condition can have severe effects on quality of life, and patients and/or parents and carers can be left frustrated. Treatments are myriad and can be confusing. The updated PCDS guidance provides up-to-date informative and practical advice to support the care of patients with eczema.

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Executive committee member, Primary Care Dermatology Society

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Guidelines in Practice | *Guidelines Live* 2020 companion issue

Top tips: getting started with dermoscopy

Dr Kash Bhatti provides 10 top tips for GPs who want to get started with dermoscopy and diagnose benign skin lesions with confidence

This article was first published in *Guidelines in Practice* in November 2019. Read it alongside Dr Chin Whybrew's *Guidelines Live* session on 17 November, 11.50

Read this article to learn more about:

- use of a dermatoscope for skin lesion assessment
- how to recognise characteristic structures and features of skin lesions
- resources to help GPs upskill in dermoscopy.

Read this article at: **GinP.co.uk/455038.article**

0.5 CPD CREDITS

Defined as the non-invasive examination of the skin using skin-surface microscopy, dermoscopy is becoming part of the lexicon of general practice. This year, the Royal College of General Practitioners launched a *Dermatology toolkit*, which champions dermoscopy.[1] In an effort to improve the quality of referrals and reduce demand on secondary care, CCGs are investing in dermatoscopes for primary care to upskill GPs and for teledermatology.

This article explains how dermoscopy can help GPs, how to get started, and how to navigate the learning curve, become confident, and reduce skin-lesion anxiety.

NB The term 'dermoscopy' is interchangeable with 'dermatoscopy'; this article uses 'dermoscopy' as this term is used more regularly worldwide.

1 What is a dermatoscope?

A dermatoscope is a tool that facilitates the assessment of skin. Like an ophthalmoscope or an otoscope, a dermatoscope illuminates and magnifies. The difference between a magnifying lens with a light and a dermatoscope is that a dermatoscope reveals subsurface details, whereas examination using the naked eye or a magnifying lens only shows what is on the skin's surface, via reflected light. A dermatoscope eliminates surface reflections to reveal details from the epidermis and upper layers of the dermis. Because skin lesions have characteristic structures and appearances, visualising these structures helps to build a picture of what a lesion is. Thus, recognising the structures that are present can reveal the diagnosis.

> A dermatoscope eliminates surface reflections to reveal details from the epidermis and upper layers of the dermis

Figure 1 shows a lesion simply magnified and then visualised dermoscopically. Dermoscopy reveals characteristic structures to allow a confident assessment.

2 How will dermoscopy help me?

The majority of skin lesions are benign. On average, a GP will diagnose one basal cell carcinoma a year, one squamous cell carcinoma every 1–2 years, and one melanoma every 3–5 years.[2] Compare these frequencies with the vast number of lesions seen that will be benign. Hence, **the role of dermoscopy in primary care is to assist with the confident diagnosis of benign lesions**. Any patient with a lesion that cannot be diagnosed as clearly benign, or that raises suspicions of cancer, must be referred or treated as appropriate.

Often, a patient will present with a changing lesion, a brand-new lesion, or a lesion that they had never noticed before. A lesion may be symptomatic, such as being itchy or crusty. Many patients are anxious. Rightly, patients seek medical advice for anything new, changing, or concerning. Dermoscopy helps to make our evaluation that much

more thorough, and that much more reassuring, when we are diagnosing a benign lesion.

3 What should I buy and what else may I need?

Most dermatoscopes magnify skin 10 times: this is the standard level of magnification that should be used. Older dermatoscopes require a fluid such as alcohol or ultrasound gel between the skin and the dermatoscope. This leads to time-consuming examinations if a patient has multiple lesions scattered around the body, because fluid or gel must be applied to each lesion before the lesion can be checked.

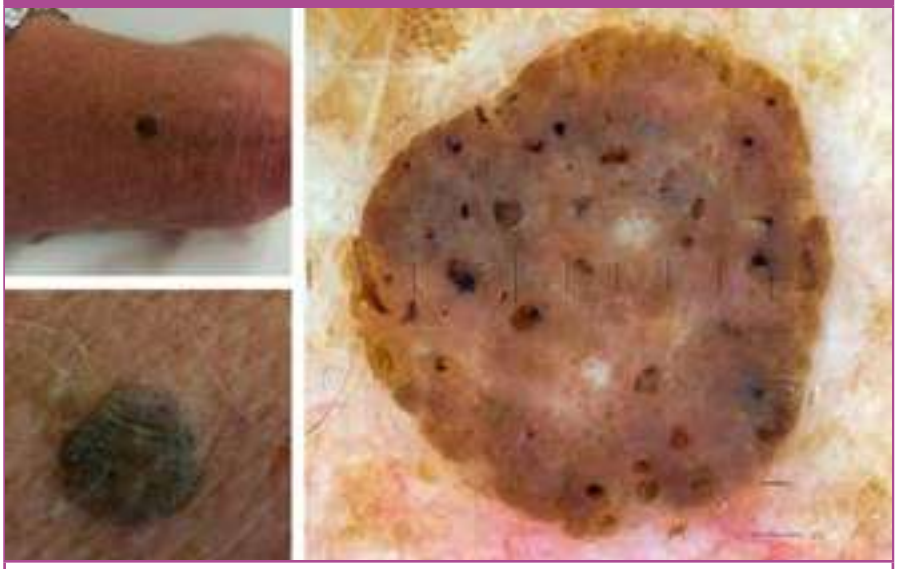
Newer dermatoscopes allow non-contact dermoscopy by employing polarising lenses that negate the need for a contact fluid. This is called polarised dermoscopy. Older dermatoscopes that require contact fluid have simpler lens arrangements and are termed non-polarised. Some devices are hybrid devices that allow polarised non-contact dermoscopy, which is valuable to rapidly scan the skin, while also allowing use of a contact fluid to permit non-polarised dermoscopy. The differences between non-polarised and polarised dermoscopy are few; some structures (such as white lines, which can be an important indicator of malignancy) are only highlighted by polarised dermoscopy, whereas other structures (such as the bright, shiny, white dots of seborrhoeic keratoses) can only be seen using non-polarised dermoscopy. Neither type of dermatoscope is an absolute must-have; either type will help GPs to confidently diagnose benign skin lesions.

Dermatoscopes vary in quality, build, and features, and hence in cost. There are several manufacturers and suppliers of dermatoscopes.[3] Prices generally start from the hundreds. For the beginner, it is not necessary to spend a lot; simple, effective tools can be purchased for less to start off with. An illuminated loupe magnifier (10 times magnification), using alcohol gel as contact fluid, is a good starting point for non-polarised dermoscopy.[4]

Ask about obtaining a dermatoscope from your CCG. There may be a push to do so, or a local enhanced service, or a campaign to get GPs using dermatoscopes in your area. If you have to buy a dermatoscope, contact manufacturers and try out different dermatoscopes over a period of time. Explore what suits you and your budget.

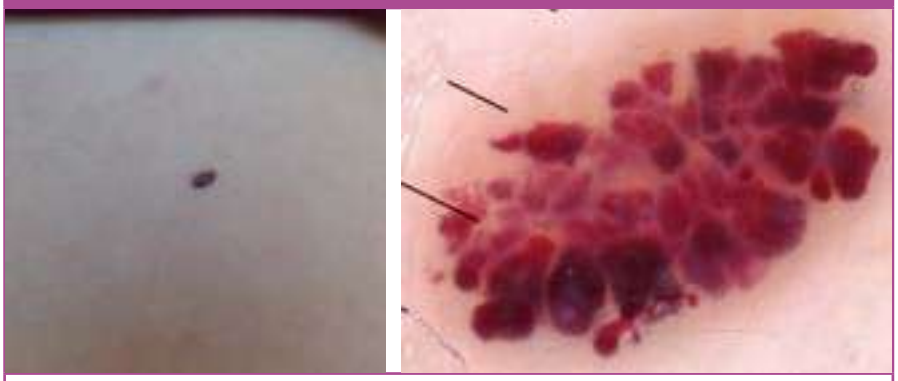
In addition to a dermatoscope, think about a camera. Record what you see, firstly for patients' notes, but also for your own learning. Numerous manufacturers have adaptors for their

Figure 1: Seborrhoeic keratosis



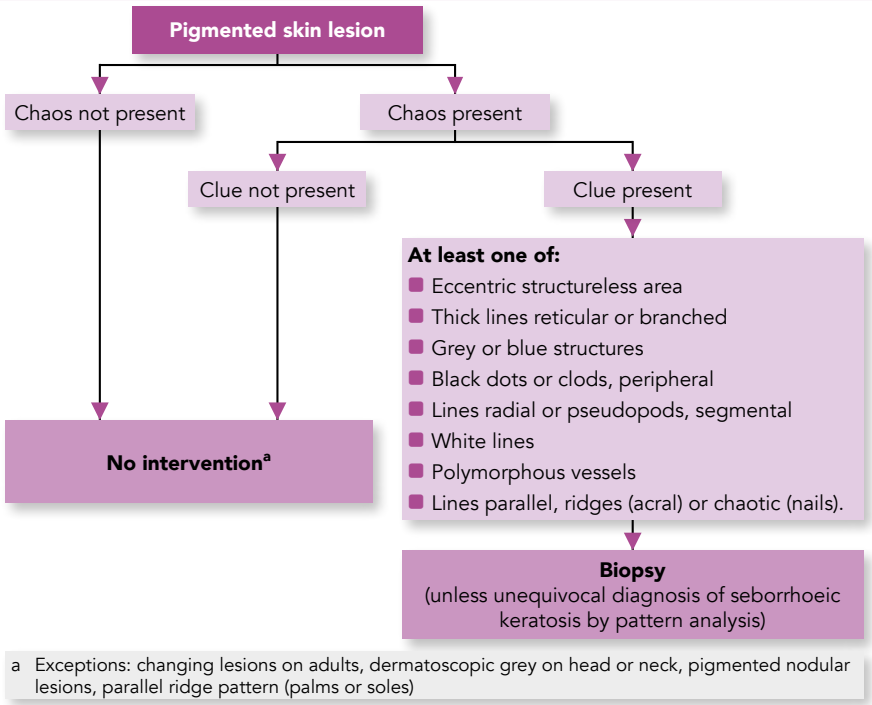
A solitary lesion was brought to our attention because of its dark colour (top left, lesion on arm; bottom left, zoomed-in). The history suggested a lesion present for several months at least, without change, and not causing symptoms. This lesion had a warty feel and a 'stuck-on' appearance. On dermoscopy (right), a sharp border was visible, the colour was a structureless greyish-brown, and there were numerous scattered, grainy brown and orange clods (also known as pseudocysts). There were similar lesions on the patient's back, but smaller and not as dark. Putting all the clues together allowed a confident diagnosis of seborrhoeic keratosis.

Figure 2: Angiomas



This is an example of an angioma. Angiomas are thought to be ubiquitous from the age of 50 onwards. This isolated lesion down the dermatoscope (right) demonstrates red globules in varying shades, well demarcated from each other. Dermoscopy allows a confident diagnosis and the patient can be reassured that this is a benign lesion.

Figure 3: Chaos and clues algorithm[10]



a Exceptions: changing lesions on adults, dermatoscopic grey on head or neck, pigmented nodular lesions, parallel ridge pattern (palms or soles)

Adapted with permission from The Royal Australian College of General Practitioners from: Rosendahl C, Cameron A, McColl I, Wilkinson D. Dermatoscopy in routine practice—'Chaos and clues'. *Aust Fam Physician* 2012; **41** (7): 482–487. Available at: **www.racgp.org.au/afp/2012/july/dermatoscopy-in-routine-practice/**

devices. Again, there is a range of equipment to suit every budget. Often, I use a patient's smartphone, so that they have a copy of the picture and can bring it with them to a review appointment or if seen in hospital. However, it is important to be aware of patient confidentiality and safe use of images.[1,5]

4 I have got the dermatoscope; how do I get started?

Dermoscopy is a new skill that requires a degree of understanding and time to practise and master. Seeing lesions for the first time will be an illuminating experience, revealing structures not previously encountered before and different to any past dermatology teaching. The excitement comes in understanding that benign lesions have several repeatable and characteristic structures and features which, over time, become easily recognisable, permitting rapid diagnosis. Given that the majority of lesions encountered will be benign, there is an abundant pool of patients to see and learn from.

The ideal lesions to start with are seborrhoeic keratoses (Figure 1) and angiomas (Figure 2). Most patients from middle age upwards will have several cherry angiomas or seborrhoeic keratoses. The history will be of long-standing, static lesions. If a GP sees 10 patients a week and examines their backs, with multiple similar lesions per patient, it is possible to rapidly form a database of images of just these two diagnoses. Seborrhoeic keratoses are the most common benign lesions referred to skin cancer clinics. Recognising more seborrhoeic keratoses alone will improve the quality of referrals. From there, and armed with more knowledge, it is possible to move on to dermatofibromas and naevi. Over time, a GP can build a knowledge base of patterns and structures, start to confidently separate the definitely benign from the uncertain and the definitely-not-benign, and manage accordingly.

Dermoscopy brings a new language that can seem daunting. Initially, dermoscopic structures were named metaphorically.[6] The disadvantage is that a metaphoric term makes sense to the beholder, but not necessarily to others. Subsequently, a unified language was created, based upon descriptive geometric terminology, to describe all dermoscopic features.[7] This universal language means that descriptions can be understood and recognised by anyone, so reducing confusion.

5 What should I know about skin lesions?

Dermoscopy is only a tool to aid in skin lesion recognition: it is still necessary to know the basics about skin lesions. The overall diagnosis and decision should be reached using clues in the history, general examination, skin lesion assessment, and dermoscopy. For example, moles, or melanocytic naevi, change over time. They emerge, grow, stabilise, then over time involute and disappear. We tend not to develop new naevi after the age of 45, with rare exceptions. So a new, bland-looking naevus in a 65-year-old should be concerning, however benign it looks, because biologically it is unexpected. Long-standing lesions on the trunk that do not change over time and look and feel warty, like seborrhoeic keratoses, are likely to be benign, especially if there are several that are dermoscopically similar. But a new nodule—solitary, growing, firm, possibly with bleeding—should be referred urgently, regardless of what dermoscopy suggests, because this may be any kind of tumour. Always take a new, changing, growing, or bleeding lesion seriously. It is necessary to be sure of benign features in the history, as well as in the examination, to arrive at a benign diagnosis.

6 How do I assess a skin lesion?

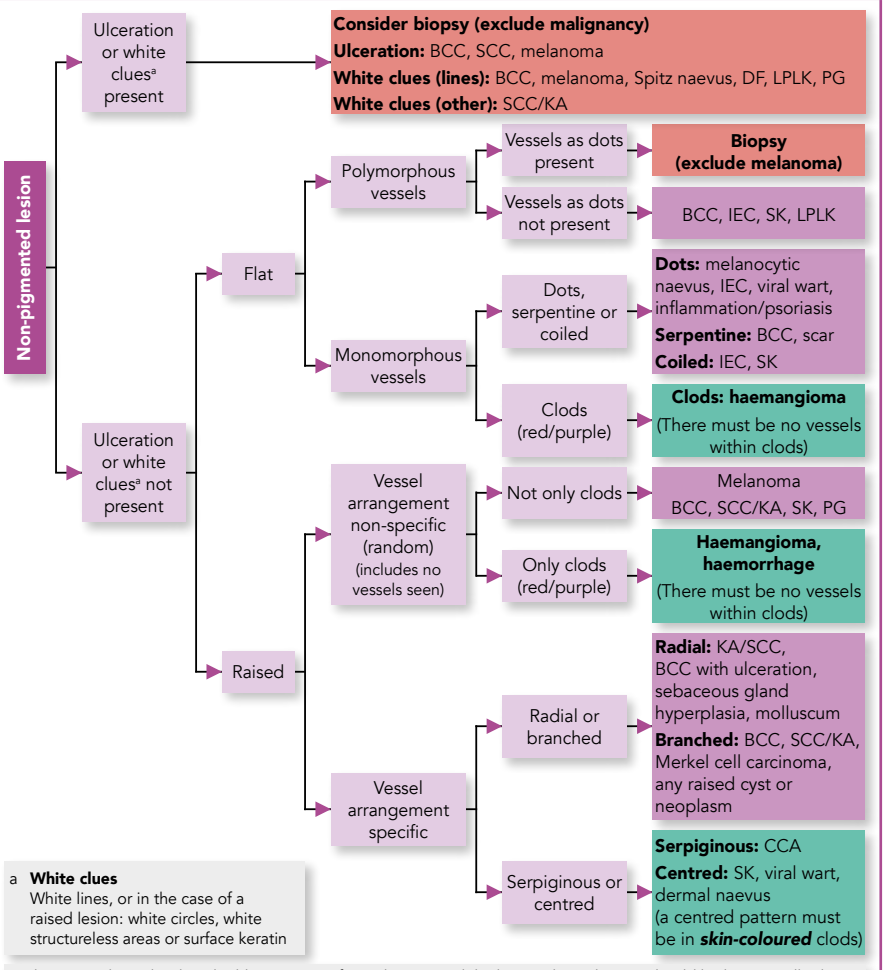
A skin lesion assessment begins with addressing the patient's concerns and expectations, investigating the history of the lesion, and assessing risk factors.

Clues in the history that are important regardless of lesion type include the age of the patient, lesion history, any recent change, and symptoms such as bleeding or non-healing. Other clues in the history relate to the background risk of the patient: the skin type of the patient (how likely they are to tan or burn: the risk of skin cancer is highest in those most likely to burn easily), and any previous personal or family history of skin cancer, immunosuppression, or excessive sun exposure, any of which should raise suspicion. It is important to find out what concerns the patient has. These can provide further insight and also guide the consultation.

A general examination is next. The skin should be assessed to look at any other lesions and assess the lesion in the wider context of the other lesions present. A standout lesion ('ugly duckling') is more likely to be concerning and warrants careful assessment. Look for signs of sun damage that may suggest a high-risk patient.

The lesion of concern is assessed next. Is the lesion on a sun-exposed site (e.g. face) or high-risk site (e.g. genitals)? The site, size, feel, and macroscopic features should be documented, followed by dermoscopic evaluation and documentation. Assess the lesion in the context of other lesions, both macroscopically and dermoscopically. A concerning naevus will be much more reassuring if there are several other naevi that look similar; look for biological similarity, not architectural or mirror-image lesions. Similar lesions may vary in size or shape, but overall their dermoscopic colours and structures should be alike.

Figure 4: Prediction without pigment algorithm[11]



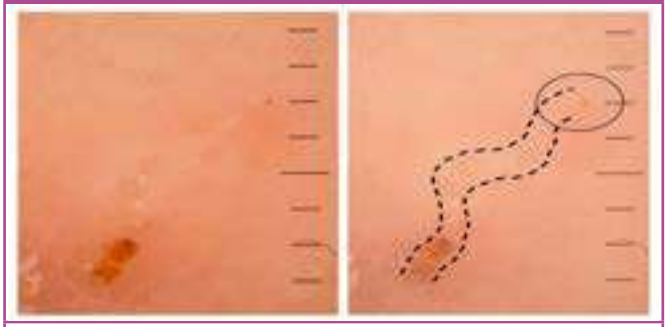
Adapted from Rosendahl C, Cameron A, Tschandl P et al. Prediction without pigment: a decision algorithm for non-pigmented skin malignancy. *Dermatol Pract Concept* 2014; **4** (1): 9.

7 How do I make sense of what I see?

Dermoscopy opens a world of colours and structures, which organise into patterns. One way to learn dermoscopy is to learn the various geometries and recognise lesions, over time, by pattern recognition. The other way, which is more powerful, is to understand how colours and structures form and assemble to reveal the diagnosis. This is called pattern analysis. Evidence suggests that beginners perform equally well whichever method they choose.[8]

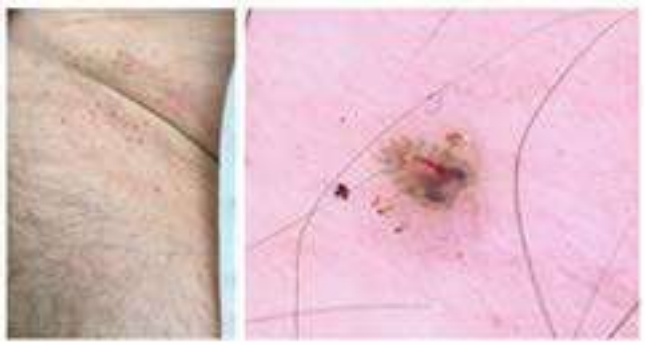
To start making sense of what you see, numerous algorithms exist for triaging lesions.[9] Two general, all-purpose algorithms for beginners are *Chaos and clues*[10] (Figure 3) for pigmented lesions and *Prediction without pigment*[11] (Figure 4) for non-pigmented lesions. These will help triage the majority of lesions, but there are important

Figure 5: Scabies



These are dermoscopic images of a single burrow on the foot of a child taken after several months of uncontrollable itching and presumed eczema (left). The burrow shows a weaving track, which commenced with an orange serous crust, featured a whitish scale ('contrails' metaphorically) on the route, and culminated in a triangular shape ('delta wing' metaphorically), which is the head of the scabies mite. The panel on the right clarifies the structures seen. Instant diagnosis was possible with no need for biopsy. © Bhatti K, 2019.

Figure 6: Body lice



A middle-aged patient presented with a short history of itchy skin. He remarked that he saw black spots on his skin wherever he was itchy (left). The black dots were scattered over his body. Dermoscopy revealed the diagnosis: body lice (right). The dermoscopic picture captures a louse staying still for the picture owing to it feeding.

© Bhatti K, 2019.

exceptions to note. No single algorithm is foolproof enough to diagnose all lesions. Over time, you will develop your own algorithm; essentially, you will advance to using pattern analysis and pattern recognition interchangeably to assess and triage all lesions.

8 How can I avoid missing a cancer?

It is to normal to feel nervous about a new method of assessing skin lesions given the high stakes. The good news is that the majority of skin lesions are benign; remember, assess lesions in the context of other lesions. A solitary lesion is concerning, but a lesion present for several years, without dramatic change and similar to other lesions, is likely to be benign. There are of course exceptions—a lentigo maligna on the face can be slow growing, often to the point of escaping detection, and appear bland.

Over time, the more that you see and recognise benign features, the more that lesions with questionable features will start to stand out. When suspicious of cancer, refer. Short-term photography can be used for flat lesions that you suspect are very likely to be benign. An example may be a lesion either present for several years or newly noticed, but that macroscopically and dermoscopically looks benign, in a young patient. Short-term photography can be employed and reviewed for any change in 3 months' time. In this case, robust methods are needed to ensure that the patient will re-attend. If this is not guaranteed, then refer. Monitoring should never be used for raised or nodular lesions, because these lesions are already growing; similarly, do not use monitoring just to put off a decision to refer until a later date or in the hope that, in 3 months' time, you will be able to assess the lesion better and give a diagnosis.

9 What else can dermoscopy be used for?

Research into dermoscopy is increasing exponentially. Dermoscopy can be used for general dermatology and helps in the diagnosis of inflammatory conditions such as eczema, psoriasis, and lichen planus. It can be used to assess pityriasiform conditions such as rosea, guttate psoriasis, and lichenoides. It is also used to assess hair conditions such as alopecia areata, hair loss, and scarring alopecia. In addition, dermoscopy can be used to monitor treatments such as in psoriasis or alopecia areata, and in several conditions it can replace a biopsy. Once you start using dermoscopy to see scabies (Figure 5), you can never 'un-see' it, and diagnosis becomes easier over time. Similarly, other infections and infestations can be diagnosed using dermoscopy (Figure 6). Finally, dermoscopy can also be used for nail disorders and can identify superficial foreign bodies in the skin.

10 Where can I learn more?

There is a vast array of information available to get started and excel in dermoscopy.[1] The International Dermoscopy Society (IDS) offers free membership, videos suiting all levels hosted on YouTube, and e-learning modules.[12] Dermoscopedia is an encyclopaedic resource from the IDS authored by leading dermoscopists.[13] Numerous blogs are present online that go through cases.[1] In addition, the Primary Care Dermatology Society runs several courses for beginner, intermediate, and advanced dermoscopists and allows face-to-face interaction with experienced tutors.[14] Likewise, the University of Cardiff hosts a 12-week online learning course

for dermoscopy.[15] Ask local GPs with a specialist interest in dermatology if it is possible to attend clinics and look at lesions together, or attend suspected skin cancer clinics in hospital.

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Venous thromboembolism in adults: NICE updates

Dr Frances Akor (pictured) and **Professor Terry McCormack** discuss the updated NICE guideline on VTE, focusing on recommendations that are relevant to primary care

This article was first published in *Guidelines in Practice* in May 2020. Read it alongside Professor Terry McCormack's *Guidelines Live* session on 17 November, 12.05

Read this article to learn more about:

- new recommendations on D-dimer testing
- outpatient management of low-risk pulmonary embolism
- updated recommendations on anticoagulation treatment.

0.5 CPD CREDITS

Read this article at: **GinP.co.uk/455335.article**

The term venous thromboembolism (VTE) comprises deep vein thrombosis (DVT) and pulmonary embolism (PE). Failure to diagnose and treat VTE promptly can result in fatal PE. Although advances have occurred in the diagnosis and management of acute VTE, it remains an important cause of morbidity and mortality. The NHS Outcomes Framework indicator for hospital-associated thrombosis (HAT) covering the period 2018/19 suggests a rate of death attributed to HAT of 57 per 100,000 adult hospital admissions, equating to thousands of deaths.[1] Because of its wide variation in presentation, PE is frequently missed—autopsy studies suggest that PE was suspected in less than half of fatal cases.[2]

NICE Guideline (NG) 158 on *Venous thromboembolic diseases: diagnosis, management and thrombophilia testing*, published in March 2020, updates and replaces NICE Clinical Guideline 144 (published in 2012, last updated 2015). It covers adults with suspected or confirmed DVT or PE. It does not cover children or young people aged under 18 years, or pregnant women.[3]

This article outlines important changes to the guideline recommendations with a focus on those that are of particular relevance to primary care. The article does not cover the recommendations about thrombophilia testing. Since the publication of the original guideline, direct-acting oral anticoagulants (DOACs), such as apixaban and rivaroxaban, have become an established part of the oral anticoagulation landscape for the management of VTE. All four licensed DOACs are recommended for the acute treatment and secondary prevention of VTE through the NICE Single Technology Appraisal (STA) process.[4–8]

> Failure to diagnose and treat [venous thromboembolism] promptly can result in fatal [pulmonary embolism]

NICE has produced three helpful visual summaries covering the diagnostic pathways for DVT and PE and recommendations on the use of anticoagulation (see Figures 1–3). In addition, a useful resource impact report has been developed to support considerations around cost pressures

and savings in the implementation of NG158.[9]

Diagnosis and initial management of VTE

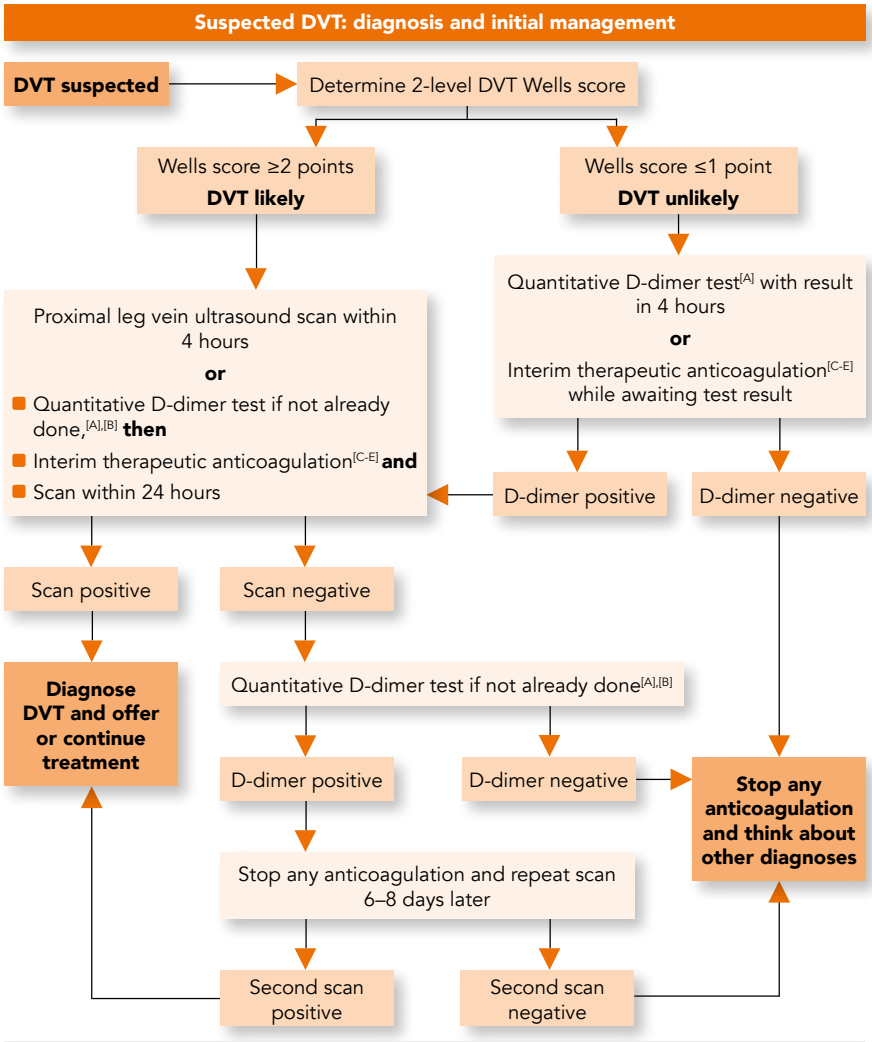
The diagnostic pathway in NG158 includes new recommendations on the use of point-of-care and age-adjusted D-dimer tests and the use of the PE rule-out criteria (PERC). In terms of management, the key change is the recommendation to use DOACs in most cases, including in people with cancer.[3]

Please note that not all of the treatments discussed in this article currently (May 2020) have UK marketing authorisation for the indications mentioned; see notes to the recommendations in NICE NG158.[3] The prescriber should follow relevant professional guidance, taking full responsibility for all clinical decisions. Informed consent should be obtained and documented. See the General Medical Council's guidance on *Good practice in prescribing and managing medicines and devices*[10] for further information.

Diagnostic pathway for DVT

For people presenting with signs or symptoms of DVT, the guideline continues to recommend an assessment of their general medical history followed by a physical examination to exclude other causes (see Figure 1).[3] NICE continues to recommend the 2-level DVT Wells score to estimate the clinical probability of DVT when an event has not been ruled out by general medical history and physical examination.[3] A DVT Wells score of ≥2 is predictive of DVT and termed 'DVT likely'.[3] Such patients should be offered a proximal leg vein compression ultrasound scan (CUS) with the results available within 4 hours if possible—steps to take when this is not possible are outlined in the next section of this article.[3]

Figure 1: Suspected DVT—diagnosis and initial management



DVT=deep vein thrombosis; PT=prothrombin time; APTT=activated partial thromboplastin time; LMWHs=low molecular weight heparins

D-dimer testing

Raised D-dimer levels are seen in a number of conditions other than VTE, including postoperatively, or with infection, cancer, inflammation, or trauma;[11–13] therefore a raised D-dimer level alone is not predictive of VTE. The role of D-dimer testing is to

identify those patients where VTE can be ruled out as a diagnosis as the test has a high negative predictive value.

A D-dimer should only be requested:[3]

- when the clinical probability of a DVT or PE is deemed 'unlikely' following use of the appropriate 2-level Wells score
- for patients with 'likely' DVT when:
  - diagnostic imaging results will not be available within 4 hours
  - the initial proximal CUS has not identified DVT, in order to ascertain whether repeat imaging should be done 6–8 days later.

When a CUS cannot be performed within 4 hours, a D-dimer test should be requested and after the test has been done, interim anticoagulation with either a DOAC or a parenteral anticoagulant commenced, unless contraindicated.[3] In this scenario, the recommendation is that scan results should be available no later than 24 hours from request. The D-dimer test should be performed before commencing anticoagulation as anticoagulants can affect the results of the test.[3]

If a re-scan is indicated due to a positive D-dimer, then stopping anticoagulation will improve the likelihood of identifying a DVT that will extend proximally and require anticoagulation treatment. When the proximal CUS and the subsequent D-dimer are both negative, anticoagulation should be stopped and alternative diagnoses should be sought. To ensure that the ordering of D-dimer does not result in undue delay to the DVT diagnostic pathway, NICE now specifies a turnaround time of 4 hours for D-dimer test results. When this is not possible, interim anticoagulation should be initiated unless contraindicated.[3]

Of particular relevance to primary care, NG158 now states that the use of fully quantitative point of care tests (POCT) for D-dimer should be considered when laboratory facilities are not immediately available and that an age-adjusted D-dimer test threshold should be considered for people aged over 50 years. This approach optimises the timeliness of the diagnostic pathway, improves the accuracy of the D-dimer tests, reduces referrals for imaging, and reduces the need for interim anticoagulation.[3] While some practices will need to purchase D-dimer POCT for the first time, there will be a requirement for other practices to switch from qualitative and semi-quantitative D-dimer tests to the more accurate quantitative tests.[3] The authors suggest that one approach to implementing these NICE recommendations in a cost-efficient manner across a federation could be to arrange the diagnostic pathway so that nominated practices purchase the POCT for use within a federation hub-and-spoke model.

Diagnostic and management pathway for PE

For people presenting with signs or symptoms of PE (e.g. chest pain, shortness of breath, or coughing up blood), NICE recommends an assessment of their general medical history followed by a physical examination and chest X-ray to exclude other causes (see Figure 2).[3] A brand-new recommendation from NICE here is to *consider* the use of the pulmonary embolism rule-out criteria (PERC)[3,14] when the clinical suspicion of PE is low, to indicate whether there should be any further investigation before completely excluding PE as a cause.[3]

Review of the available evidence demonstrated that PERC can accurately eliminate PE as a possible diagnosis. However, as the evidence was limited, the recommendation is that PERC be considered rather than mandated as part of the initial assessment.[3] It is hoped that increased use of PERC will reduce patient anxiety as well as reduce the need for D-dimer testing and imaging for people with none of the criteria for PE, leading to improvements in the PE pathway with reduced waiting times and use of anticoagulation.[3]

> … fully quantitative point of care tests (POCT) for D-dimer should be considered when laboratory facilities are not immediately available …

When PE is still suspected, NICE continues to recommend the 2-level PE Wells score to estimate the clinical probability of PE. A score of >4 is predictive of PE, i.e. 'PE likely'.[3] Such patients should be offered a computed tomography pulmonary angiogram (CTPA) immediately. When CTPA is not suitable (e.g. creatinine clearance <30 ml/min, contrast allergy, high risk from irradiation) then ventilation/perfusion single photon emission computed tomography (V/Q SPECT) scan if available, or V/Q planar scan, should be offered.[3]

The primary treatment for PE is anticoagulation, which must be started as soon as possible. NICE recommends that when immediate imaging is not possible interim anticoagulation must be commenced, when there are no contraindications.[3]

When imaging results for PE are negative, a proximal leg vein CUS should be considered if a DVT is suspected. When DVT is not suspected, any interim anticoagulation should be stopped and alternative diagnoses should be sought. It should be explained to the patient that it is unlikely that they have a PE; they

should also be educated about the signs and symptoms of VTE and when and where to seek further medical help.[3]

Outpatient management of low-risk PE

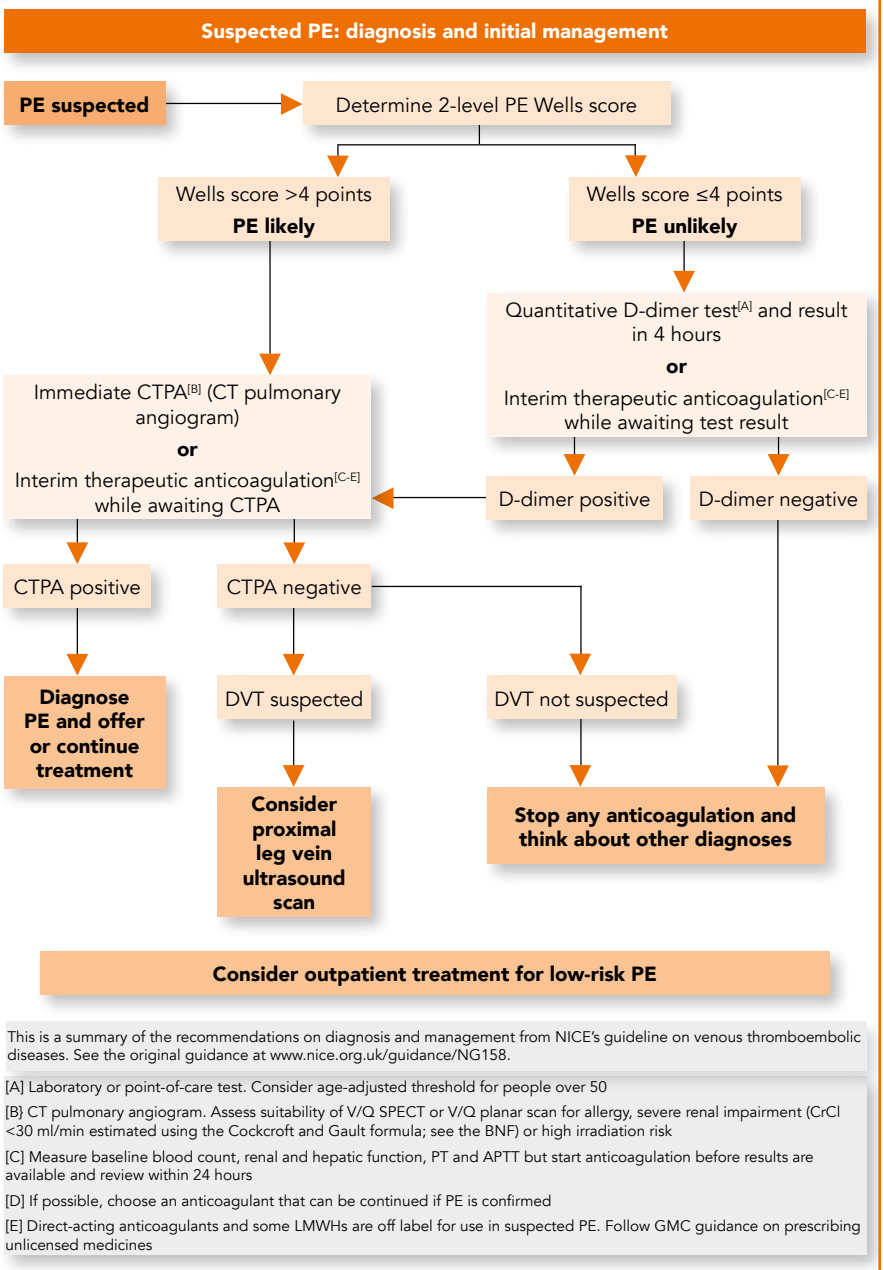
Outpatient management of low-risk PE is now common practice in settings such as ambulatory care units. NG158 recommends considering outpatient treatment for suspected or confirmed low-risk PE; a validated risk stratification tool should be used (ones in common use include the Pulmonary Embolism Severity Index (PESI)[15] or simplified PESI[16]) to determine the suitability of outpatient treatment. In practice this is a two-step process; the risk stratification tools are first used to assess the prognostic risk associated with a PE event; when the score is sufficiently low against a validated tool the PE event is considered to be 'low-risk' such that outpatient management can then be reasonably considered. This recommendation is in line with 2018 British Thoracic Society guidance on the initial outpatient management of PE.[17] Although the evidence comparing outpatient and inpatient management of low-risk PE is limited (which is why NG158 uses a lower strength 'consider' rather than 'offer' recommendation here), no evidence showed that outpatient treatment is less effective or less safe than inpatient treatment for people with low-risk PE. Outpatient care offers significant benefits both for people with PE and for hospital services.[3]

Information for people having outpatient treatment

As part of outpatient management, NICE recommends that a plan for monitoring and follow-up (e.g. appointments) be agreed with people having outpatient treatment for suspected or confirmed low-risk PE. NICE recommends giving them:[3]

- written information about signs and symptoms of VTE and complications of VTE and treatment
- direct contact details of a healthcare professional or team with expertise in thrombosis who can discuss any new symptoms or signs, or other concerns
- information about out-of-hours services they can contact when their healthcare team is not available.

Figure 2: Suspected PE—diagnosis and initial management



This is a summary of the recommendations on diagnosis and management from NICE's guideline on venous thromboembolic diseases. See the original guidance at www.nice.org.uk/guidance/NG158.

[A] Laboratory or point-of-care test. Consider age-adjusted threshold for people over 50

[B] CT pulmonary angiogram. Assess suitability of V/Q SPECT or V/Q planar scan for allergy, severe renal impairment (CrCl <30 ml/min estimated using the Cockcroft and Gault formula; see the BNF) or high irradiation risk

[C] Measure baseline blood count, renal and hepatic function, PT and APTT but start anticoagulation before results are available and review within 24 hours

[D] If possible, choose an anticoagulant that can be continued if PE is confirmed

[E] Direct-acting anticoagulants and some LMWHs are off label for use in suspected PE. Follow GMC guidance on prescribing unlicensed medicines

PE=pulmonary embolism; CT=computed tomography; DVT=deep vein thrombosis; V/Q SPECT=ventilation/perfusion single photon emission computed tomography; BNF=British National Formulary; PT=prothrombin time; APTT=activated partial thromboplastin time; LMWHs=low molecular weight heparins; GMC=General Medical Council

COVID-19 considerations

- The incidence of VTE is likely to rise during the COVID-19 pandemic because of increased sedentary lifestyle, particularly of the vulnerable patients such as those with active cancer. The prolonged bed rest of people with symptoms at home will also put those people at greater risk of developing VTE
- Severely ill COVID-19 patients in intensive care have revealed evidence of increased thrombotic coagulopathy (elevated D-dimers and fibrinogen) and an incidence of VTE ranging from 25% to 31%[25,26]
- When carrying out a remote review, remember to use the Wells DVT and PE scores and consider using PERC also. Most of the items on the lists are part of the history, and heart rate can be measured by the patient or their carer
- If a face-to-face examination is required you should pre-plan the examination and the history should be established remotely; again consider the Wells score
- A D-dimer should only be carried out if the Wells DVT Score is 1 or 0, or the Wells PE Score is 4 or less. D-dimer is not necessary if the PERC is zero, but that does require access for oximetry to be performed
- If a D-dimer is carried out, consider using an age-adjusted score to reduce the need for further imaging investigations
- Using DOACs removes the need for INR testing and therefore reduces the need for face-to-face contact
- Outpatient treatment for low-risk PE is likely to be introduced in all areas at this time
- Patients discharged from hospital with high risk of VTE are likely to be on extended prophylaxis involving DOACs or LMWH and primary care may be asked to continue supplies[27]
- The 3-monthly review can be carried out via a remote visit. Consider sending the patient information via digital links. Thrombosis UK and Anticoagulation UK are sources of information about VTE.

These are the views of the authors and not the NICE VTE Guideline Committee.

VTE=venous thromboembolism; DVT=deep vein thrombosis; PERC=pulmonary embolism rule-out criteria; DOACs=direct-acting oral anticoagulants; INR=international normalised ratio; PE=pulmonary embolism; LMWHs=low molecular weight heparins

Anticoagulation

In the absence of contraindications, confirmed VTE requires anticoagulation for at least 3 months; in patients with active cancer NICE recommends anticoagulation for 3–6 months.[3] NG158 defines 'active cancer' as: *'Receiving active antimitotic treatment; or diagnosed within the past 6 months; or recurrent or metastatic; or inoperable. Excludes squamous skin cancer and basal cell carcinoma.'*[3]

The NICE review of the clinical and cost-effectiveness of the DOACs, compared with low molecular weight heparin (LMWH) in combination with vitamin K antagonist anticoagulants (VKAs), favoured the use of apixaban and rivaroxaban for acute treatment in the first 3 months in most cases, with a strong 'offer' recommendation after taking into account co-morbidities, contraindications, and the person's preferences. If neither apixaban nor rivaroxaban is suitable the alternatives that can be offered are:

- LMWH for at least 5 days followed by dabigatran or edoxaban or
- LMWH concurrently with a VKA for at least 5 days, or until the INR is at least 2.0 in two consecutive readings, followed by a VKA on its own.

The guideline also includes separate recommendations on anticoagulation for particular patient groups; these are outlined later in this article.

A weaker recommendation (1.4.8) suggests that practitioners 'consider' apixaban in the secondary prevention of unprovoked VTE. The preference for apixaban resulted from some evidence of the favourable bleeding profile of apixaban compared with rivaroxaban for acute treatment and in secondary prevention; however, the committee were not entirely convinced by this evidence as there were too few major bleeding episodes in the trials for them to be confident about the results. Rivaroxaban was marginally less cost effective than apixaban in the acute treatment setting.[3]

The licensing for dabigatran and edoxaban specifies initial treatment with parenteral anticoagulation for at least 5 days before they are started,[5,6] making them less attractive and less suitable in the ambulatory care setting and more costly than their oral-only counterparts. However, cost-effectiveness is different from budget impact and different localities may benefit from a variety of procurement arrangements with manufacturers.

Prescribing considerations

It is important to note that the DOAC oral-only regimens comprise higher initiation doses, which at a specified time point are reduced to the maintenance dose for the remainder of the 3-month treatment course (see the

summary of product characteristics [SPC] for individual drugs for full details). Systems must be in place to ensure that patients change dose at the appropriate time and that prescribing and administration errors are avoided so that patients do not receive the wrong dose of medicine. Information about dose changes, adherence to medicine, management of inadvertent overdosing, and actions in the event of missed doses should be covered as part of patient education. In addition, pathways can be designed with follow up at critical time points to ensure that aspects such as dose changes are safely implemented.

NICE advises that interim anticoagulation should, if possible, be commenced with an agent that can be continued if VTE is confirmed, again favouring the use of oral-only DOACs over LMWH preceding DOAC or in combination with VKA.[3] Before oral anticoagulation is started, baseline blood tests should be taken but treatment should not be delayed while results are awaited; instead, results should be reviewed and acted upon within 24 hours as necessary.[3]

In addition, it is important to ensure that a recent body weight measurement is available to support accurate calculation of renal function and appropriate dose selection. The trials of DOACs, their SPCs, and the British National Formulary use creatinine clearance (CrCl) calculated using the Cockcroft and Gault equation rather than estimated glomerular filtration rate (eGFR), which is reported by most pathology services as a measure of renal function.

Anticoagulation for VTE in particular patient groups

The guideline makes separate recommendations on the use of anticoagulation for VTE in: renal impairment, people with cancer, antiphospholipid syndrome, and in people at extremes of weight (see Figure 3).

Implementation actions for STPs and ICSs

written by Dr David Jenner, GP, Cullompton, Devon

The following implementation actions are designed to support STPs and ICSs with the challenges involved with implementing new guidance at a system level. Our aim is to help you consider how to deliver improvements to healthcare within the available resources.

- **Review** local care pathways for the management of VTE in light of the significant changes in this updated NICE guidance
- **Consider** the acquisition of point-of-care D-Dimer testing machines for GP practices and/or PCNs to facilitate rapid diagnosis
- **Investigate** CCG/ICS funding for these machines as the consequent savings will be made to CCG drug and referral budgets and reduce pressure on specialist services
- **Update** local hospital and GP formularies to reflect the new guidance on prescribing DOACs in cancer patients
- **Offer** education on the new guidance and on the use of the PERC tool to GP practices/PCNs and first contact services.

STP=sustainability and transformation partnership; ICS=integrated care system; VTE=venous thromboembolism; PCNs=primary care networks; CCG=clinical commissioning group; DOACs=direct-acting oral anticoagulants; PERC=pulmonary embolism rule-out criteria

Renal impairment

Renal impairment can result in accumulation of anticoagulant agents, exposing patients to even greater risk of bleeding. Both apixaban and rivaroxaban can be used in renal impairment down to CrCl 15 ml/min and remain options in this patient group (Figure 3).[3] Following at least 5 days of LMWH, edoxaban is also an option, while dabigatran (after LMWH) is not an option for people with more severe renal impairment (estimated CrCl 15 ml/min to 29 ml/min), as stated in its SPC.[18,19] LMWH or unfractionated heparin (UFH) with VKA is also an acceptable option. As well as ensuring CrCl is calculated using up-to-date data it is also important to ensure that the appropriate dose is selected based on parameters including renal function, age, and drug interactions, following guidance in the relevant SPCs. There is evidence that suggests a considerable proportion of patients are receiving less than the SPC-recommended doses of DOACs;[20] this may expose patients to excess risk of a VTE recurrence.

Active cancer

One of the most prominent new recommendations is in the use of anticoagulation in patients with active cancer (see NICE's definition, above). LMWHs are the only licensed anticoagulants for use in active cancer and have traditionally been the anticoagulant of choice in this patient group. However more recent, albeit relatively small, published studies have explored the use of rivaroxaban[21] and edoxaban[22] in patients with cancer and demonstrated non-inferiority to LMWH with respect to VTE recurrence (numerically lower recurrences) but higher rates of bleeding (particularly gastrointestinal and genitourinary bleeding, mainly in patients with gastrointestinal malignancies).[3]

Taking the comparative clinical efficacy and safety of DOACs together with their considerably lower cost compared with LMWH, DOACs were found to be substantially more cost-effective in patients with active cancer than LMWH.[3] However, given

Figure 3: DVT or PE—anticoagulation

PE with haemodynamic instability

Offer continuous UFH infusion and consider thrombolytic therapy

Body weight

If body weight <50 kg or >120 kg consider anticoagulant with monitoring of therapeutic levels.

Note cautions and requirements for dose adjustments and monitoring in SPCs. Follow local protocols, or specialist or MDT advice

INR monitoring

Do not routinely offer self-management or self-monitoring of INR

Prescribing in renal impairment and active cancer

Some LMWHs are off label in renal impairment, and most anticoagulants are off label in active cancer. Follow GMC guidance on prescribing unlicensed medicines

Treatment failure

If anticoagulation treatment fails:

- check adherence
- address other sources of hypercoagulability
- increase the dose or change to an anticoagulant with a different mode of action

- Measure baseline full blood count, renal and hepatic function, PT and APTT but start anticoagulation before results available. Review and if necessary act on results within 24 hours
- Offer anticoagulation for at least 3 months. Take into account contraindications, comorbidities and the person's preferences
- After 3 months (3 to 6 months for active cancer) assess and discuss the benefits and risks of continuing, stopping or changing the anticoagulant with the person. See long-term anticoagulation for secondary prevention in the guideline [section 1.4]

No renal impairment, active cancer, antiphospholipid syndrome or haemodynamic instability	**Renal impairment** (CrCl estimated using the Cockcroft and Gault formula; see the BNF)	**Active cancer** (receiving antimitotic treatment, diagnosed in past 6 months, recurrent, metastatic or inoperable)	**Antiphospholipid syndrome** (triple positive, established diagnosis)
Offer apixaban or rivaroxaban If neither suitable, offer one of: ■ LMWH for at least 5 days followed by dabigatran or edoxaban ■ LMWH and a VKA for at least 5 days, or until INR at least 2.0 on 2 consecutive readings, then a VKA alone	CrCl 15 to 50 ml/min, offer one of: ■ apixaban ■ rivaroxaban ■ LMWH for at least 5 days then □ edoxaban or □ dabigatran if CrCl ≥ 30 ml/min ■ LMWH or UFH and a VKA for at least 5 days, or until INR at least 2.0 on 2 consecutive readings, then a VKA alone CrCl < 15 ml/min, offer one of: ■ LMWH ■ UFH ■ LMWH or UFH and a VKA for at least 5 days, or until INR at least 2.0 on 2 consecutive readings, then a VKA alone Note cautions and requirements for dose adjustments and monitoring in SPCs. Follow local protocols, or specialist or MDT advice	Consider a DOAC If a DOAC is not suitable, consider one of: ■ LMWH ■ LMWH and a VKA for at least 5 days or until INR at least 2.0 on 2 consecutive readings, then a VKA alone Offer anticoagulation for 3 to 6 months Take into account tumour site, drug interactions including cancer drugs, and bleeding risk	Offer LMWH and a VKA for at least 5 days or until INR at least 2.0 on 2 consecutive readings, then a VKA alone

UFH=unfractionated heparin; SPCs=summary of product characteristics; MDT=multidisciplinary team; INR=international normalised ratio; LMWHs=low molecular weight heparins; GMC=General Medical Council; PT=prothrombin time; APTT=activated partial thromboplastin time; VKA=vitamin K antagonist anticoagulant; DOAC=direct-acting oral anticoagulant; CrCl=creatinine clearance; UFH=unfractionated heparin

the need for special consideration as to the appropriateness of DOACs for different cancer types and their possible interactions with cancer therapies, as well as the current lack of licensed indication for prescribing DOACs in active cancer, NICE's recommendation is to 'consider' DOACs as first line rather than to 'offer' them.[3]

When DOACs are not considered appropriate, then LMWH alone or LMWH with a VKA are alternatives.[3]

The increased use of DOACs for patients with active cancer will conserve NHS resources, reduce injection burden for patients, and hopefully improve patient experience of anticoagulation treatment.

Antiphospholipid syndrome

In June 2019, the Medicines and Healthcare products Regulatory Agency (MHRA) published a safety alert warning of an increase in VTE recurrence in people diagnosed with triple positive antiphospholipid syndrome taking a DOAC compared with those taking LMWH with VKA such as warfarin. Although people

with antiphospholipid syndrome were not included in the guideline evidence review, NG158 reflects the importance of this alert by recommending that people with confirmed VTE and an established diagnosis of triple positive antiphospholipid syndrome are offered LMWH with VKA.[3]

People at extremes of weight

Due to the influence of body weight on the absorption, distribution and elimination of anticoagulants, NICE recommends that consideration should be given to regular monitoring of anticoagulation levels for people with confirmed VTE who weigh less than 50 kg or more than 120 kg to ensure therapeutic anticoagulation.[3]

Risks and benefits of long-term anticoagulation

Traditionally, *provoked VTE*, where the provoking risk factor is no longer present and the clinical course has been uncomplicated, is treated for at least 3 months and the updated NICE guideline still recommends that consideration should be given to stopping anticoagulation after 3 months in this patient group and after 3–6 months in patients with active cancer. When anticoagulation is stopped, patients must be given information about the risk of having another VTE as well as the information outlined under heading 'Information for people having outpatient treatment', above.[3]

For patients with *unprovoked VTE*, consideration should be given to continuing anticoagulation beyond 3 months (beyond 6 months in patients with active cancer). Factors that should be considered when making a decision about whether to continue anticoagulation include the balance between the person's risk of VTE recurrence and their risk of bleeding. The risks and benefits of long-term anticoagulation should be discussed with the person, and their preferences taken into account.[3] DOACs have a more favourable bleeding profile than VKAs such as warfarin; therefore in most individuals with unprovoked VTE and low bleeding risk, the benefit of continuing anticoagulation now outweighs the risk of a major bleed and NICE recommends that this be explained to people falling within this category.

> The risks and benefits of long-term anticoagulation should be discussed with the person …

NICE recommends that a discussion about stopping anticoagulation should take place with people who have unprovoked VTE and a HAS-BLED[23] score of 4 or more, that cannot be modified.[3] For people who decline long-term anticoagulation where the benefits of continued therapy outweigh the risks, the use of aspirin 75 mg or 150 mg daily should be considered.[3]

A review of general health, risk of VTE recurrence, bleeding risk, and treatment preferences should be undertaken at least once a year for patients receiving long-term anticoagulation or aspirin therapy for secondary prevention of VTE.[3]

The 2012 guideline controversially suggested that people with unprovoked VTE undergo screening for cancer, including mammograms and CT imaging. The updated guideline recommends a review of the medical history and baseline blood tests, and a full physical examination only. Now, any further investigations should be offered only if patients have relevant clinical symptoms or signs (see NICE NG12 on suspected cancer[24]). This recommendation will not only reduce costs and imaging appointments but also alleviate the anxiety of patients who would have previously been needlessly referred for imaging.[3]

Treatment failures

In treatment failures the guideline recommends checking adherence to anticoagulation treatment, addressing other potential sources of hypercoagulability, increasing the dose of anticoagulant, or switching to an anticoagulant with a different mode of action.[3]

When anticoagulation is contraindicated

Due to the limited evidence of benefit, the updated guideline recommends that inferior vena cava (IVC) filters should only be used in the context of a clinical trial, or when anticoagulation is contraindicated, or when a PE has occurred despite adequate anticoagulation. Before the IVC filter is fitted, there must be a clear plan in place for removing it at the earliest possible opportunity.[3]

Summary

NICE guideline 158 represents an opportunity for primary care to be more involved in a number of aspects of the management of VTE, including low-risk PE and VTE in patients with active cancer. Moving VTE services out of secondary care into primary care is expected to improve the patient experience and deliver cost savings.

To implement NICE recommendations successfully in primary care, some localities will require pathway redesign to ensure straightforward referral mechanisms as well as availability of slots for imaging scans in their local service, with results available within NICE recommended timeframes. In addition, some will need to invest in quantitative point-of-care D-dimer tests to optimise the timeliness of the pathway. It will be important to agree and clearly define the pathway across primary and secondary care, including who has clinical responsibility for the patient at different stages of the pathway and in different scenarios, to ensure a safe and timely patient journey.

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COVID-19 respiratory guidelines: implications for primary care

Dr Kevin Gruffydd-Jones highlights common themes and important considerations from NICE COVID-19 rapid guidelines on severe asthma, pneumonia, and COPD

NICE has produced a series of 'rapid' guidelines to help clinicians deal with the challenge of managing patients with medical problems in a COVID-19 era. This article focuses on three rapid guidelines, published in April 2020, on:

- community-based care of patients with chronic obstructive pulmonary disease (COPD)[1]
- severe asthma[2]
- managing suspected or confirmed pneumonia in adults in the community.[3]

Guidelines Live

This article was first published in *Guidelines in Practice* in June 2020. Read it alongside Dr Kevin Gruffydd-Jones's *Guidelines Live* session on 18 November, 9.15

Read this article to learn more about:

- minimising COVID-19 risk in patient communications and consultations
- assessing disease symptoms and severity
- helping patients manage symptoms, medications, and wellbeing.

Read this article online at: **GinP.co.uk/455425.article**

Test and reflect multiple-choice questions on this article are available on p.28 and online at: **GinP.co.uk/455462.article**

Communicating with patients and minimising risk

A common theme in the rapid guidelines is how to minimise face-to-face contact with patients to minimise the risk of COVID-19 transmission (see Box 1). In the acute situation it can be difficult to differentiate between worsening symptoms (such as cough or shortness of breath), which might be due to COVID-19 and/or due to the patient's pre-existing condition of asthma/COPD.

The *British Medical Journal (BMJ)* has produced an excellent guide to carrying out assessment of acute respiratory symptoms in the current situation in primary care.[5] Where the likelihood of COVID-19 infection is low, the patient can be managed according to disease-specific guidelines, which can often involve self-management at home. However, diagnostic doubt may remain and patients may need to be reviewed face-to-face via local or surgery-based 'hot clinics' (clinics or surgery areas designated for assessing patients with suspected COVID-19).[6]

> Diagnostic doubt may remain and patients may need to be reviewed face-to-face …

Another general point is to be aware of the effects of COVID-19 containment measures on mental health wellbeing and to signpost patients to charities such as the British Lung Foundation (**www.blf.org.uk**) and Asthma UK (**www.asthma.org.uk**); these two patient-centred charities have now amalgamated and offer a wealth of

advice for patients with respiratory problems, including advice during the COVID-19 pandemic, action plans, and videos of inhaler technique. Guidance for the public on mental health and wellbeing during the current pandemic is available from Public Health England.[7]

Community-based care of patients with COPD[1]

In general, NICE Guideline (NG) 168[1] advises remote consultation for people with COPD. Routine spirometry and oxygen assessments should be delayed and routine prescriptions given for no more than 30 days, in order to preserve supply chains. It is important to be alert for symptoms of anxiety or depression, which may have been exacerbated by fear about COVID-19 or social distancing/isolation.[1]

Box 1: Communicating with patients and reducing risk[1–3]

- Offer telephone or video consultations whenever possible
- Cut non-essential face-to-face appointments or follow up
- Contact patients via text message, telephone, or email where appropriate/possible
- Use electronic rather than paper prescriptions
- Use different methods to deliver medicines to patients, e.g. pharmacy deliveries, postal service, NHS volunteer responders, or drive through pick-up points
- Where face-to-face contact is considered necessary, minimise patient time in the waiting area by:
  - appropriate scheduling of appointments
  - having separate entrance and exit points, where possible
  - encouraging patients not to arrive at the surgery too early and texting or calling them when you are ready to see them, e.g. so they can wait outside the surgery in their car
- If patients have known or suspected COVID-19 infection, follow UK government guidance on infection prevention and control[4] including the use of PPE, patient transfers, decontaminating reusable equipment etc.

Patients at very high risk

Some patients with severe COPD are at very high risk of severe illness from COVID-19—advise them (or their families/carers) to follow UK government advice on shielding.[1,8] In addition, NICE recommends that these patients should be encouraged to develop advance care plans.[1]

There have been different definitions from the governments of the four nations in the UK about what constitutes 'severe COPD'.[1,9–11] NICE states that severe airflow obstruction is defined as having a forced expiratory volume in 1 second (FEV_1) less than 50% predicted, but severity of airflow obstruction does not necessarily correlate with severity of disease or degree of risk alone. Other factors associated with a worse prognosis include:[1]

- past history of hospital admission
- the need for long-term oxygen therapy (LTOT) or non-invasive ventilation (NIV)
- 'limiting breathlessness'
- the presence of frailty and multimorbidity.

'Limiting breathlessness' is not defined in NG168 but would equate to a Medical Research Council (MRC) Dyspnoea Scale[12] score of 3 or above.[13] Also 'the presence' of multimorbidity is vague and would incorporate the majority of patients with COPD.

The author recommends that the following would constitute patients with COPD who are at 'high risk', for the purpose of a practice register:

- past history of hospital admission for COPD
- two or more severe exacerbations needing oral steroids/antibiotics in the last year
- patient is on LTOT or NIV
- presence of frailty and/or significant multimorbidity (e.g. heart failure, diabetes).

Special considerations for people with COPD during the COVID-19 pandemic

Patients with COPD are increased risk of severe illness from COVID-19. There are a number of important factors to consider because of this increased risk, outlined below.

Inhaled corticosteroid therapy

Patients should be encouraged to continue their inhaled corticosteroid (ICS) therapy. There is no evidence that treatment with ICS increases the risk associated with COVID-19 infection. The increased risk of pneumonia with high-dose ICS is outweighed by the risk of destabilising COPD control if the ICS is withdrawn.[1]

Self-management plan

Review the patient's self-management plan. Patients should not be offered 'just in case' antibiotics or oral steroids unless they have had an exacerbation in the previous year. Provide strict instructions about when to use the medications, not to use them for symptoms of COVID-19 (dry cough, fever, myalgia, loss of taste/smell), and to inform their usual doctor/nurse when they have started the medications.[1,13]

Smoking cessation

Smoking cessation advice should be reinforced to reduce the risk of poor outcomes from COVID-19 infection and to reduce the risk of COPD exacerbations.[1]

Table 1: Features to help distinguish COVID-19 viral pneumonia from bacterial pneumonia[3]

COVID-19 viral pneumonia is more likely if the patient:	Bacterial pneumonia is more likely if the patient:
■ Presents with typical COVID-19 symptoms for about a week ■ Has severe muscle pain (myalgia) ■ Has loss of sense of smell (anosmia) ■ Is breathless but has no pleuritic pain ■ Has a history of exposure to known or suspected COVID-19 e.g. in the workplace or household	■ Becomes rapidly unwell after only a few days of symptoms ■ Does not have typical COVID-19 symptoms ■ Has pleuritic chest pain ■ Has purulent sputum

Exercise

Patients should be encouraged to exercise. The British Thoracic Society has an excellent resource pack on home exercise and also offers advice on managing respiratory problems during the COVID-19 pandemic.[1,14,15]

Infection control

Home nebulisers can continue to be used. Equipment, including inhalers and spacers, should be washed regularly using washing-up liquid or according to the manufacturer's instructions[1] and left to air dry.

Patients with severe asthma[2]

NICE Guideline 166, NICE's *COVID-19 rapid guideline: severe asthma,*[2] has been mainly written from a secondary-care perspective. In the guideline, NICE uses the European Respiratory Society and American Thoracic Society definition of 'severe asthma':[2]

- '*asthma that requires treatment with high-dose inhaled corticosteroids …plus a second controller (and/or systemic corticosteroids) to prevent it from becoming "uncontrolled", or which remains "uncontrolled" despite this therapy.*'

In practice this means patients on ICS budesonide 800 mcg (or equivalent) plus long-acting beta$_2$-agonist (LABA) or montelukast or tiotropium (or on regular oral steroids). Patients with severe asthma represent 3.8% of the asthma population[16] and should be advised to follow UK government advice on shielding.[2,8] Practices may want to add them to a 'high risk' register, with proactive review.

In addition to the general measures on remote consultation, prescribing no more than 30 days' treatment at a time, and equipment care outlined above, the guideline[2] emphasises that patients on biologic therapy and/or ICS/maintenance oral steroids should continue their treatment. There is no evidence that taking ICS increases the risk of COVID-19 infection and stopping maintenance treatment may increase the risk of an exacerbation. This advice applies also to those with COVID-19, or suspected of having it, to ensure that their asthma remains as stable as possible.

In practice, the key elements of asthma review can be carried out by remote consultation:

- assess control using a validated symptom questionnaire such as the Royal College of Physicians' '3 questions'[17] or Asthma Control Test (ACT)[18,19]
- adjust treatment according to the *British asthma guideline*:[19] stepping-down treatment during the COVID-19 pandemic is not advisable because of the risk of exacerbation[2]
- review inhaler technique: this can be carried out directly via video link or patients can be directed to inhaler technique videos such as those on the Asthma UK website (**www.asthma.org.uk/advice/inhaler-videos/**)
- review the patient's asthma action plan.

Managing suspected or confirmed pneumonia in adults in the community[3]

NICE has withdrawn its guideline on diagnosing and managing pneumonia in adults (Clinical Guideline 191)[20] during the COVID-19 pandemic. The guideline has been replaced by COVID-19 rapid guidelines on managing suspected or confirmed pneumonia in adults in the community[3] and antibiotics for pneumonia in adults in hospital,[21] until further notice.

NICE Guideline 165 states that a diagnosis of community-acquired pneumonia should be considered if the patient has a:[3]

- temperature above 38°C
- respiratory rate >20 breaths/minute
- heart rate >100 beats/minute
- new-onset confusion.

Assessment

It can be very difficult to differentiate viral pneumonia (including COVID-19) from bacterial pneumonia, especially remotely. Initial remote assessment will be directed towards assessing the severity of symptoms and the need for hospital admission. The *BMJ* article on remote assessment for COVID-19 (mentioned earlier),[5] includes a very useful algorithm summarising this assessment process, which is available from NICE.[22]

Viral versus bacterial pneumonia

The distinction between viral-induced (COVID-19) and bacterial pneumonia becomes important if a patient is being treated in the community and the use of antibiotics is being considered.

Table 1 shows the features which can help differentiate between COVID-19 viral pneumonia and bacterial-induced pneumonia.

The clinician may feel that face-to-face assessment is necessary, especially where diagnostic doubt remains or additional tools of severity assessment may be needed, such as pulse oximetry. If this is the case, full COVID-19 infection control should take place, including the use of personal protective equipment (PPE). Box 2 shows NICE's recommendations for assessing severity.

Managing pneumonia in the community

NICE Guideline 165 refers to the NICE COVID-19 rapid guideline on *managing symptoms (including at the end of life) in the community* (NG163)[23] for recommendations on the management of breathlessness in pneumonia. Recommendations about management of other symptoms of COVID-19 are shown in Table 2.

Antibiotic prescribing

Antibiotics should be offered if:[3]

- the likely cause is bacterial
- it is uncertain whether the cause is bacterial or viral and symptoms are more 'concerning'
- the patient is at high risk of complications because of co-morbid conditions such as frailty, immunosuppression, or significant heart or lung disease.

The first-choice antibiotic is doxycycline 200 mg on day 1, then 100 mg per day for 4 days (i.e. a 5-day course in total); second-choice is amoxicillin 500 mg three times a day for 5 days. Doxycycline is preferred as it has greater activity against *Mycoplasma pneumoniae* and *Staphylococcus aureus* which are more likely to be secondary causes in the COVID-19 pandemic.[3]

Safety netting

If a patient with pneumonia is managed in the community, whether they are taking an antibiotic or not, the guideline recommends that they should be advised to seek help if their symptoms worsen or if they fail to improve 'as expected' (for example, improvement in fever after 48 hours of antibiotic treatment).[3] The author recommends active review according to individual circumstances, but certainly no later than 48 hours after initiation of treatment.

Box 2: Features of severe disease of suspected community-acquired pneumonia[3]

- Severe shortness of breath at rest or difficulty breathing
- Coughing up blood
- Blue lips or face
- Feeling cold and clammy with pale or mottled skin
- Collapse or fainting (syncope)
- New confusion
- Becoming difficult to rouse
- Little or no urine output

The decision to admit to hospital will depend on these features and also:[3]

- if pulse oximetry is available, oxygen saturations <92% (<88% if the patient has COPD) indicate a need for admission
- the wishes of the patient: these may depend on advance care planning decisions, and discussion with the patient of the benefits and risks of hospital admission
- level of social and NHS support in the community
- the patient's co-morbidities.

The use of CRB65 score is not recommended as it requires face-to-face assessment and has not been validated in people with COVID-19.[3]

COPD=chronic obstructive pulmonary disease

Table 2: Managing non-end-of-life symptoms in COVID-19 infection[23]

Symptom	Advice
Cough	■ Avoid lying on back ■ A teaspoon of honey (or could use a honey-based linctus) ■ Codeine linctus if aged >18 years
Breathlessness	■ Minimise anxiety ■ Breathing exercises (e.g. pursed lips breathing) ■ Ensure adequate ventilation in room
Fever	■ Regular fluids ■ Use paracetamol or NSAID. If NSAID, take the lowest effective dose for the shortest period needed to control symptoms
Anxiety	■ Ascertain specific concerns and signpost to mental health support if required

NSAID=non-steroidal anti-inflammatory drug

Implementation actions for STPs and ICSs

written by Dr David Jenner, GP, Cullompton, Devon

The following implementation actions are designed to support STPs and ICSs with the challenges involved with implementing new guidance at a system level. Our aim is to help you consider how to deliver improvements to healthcare within the available resources.

- **Establish** local COVID-19 response groups to help coordinate and interpret national guidance in a local context during the COVID-19 pandemic
- **Assess** the local prevalence of COVID-19 and keep all healthcare providers informed of the relative local risk
- **Publish** local guidelines for the assessment and management of cases, recognising that previously published algorithms are already out of date (e.g. the need now to add loss of taste and smell to triage questions)
- **Coordinate** local provider services with nationally provided ones like the 111 national clinical assessment service
- **Inform** all local health and social care providers of changes in guidelines and infection rates regularly
- **Encourage** remote assessment, but facilitate safe face-to-face assessment where needed; and establish whether remote assessment will qualify for QOF reviews where face-to-face review is specified (COPD, asthma, rheumatoid arthritis).

STP=sustainability and transformation partnership; ICS=integrated care system; QOF=quality and outcomes framework; COPD=chronic obstructive pulmonary disease

Summary

Patients with chronic respiratory illnesses, such as asthma and COPD, are at increased risk of severe illness from COVID-19. Primary care clinicians play a key role in managing patients with these respiratory conditions, as well as managing suspected or confirmed pneumonia in adults in the community. The NICE COVID-19 rapid guidelines discussed in this article aim to maximise the safety of patients with respiratory illness during the COVID-19 pandemic, while protecting staff from infection.

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GP, Box, Wiltshire

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Key points

- Minimise face-to-face consultations wherever possible using video/telephone consultation
- Consider proactive review of patients with severe asthma and COPD
- Remote review of patients with asthma and COPD should include:
  - assessment of symptom and exacerbation history
  - adjustment of treatment
  - review of personalised action plans
  - reinforcement of smoking cessation (where appropriate)
  - discussion of advance care plans in patients with severe COPD
- Delay stepping down ICS therapy until the COVID-19 pandemic has been controlled
- Initial assessment of patients with acute respiratory problems should include the severity of their symptoms and need for hospital admission
- Only use antibiotics for patients with suspected bacterial pneumonia or where there are significant co-morbidities:
  - the first choice antibiotic is doxycycline 200 mg immediately on day 1 and 100 mg once a day for 4 days (5-day course in total)
- Proactive safety netting review is recommended to reassess severity of symptoms.

COPD=chronic obstructive pulmonary disease; ICS=inhaled corticosteroid

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Test and reflect

The following questions written by **Dr Kevin Gruffydd-Jones** relate to his article, *COVID-19 guidelines on respiratory conditions: implications for primary care* (see pp.22–27 of this issue).

To check if you have answered the questions correctly visit: **GinP.co.uk/455462.article**

1. Which of the following is not recognised as constituting high risk according to the NICE COVID-19 rapid guideline on COPD?

- ☐ need for home oxygen therapy
- ☐ coexistence of frailty and significant multimorbidity
- ☐ history of hospital admission
- ☐ use of triple long-acting beta$_2$-agonist (LABA)/long-acting muscarinic antagonist (LAMA)/inhaled corticosteroid (ICS) therapy.

2. Which of the following statements is true with regard to steroid therapy?

- ☐ taking ICSs increases a patient's risk of contracting COVID-19
- ☐ patients with COPD on recommended doses of ICSs are at increased risk of bacterial pneumonia
- ☐ people with asthma on a high-dose ICS and who are well controlled should step down their ICS dose during the COVID-19 pandemic
- ☐ it is inadvisable to give patients with COPD standby courses of oral steroids during the COVID-19 outbreak.

3. Which of the following is cited by NICE as a definition of 'severe asthma' for the purposes of shielding?

- ☐ being on a high-dose ICS plus a second controller (such as a LABA)
- ☐ taking maintenance oral corticosteroid therapy
- ☐ receiving a biological therapy, such as a monoclonal antibody
- ☐ all of the above.

4. According to the NICE rapid COVID-19 guideline on managing suspected or confirmed pneumonia in adults in the community, which of the following are suggestive of bacterial community-acquired pneumonia? (Please select all that apply)

- ☐ temperature >38°C
- ☐ productive cough with purulent sputum
- ☐ dry cough
- ☐ respiratory rate >20 breaths/minute.

5. According to the NICE rapid COVID-19 guideline on COPD, which of the following statements are true regarding the use of antibiotics? (Please select all that apply)

- ☐ antibiotics should be available on standby for all patients who experience an exacerbation of their COPD
- ☐ the preferred choice of oral antibiotic for patients with community-acquired pneumonia during the COVID-19 pandemic is amoxicillin
- ☐ the duration of prescription of an antibiotic should be 5 days
- ☐ there should be a lower threshold for using antibiotics in the presence of frailty.

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First published: *Guidelines in Practice* | June 2020 | Volume 23 | Issue 6

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Key learning points: SIGN chronic pain—opioids

Professor Lesley Colvin and **Professor Blair Smith** outline key learning points on the use of opioids from the updated SIGN guideline on the management of chronic pain

This article was first published in *Guidelines in Practice* in March 2020. Read it alongside Gupinder Syan and Kamini Marvardi's *Guidelines Live* session on 18 November, 14.50

Read this article to learn more about:

- updated recommendations on opioid use for chronic pain
- early review of patients after starting opioids
- non-pharmacological management strategies for chronic pain.

0.5 CPD CREDITS

Read this article at: **GinP.co.uk/455215.article**

Chronic pain, that is pain lasting for longer than 12 weeks, is a major clinical challenge, with an increasing incidence in an ageing population, often alongside other co-morbidities.[1] In the UK, a recent systematic review and meta-analysis of population studies found a prevalence of 43%.[2] Around 14% of people, particularly women and older adults, report '*significant chronic pain*', which requires treatment and support.[3] Chronic pain has a negative effect on individuals, their families, and their carers, creating a large societal burden, and a coordinated approach is needed to address this.

Modern pain management uses a biopsychosocial approach, in which careful assessment of all aspects is required to formulate a multidisciplinary management plan. It is unlikely that analgesics alone will provide effective management, optimise successful outcomes, or minimise long-term harms. Despite this, the use of opioids for chronic, non-malignant pain has increased dramatically over the last two decades. In the US, where opioid prescribing increased steadily from 2006, peaking in 2012 at a rate of 81.3 prescriptions per 100 patients,[4] it has been termed an '*epidemic*' by the US Surgeon General.[5] Mortality associated with unprescribed and prescribed opioids is a major problem in the US, where deaths from prescription opioids have increased by almost 400% since 1999.[6–8] The prescribing rates of strong opioids more than doubled in Scotland between 2002 and 2012, although there was marked regional variation and an association with deprivation, similar to that seen in England. Not only has there been an increase in the number of prescriptions for opioids, but also an increase in the morphine equivalent doses prescribed.[9–11]

> Around 14% of people, particularly women and older adults, report '*significant chronic pain*'

The reasons for these increases are complex and include:

- the introduction of pain as the fifth vital sign by the American Pain Society[12]
- new opioids and/or formulations becoming available
- changes in societal expectations
- historical recommendations of specialist medical societies
- the concept that opioids used for pain relief would not result in addiction, and the introduction of the term 'pseudo-addiction', despite little in the way of scientific evidence.[13,14]

1 Know what the evidence says about opioid use

It is important to consider how the evidence about chronic pain management and particularly the use of opioids has evolved.

When the Scottish Intercollegiate Guidelines Network (SIGN) published its first guideline on the management of chronic pain (SIGN 136)[1] in 2013, the evidence for opioid use for chronic pain was assessed.[15] This included

Figure 1: Balance of evidence for long-term strong opioid use in chronic pain management

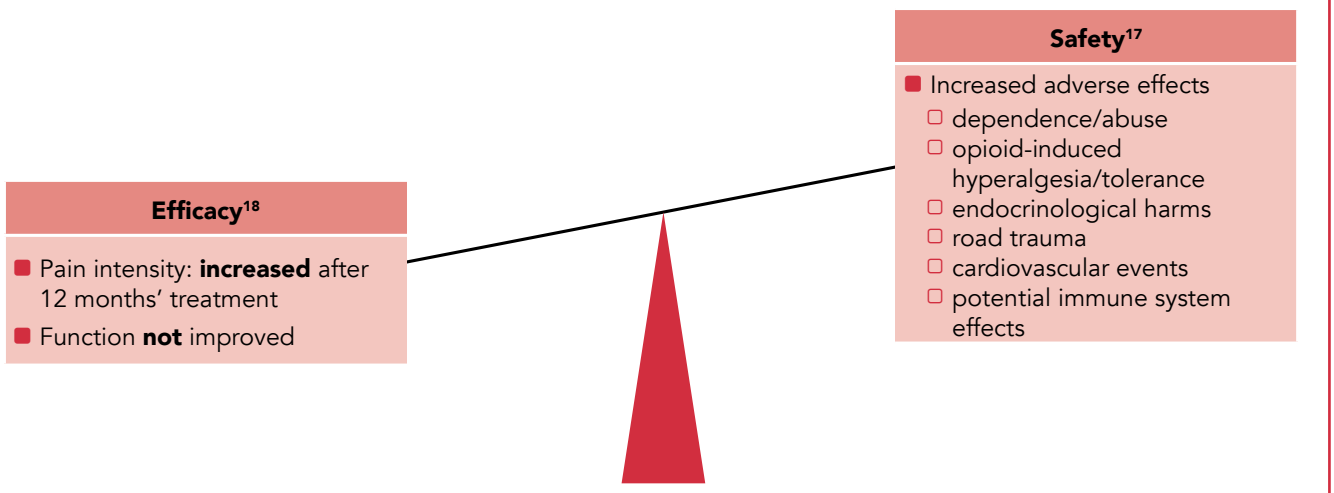

Figure created by Professor Lesley Colvin.

evidence for efficacy compared with placebo, as well as information about adverse events regarding strong opioids, plus tramadol, codeine, and compound preparations. Parenteral and neuraxial routes of administration were excluded.[1]

Previously, one of the key recommendations was that strong opioids should be considered for chronic lower back pain or osteoarthritis, and only continued if there was ongoing pain relief. Regular review was recommended.[1,15] This recommendation is no longer current; it was also noted that there were deficiencies in the evidence, with no good quality randomised controlled trials (RCTs) beyond 6 months of use, as well as a likelihood of overestimation of treatment effect because of the type of analysis used.[1]

In August 2019, the opioids section of SIGN 136 was updated to reflect significant changes in the evidence base, with an alteration in the balance of risks and benefits (Figure 1).[1] A wide body of literature explores the harms associated with long-term opioid use, which include addiction and misuse, tolerance, endocrine dysfunction, increased risk of cardiovascular events, and being involved in a road traffic incident.[16,17] Despite this, it was not until 2018 that the first longer-term RCT was published, comparing opioid with non-opioid analgesics in the management of chronic back pain, or hip or knee osteoarthritis pain.[18] In this study, patients who were on opioids for 12 months were found to have worse pain, with no improvement in function, compared with those on non-opioid analgesics (see Figure 1).[18]

2 Prescribe opioids in line with restrictions

In light of the accumulated change in evidence, the 2019 version of SIGN 136 includes new recommendations around opioid use, which place more restrictions around indications and duration of use (see Box 1).

3 Consider non-pharmacological management strategies

The updated SIGN 136 guideline recommendations echo a 2018 position statement by the International Association for the Study of Pain (IASP),[19] which reiterates the importance of continued access to opioids for acute pain management, but advises caution when these are used for chronic pain. Similarly to the SIGN 136 guideline update, short- to medium-term use of low-dose opioids in selected, well-monitored patients is presented as an option, but other strategies combining physical and behavioural therapies are preferred, with stronger evidence of efficacy and a low risk of harm.[19,20]

4 Assess suitability and monitor carefully when prescribing strong opioids

The SIGN pathway for using strong opioids in patients with chronic pain has also been updated to reflect the new recommendations, and provides practical guidance about how and when to start strong opioids. The pathway (summarised in Figure 2) is broken down into three sections, which focus on:[1]

- assessing suitability for strong opioid use
- starting a strong opioid
- monitoring opioid trials.

Strong opioids should not be commenced until there has been a careful assessment of the patient and a discussion about when to stop treatment. Treatment should be titrated to the lowest effective dose, balanced against side-effects, and reviewed regularly.

Box 1: Key recommendations on opioid use from SIGN 136[1]

- Opioids should be considered for short- to medium-term treatment of carefully selected patients with chronic non-malignant pain, for whom other therapies have been insufficient, and the benefits may outweigh the risks of serious harms such as addiction, overdose and death
- At initiation of treatment, ensure there is agreement between prescriber and patient about expected outcomes (see Figure 2 and Annex 4 of SIGN 136). If these are not attained, then there should be a plan agreed in advance to reduce and stop opioids
- All patients on opioids should be assessed early after initiation, with planned reviews thereafter. These should be reviewed annually, at a minimum, but more frequently if required. The aim is to achieve the minimum effective dose and avoid harm. Treatment goals may include improvements in pain relief, function and quality of life. Consideration should be given to a gradual early reduction to the lowest effective dose or complete cessation
- Currently available screening tools should not be relied upon to obtain an accurate prediction of patients at risk of developing problem opioid use, but may have some utility as part of careful assessment either before or during treatment
- Signs of abuse, addiction, and/or other harms should be sought at reassessment of patients using strong opioids.
- All patients receiving opioid doses of >50 mg/day morphine equivalent should be reviewed regularly (at least annually) to detect emerging harms and consider ongoing effectiveness. Pain specialist advice or review should be sought at doses >90 mg/day morphine equivalent.

Scottish Intercollegiate Guidelines Network. *Management of chronic pain*. SIGN 136. Edinburgh: SIGN, 2013, updated 2019. Available at: **www.sign.ac.uk/assets/sign136_2019.pdf**

Reproduced with permission.

5 Use non-pharmacological approaches and support self-management

Although the other sections of SIGN 136 have not been updated, the importance of an integrated multidisciplinary approach remains central to the management of people with chronic pain. This approach should be based on a biopsychosocial assessment to formulate a management plan, using pharmacological management when appropriate, alongside physical and psychological therapies, and supported self-management. In general, avoid using strong opioids as the main treatment approach.

On a positive note, more recent analyses have indicated a stabilisation or even decrease in opioid prescribing rates in Scotland (**scotland.shinyapps.io/nhs-prescribing-nti/**)[21] and in the US, where prescription behaviour surveillance systems have been implemented.[22]

The focus, however, should not just be on a reduction in prescribed opioids with no alternative strategies. Health and social care services need to meet the requirements of people with chronic pain, providing easy access to evidence-based social prescribing and non-pharmacological management. Alongside this, continued research into novel analgesics that reduce pain with minimal adverse effects from long-term use and careful evaluation of non-pharmacological interventions will help to reduce the overall burden of chronic pain.

Summary

In conclusion, opioid use for chronic pain is now recommended under much more restricted conditions than previously. This is because of an increase in the evidence around potential significant harms, and emerging evidence about limited long-term efficacy, although further research is needed in this area. Importantly, opioids should not be used as a single strategy in chronic pain management, but as part of a wider plan, with careful assessment and review throughout the period of use. Non-pharmacological approaches, including strategies to support increases in physical activity, should form a key component of chronic pain management, to improve function and quality of life.

Professor Lesley Colvin

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Member of the guideline development group for SIGN 136

Professor Blair Smith

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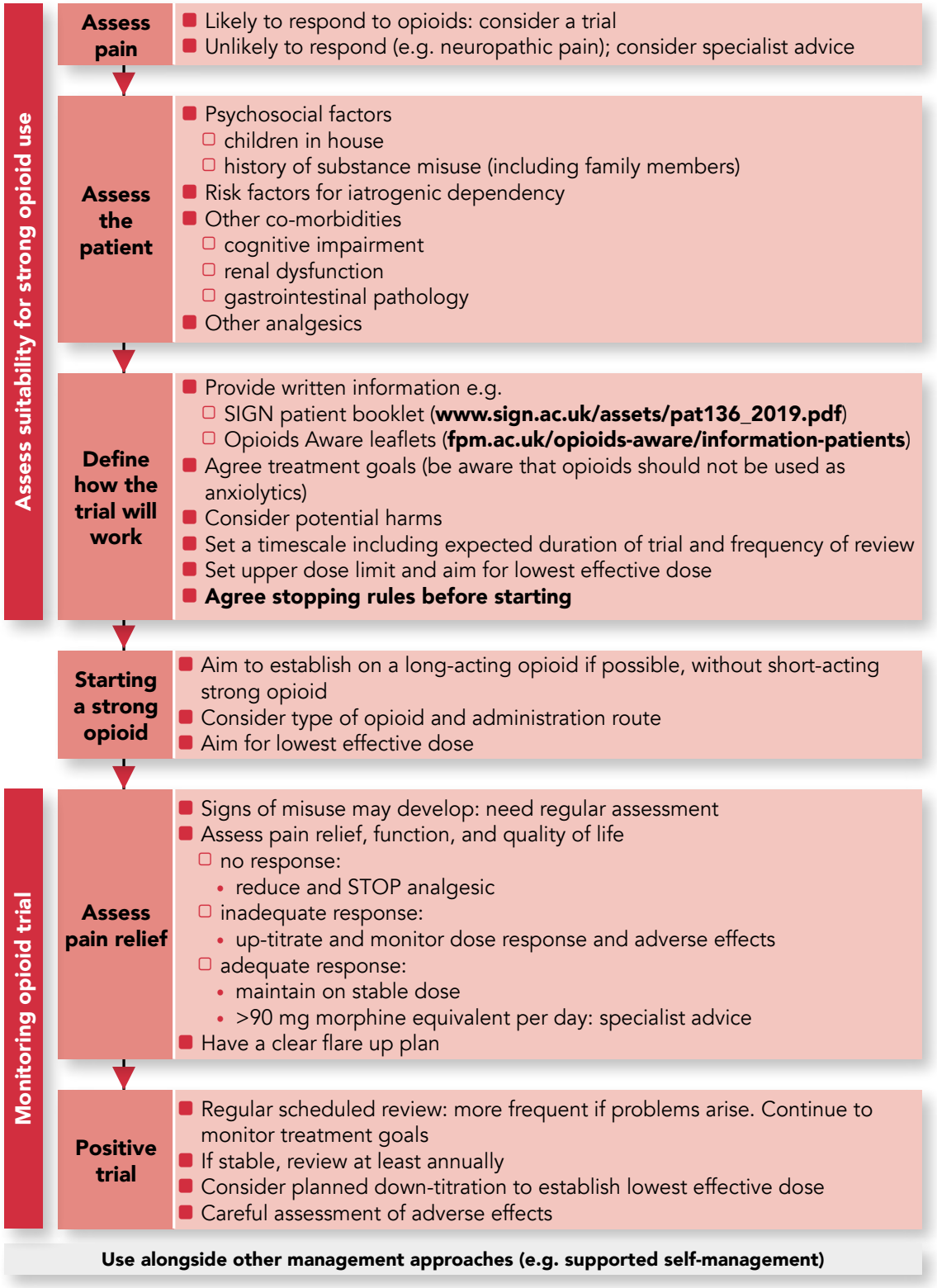
Member of the guideline development group for SIGN 136

Figure 2: Key features of the strong opioid use pathway



Refer to the pathway for using strong opioids in patients with chronic pain for full details (**www.sign.ac.uk/assets/sign136_opiod_pathway_2019.pdf**)

Figure created by Professor Lesley Colvin to summarise the key features of the pathway for using strong opioids in patients with chronic pain. Based on: Scottish Intercollegiate Guidelines Network. *Management of chronic pain*. SIGN 136. Edinburgh: SIGN, 2013, updated 2019. Available at: **www.sign.ac.uk/assets/sign136_2019.pdf**.

Implementation actions for clinical pharmacists in general practice

written by Gupinder Syan, Training and Clinical Outcomes Manager, Soar Beyond Ltd

The following implementation actions are designed to support clinical pharmacists in general practice with implementing the guidance at a practice level.

- **Identify patients** in your practice with chronic pain who are taking long-term opioids (>12 weeks' duration) and check to see if there is a review management plan in place for each. Consider further stratification e.g. those on strong doses of opioids (>50 mg/day morphine equivalent), those with other long-term conditions, or where there are QOF targets to manage
- **Establish** with the practice who will manage these patients and set accountabilities, e.g. named GPs to manage more complex patients and GP pharmacist to manage those within their level of competence
- **Prepare** before seeing patients to ensure that you are competent to manage this patient cohort. For example:
  - **familiarise** yourself with SIGN guideline 136
  - **shadow/observe** other HCPs to help improve your counselling skills with patients in supporting them to reduce opioid use down to the minimum effective dose or wean down to stop
  - **know** referral pathways to pain teams (for patients on doses >90 mg/day morphine equivalent) and other HCPs (e.g. physiotherapist or psychological support) to ensure there is a multi-disciplinary approach to management
  - **empower** other clinicians to support appropriate opioid use by sharing your knowledge with them and encouraging them to set realistic expectations about treatment duration when opioids are started
- **Deliver clinics** and ensure there is an agreed management plan in place with the patients you see that includes a review date for reducing or weaning to stop opioid use, or considering other non-opioid measures if appropriate. Refer more complex patients to relevant services. Code all interventions made to enable you to capture your outcomes.
- **Evaluate** your outcomes—examples include:
  - number of patients seen for an opioid medication review, and number of management plans agreed
  - number of patients whose opioid doses have been reduced or stopped, or changed to alternative pain relief treatment.

QOF=quality and outcomes framework; HCP=healthcare practitioners

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Implementation actions for STPs and ICSs

written by Dr David Jenner, GP, Cullompton, Devon

The following implementation actions are designed to support STPs and ICSs with the challenges involved with implementing new guidance at a system level. Our aim is to help you consider how to deliver improvements to healthcare within the available resources.

- **Inform** all relevant prescribers of the latest evidence on the use of opioids and the lack of evidence of benefit in chronic non-malignant pain
- **Update** all formulary guidance to reflect this latest evidence and include information about how and when to initiate strong opioids and when to review the need for these
- **Enact** targeted structured medication reviews by pharmacists for patients currently prescribed these medications, to explore possible reductions in dosages
- **Ensure** non-pharmacological interventions are available on referral to avoid dependence on medication
- **Make available** advice and guidance for patients on the management of pain through local pain clinics.

STP=sustainability and transformation partnership; ICS=integrated care system

Key learning points: NICE diverticular disease

Dr Michael Sproat identifies five key learning points for primary care from the 2019 NICE guideline on the diagnosis and management of diverticular disease

Diverticular disease is a digestive condition characterised by small pouches (diverticula) that protrude from the walls of the large intestine. It is a common cause of abdominal symptoms and a frequent presentation in both primary and secondary care. Large bowel diverticula may also be revealed incidentally by investigations for other problems.

Most individuals with large bowel diverticula experience no difficulties, with only 10–15% developing symptomatic diverticular disease.[1] Indeed, it has been estimated that the lifetime risk of developing acute diverticulitis in patients with diverticulosis is only 4%.[2] Nonetheless, acute diverticulitis remains one of the most common acute conditions encountered by surgeons[3] and is associated with a variety of complications including bowel perforation, abscesses, and fistulae.

During the development of NICE Guideline (NG) 147 on *Diverticular disease: diagnosis and management*, systematic research reviews identified a lack of published evidence on which to base recommendations, particularly regarding the management of diverticulosis and diverticular disease. In these areas, a modified Delphi survey was used. This is an anonymous, multi-round technique used to reach a consensus of expert opinion. The Delphi panel comprised registered stakeholders for NG147 and included a wide range of professional, patient, and carer organisations.[1]

Guidelines Live

This article was first published in *Guidelines in Practice* in April 2020. Read it alongside Dr Michael Sproat's *Guidelines Live* session on 18 November, 15.15

Read this article to learn more about:

- diagnosing diverticular disease
- appropriate primary care management of acute diverticulitis and when to refer to secondary care
- antibiotic use in acute diverticulitis.

Read this article online at: **GinP.co.uk/455252.article**

Test and reflect patient scenarios on this topic are available on p.41 and online at: **GinP.co.uk/455260.article**

CPD

This article focuses on five key learning points for primary care from NG147.

1 Make a clear diagnosis

The terms diverticulosis, diverticular disease, and acute diverticulitis are often used interchangeably but there is wide variation in clinical features (see Box 1).

Moreover, the presentation can cause significant diagnostic confusion as the symptoms and signs of diverticular disease and acute diverticulitis may overlap with other conditions including irritable bowel syndrome, inflammatory bowel disease, renal colic, and malignancy, such as colorectal or ovarian cancer.[1]

In patients with intermittent symptoms suggestive of diverticular disease, current practice is to use either lower gastrointestinal (GI) endoscopy (flexible sigmoidoscopy/colonoscopy) or computed tomography (CT) colonography to confirm the presence of diverticula and exclude other conditions. It may be appropriate to arrange these tests routinely from primary care if this is supported by existing local services; however, if an individual meets the criteria for suspected malignancy, 2-week wait urgent referral pathways should be used.[1]

In patients presenting acutely with constant and/or severe pain where acute diverticulitis is suspected, secondary care assessment and contrast CT scan should be considered.[1]

2 Consider acute diverticulitis in younger age groups

The true prevalence of individuals with large bowel diverticula is difficult to determine as most are

asymptomatic. However, it is more common in developed countries, being slightly more frequent in the USA than in Europe, and rare in Africa.[4] It is also age dependent with a reported prevalence of approximately 5% of people under the age of 40 years, increasing up to 65% of individuals aged over 65 years.[1,4]

Recent years have seen a significant increase in the incidence of acute diverticulitis, especially among younger age groups.[3, 5–7] In a case series from the United States, the mean age at initial presentation with acute diverticulitis was 62 years old.[7] Clinicians should, however, take care to still consider this diagnosis in younger adults presenting with acute left lower abdominal pain.

> The exact cause of large bowel diverticula is unknown …

Otherwise, colonic diverticulosis is the most common finding during routine colonoscopy.[2] The reported prevalence of diverticulosis will be influenced by the more widespread use of CT imaging and lower GI endoscopy for a variety of indications, such as to diagnose early colorectal cancer and advanced adenomas.[8]

3 Provide lifestyle advice

The exact cause of large bowel diverticula is unknown, but formation may be associated with a low-fibre diet. This lowers stool bulk, slows transit times, and increases intraluminal pressure which promotes herniation of the colonic mucosa through weaker areas of the bowel wall.[9]

Box 1: Clinical features of diverticulosis, diverticular disease, and acute diverticulitis[1]

Diverticulosis

The incidental presence of large bowel diverticula in individuals with no symptoms

Diverticular disease

Suspect diverticular disease if a person presents with:

- *intermittent* abdominal pain in the left lower quadrant[A] with constipation, diarrhoea, or rectal bleeding **and/or**
- tenderness in the left lower quadrant[A] on abdominal examination

Acute diverticulitis

Suspect acute diverticulitis if a person presents with *constant* abdominal pain, usually severe and localising in the left lower quadrant[A] **and**

- fever **or**
- sudden change in bowel habit and significant rectal bleeding or rectal mucus **or**
- tenderness in the left lower quadrant,[A] a palpable abdominal mass, or distention, with a previous history of diverticulosis or diverticulitis.

[A] The site of pain and tenderness in diverticular disease and acute diverticulitis reflects the fact that most people develop diverticula in the sigmoid colon, although people of Asian origin may experience diverticula in the proximal large bowel and, therefore, present with right-sided pain.

The presence of diverticulosis can concern patients but reassurance should be given that most people will develop no symptoms. No specific treatment is advised although lifestyle guidance (see Box 2) is encouraged, which may reduce the risk of diverticular changes and/or the development of symptomatic disease in the future.

A higher fibre diet, supplemented if necessary with the use of bulk-forming laxatives, is also recommended in patients with diverticular disease especially if they are constipated.[1] The benefits of increasing dietary fibre may take several weeks to be realised and should be continued long term if tolerated.[1] If an individual already has a good intake of dietary fibre, further or excessive increases may cause bloating and/or abdominal discomfort, in which case ongoing use of supplementation should be reviewed.

4 Consider urgent referral for acute diverticulitis

In a patient presenting with acute diverticulitis, initial clinical assessment must consider if possible complications are suspected, such as perforation or abscess (see Table 1). If so, or if the patient has poorly controlled pain, refer for same-day hospital assessment.[1]

One of the principal recommendations of NG147 is that patients with suspected complicated acute

Box 2: Lifestyle advice for people with diverticular disease[1]

- Eat a healthy, balanced diet including whole grains, fruit, and vegetables:
  - there is no need to avoid seeds, nuts, popcorn, or fruit skins
  - if an individual has constipation and a low-fibre diet, advise them to gradually increase fibre intake as this may minimise flatulence and bloating
- Ensure enough oral fluids if increasing fibre intake, especially if there is a risk of dehydration
- Encourage regular exercise, smoking cessation, and weight loss if the person is overweight or obese
- Consider bulk-forming laxatives for people with constipation or if a high-fibre diet is unacceptable to the person or not tolerated.

Table 1: Symptoms and signs that suggest complicated acute diverticulitis[1]

Symptom or sign	Possible complication
Abdominal mass on examination or peri-rectal fullness on digital rectal examination	Intra-abdominal abscess
Abdominal rigidity and guarding on examination	Bowel perforation and peritonitis
Altered mental state, raised respiratory rate, low systolic blood pressure, raised heart rate, low tympanic temperature, no urine output, or skin discolouration	Sepsis (see the NICE guideline on sepsis)
Faecaluria, pneumaturia, pyuria, or the passage of faeces through the vagina	Fistula into the bladder or vagina
Colicky abdominal pain, absolute constipation (passage of no flatus or stool), vomiting, or abdominal distention	Intestinal obstruction

diverticulitis, as determined by the clinical assessment together with the presence of raised inflammatory markers, should have a contrast CT scan within 24 hours of hospital presentation or an appropriate alternative imaging modality if contrast CT scan is contraindicated.[1]

Clinical assessment alone is not thought to be accurate enough to exclude complications with contrast CT recognised as the gold standard diagnostic test for acute diverticulitis.[3] An early CT scan allows complications to be identified sooner, excludes other conditions, and distinguishes people with confirmed uncomplicated acute diverticulitis who can be managed more conservatively. Currently, NICE estimates that approximately 60% of people admitted with acute diverticulitis have a CT scan to confirm the diagnosis.[1] Therefore, this recommendation to increase the use of CT scanning may have significant implications for some secondary care centres. The increased cost of imaging is anticipated to be offset by a decrease in inpatient hospital stays for individuals with confirmed uncomplicated disease, as well as other advantages such as a reduction in the use of intravenous antibiotics.[1]

Conservative management in the community is still supported for people with suspected mild uncomplicated acute diverticulitis who are systemically well, but the patient should be reassessed if significant symptoms persist or if symptoms worsen, as this may indicate the presence of complications or the need to consider an alternative diagnosis.[1]

NICE Guideline 147 does not, therefore, prevent GPs from continuing to manage patients in primary care if they are confident that the patient has uncomplicated acute diverticulitis and symptoms are well controlled. Prompt access to specialist review and CT scanning may provide helpful information and should be considered when appropriate.

5 Recognise when antibiotics are not required

In patients with diverticular disease, simple analgesia such as paracetamol is recommended for the relief of abdominal pain. Antispasmodics may also be helpful.[1] Non-steroidal anti-inflammatory drugs and opioid analgesia should be avoided if possible

Table 2: Antibiotics for adults aged 18 years and over with suspected or confirmed acute diverticulitis[1]	
Antibiotic[A]	**Dosage and course length[B]**
First-choice oral antibiotic for suspected or confirmed uncomplicated acute diverticulitis	
Co-amoxiclav	500/125 mg three times a day for 5 days
Alternative first-choice oral antibiotics if penicillin allergy or co-amoxiclav unsuitable	
Cefalexin (caution in penicillin allergy) **with** metronidazole	**Cefalexin:** 500 mg twice or three times a day (up to 1 to 1.5 g three or four times a day for severe infection) for 5 days **Metronidazole:** 400 mg three times a day for 5 days
Trimethoprim **with** metronidazole	**Trimethoprim:** 200 mg twice a day for 5 days **Metronidazole:** 400 mg three times a day for 5 days
Ciprofloxacin (only if switching from intravenous ciprofloxacin with specialist advice; consider safety issues[C]) **with** metronidazole	**Ciprofloxacin:** 500 mg twice a day for 5 days **Metronidazole:** 400 mg three times a day for 5 days
Please see the full guideline for advice on first-choice intravenous antibiotics for suspected or confirmed complicated acute diverticulitis.	
[A] See BNF for appropriate use and dosing in specific populations, for example, hepatic impairment, renal impairment, pregnancy and breastfeeding, and administering intravenous (or, where appropriate, intramuscular) antibiotics.	
[B] A longer course may be needed based on clinical assessment. Continue antibiotics for up to 14 days in people with CT-confirmed diverticular abscess.	
[C] See MHRA advice for restrictions and precautions for using fluoroquinolones due to very rare reports of disabling and potentially long-lasting or irreversible side effects affecting musculoskeletal and nervous systems. Warnings include: stopping treatment at first signs of a serious adverse reaction (such as tendonitis), prescribing with special caution for people over 60 years and avoiding coadministration with a corticosteroid (March 2019).	
BNF=British National Formulary; CT=computed tomography; MHRA=Medicines and Healthcare products Regulatory Agency	

as they may increase the risk of diverticular perforation.[1,10] There is also insufficient evidence that antibiotics are effective in preventing recurrent diverticular disease so these should not be offered.[1]

In people with acute diverticulitis who do not meet the criteria for urgent same-day hospital assessment, NG147 recommends considering a no-antibiotic prescribing strategy (watchful waiting) if the person is systemically well and has no co-morbidities that increase the risk of infection.[1] This recommendation reflects evidence from two randomised controlled trials that found antibiotic versus no-antibiotic treatment in patients with confirmed uncomplicated acute diverticulitis was associated with no significant difference in the rate of complications, hospitalisation, the need for sigmoid resection (surgery), recurrent diverticulitis, or mortality.[11–13] These studies did, however, involve participants having a CT scan on entry to the trial to exclude complicated disease and so caution is advised in extrapolating the findings to a primary care population who will have had no imaging.

Antibiotics remain appropriate if the person is systemically unwell, immunosuppressed, or has significant co-morbidity.[1] When prescribing an oral antibiotic in primary care for suspected or confirmed acute diverticulitis, follow the advice in Table 2.[1]

NICE Guideline 147 also specifically advises clinicians not to offer patients long-term antibiotics to prevent recurrent acute diverticulitis, because of a lack of evidence to support their use and concerns about the risk of antibiotic resistance.[1]

Summary

Diverticulosis is a common condition and only a minority of people ever develop symptoms. Where symptoms are present and diverticular disease is suspected, further investigations are advised both to confirm the diagnosis and, where necessary, exclude other important conditions such as malignancy or colitis.

Acute diverticulitis is an important cause of morbidity and, while primary care management remains appropriate in some situations, clinicians should be

COVID-19 considerations

- Diverticulitis is not expected to carry any increased risk for severe COVID-19[14]
- On 4 April 2020, The British Society of Gastroenterology published COVID-19 guidance recommending that:[15]
  - all endoscopy except emergency and essential procedures should stop immediately
  - all symptomatic routine referrals should be deferred until further notice
- Patients with suspected complicated acute diverticulitis should still be considered for urgent hospital assessment and contrast CT scan, despite the significant pressure on acute admissions at present.

CT=computed tomography

Implementation actions for STPs and ICSs

written by Dr David Jenner, GP, Cullompton, Devon

The following implementation actions are designed to support STPs and ICSs with the challenges involved with implementing new guidance at a system level. Our aim is to help you consider how to deliver improvements to healthcare within the available resources.

- **Recognise** that diverticular disease is very common particularly in older people; although it rarely causes morbidity it often gives rise to diagnostic concern as the symptoms overlap with those for intra-abdominal malignancy
- **Establish** clear guidelines or a clinical pathway for the investigation and management of symptoms thought likely to be due to diverticar disease
- **Consider** the provision of direct access to contrast CT examination for GPs
- **Ensure** the availabilityof contrast CT for patients requiring hospital assessment for suspected diverticulitis
- **Publish** in local formularies indications for suspected diverticulitis and choices for antibiotics, where appropriate, to treat the condition (see article Table 2).

STP=sustainability and transformation partnership; ICS=integrated care system; CT=computed tomography

mindful of the risk of complications and have a low threshold for considering same-day hospital assessment. NG147 also emphasises the potential benefit from more widespread use of urgent contrast CT as part of an individual's initial assessment. Where complicated disease has been excluded there is increasing evidence that antibiotics have a more reduced role in the management of acute diverticulitis than previously thought.

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Patient scenarios

The following case studies written by **Dr Michael Sproat** relate to his article, *Key learning points: NICE diverticular disease* on pp.36–40.

The scenarios are fictitious but similar to those experienced by real patients, and are designed to help you reflect on what you have learnt after reading the article. They could also be used for group discussion in an education or practice meeting. There are no right or wrong answers but some pitfalls to avoid. Read suggestions for how to manage each patient at: **ginp.co.uk/455260.article**

Case 1: Trevor, 55 years old

Context
Trevor is fit and well. He was recently invited to have a routine flexible sigmoidoscopy as part of the national NHS bowel cancer screening programme. The test went well, but he was concerned to be told afterwards that it showed signs of sigmoid diverticulosis as he has read that this is a serious condition.

Questions for reflection

1. What additional questions would you ask?
2. What is the main advice that we should give Trevor?
3. Is any follow up required?

Case 2: Sarah, 52 years old

Context
Sarah presents with a 6-month history of intermittent left lower abdominal discomfort. She also describes bloating and comments that her bowel habit has become more irregular of late. There is no rectal bleeding or unexplained weight loss.

Questions for reflection

1. What additional tests should be considered?
2. If diverticular disease is confirmed, what management is recommended?

Case 3: Monica, 72 years old

Context
Monica tells you that she was diagnosed 2 years ago with acute diverticulitis following investigations for a variable bowel habit and intermittent left-sided abdominal pain. She presents to your GP practice today following a 24-hour flare-up of her usual abdominal pain and requests a prescription for antibiotics.

She adds that these have been issued before on a number of occasions to good effect. She denies any rectal bleeding or acute change in bowel habit.

Questions for reflection

1. What are your initial thoughts in terms of the history and diagnosis?
2. What management do you recommend? Why?

Case 4: Sanjay, 42 years old

Context
Sanjay attends with a 48-hour history of acute right-sided abdominal pain. This is poorly controlled despite the regular use of over-the-counter analgesia. He describes some mild diarrhoea but no rectal bleeding or vomiting. On examination he is alert but in obvious discomfort. There is tenderness throughout the right side of the abdomen but no guarding or rigidity.

He has a temperature of 38.1°C, blood pressure of 142/88 mmHg, pulse of 108 beats per minute, respiratory rate of 22 breaths per minute, and oxygen saturation of 98%.

Questions for reflection

1. What conditions should be considered in Sanjay's case?
2. What management is advised?