

# Script

General Practice

An eLearning programme for effective  
and appropriate prescribing practice

A Guide for GP Trainees



Health Education England



## CONTENTS

<b>1.0 BACKGROUND</b> .....	1
<b>2.0 THE RESOURCE</b> .....	2
2.1 Structure of the modules .....	2
2.2 Certification .....	3
2.3 The pre/post-test score.....	3
<b>3.0 INTEGRATION INTO GENERAL PRACTICE TRAINING</b> .....	4
3.1 Mandatory modules .....	4
3.2 Re-taking the modules.....	4
3.3 Probity .....	4
<b>4.0 REGISTRATION</b> .....	5
<b>5.0 FREQUENTLY ASKED QUESTIONS</b> .....	6
5.1 Technical problems .....	6
5.2 Content queries and feedback.....	6
5.3 SCRIPT and the GP training programme .....	6
<b>6.0 APPENDICES</b> .....	6
APPENDIX 1: Module titles and learning outcomes .....	7



## 1.0 BACKGROUND

Medication is the most common intervention in clinical practice. In 2017, community prescriptions cost the National Health Service (NHS) in England alone £9.17 billion, with over 1 billion prescription items dispensed<sup>1</sup>. Medication errors can be defined as **“a failure in the treatment process that leads to, or has the potential to lead to, harm to the patient”**<sup>2</sup>. In primary care, an estimated 46.9 million potentially clinically significant medication errors occur per year with approximately 22 million due to prescribing<sup>3</sup>. Medication errors are a cause of avoidable adverse drug reactions which in turn, are estimated to cost the NHS £98.5 million per year<sup>3</sup>.

In 2010, the General Medical Council (GMC) commissioned a study to investigate the prevalence and nature of prescribing and monitoring errors in general practice. The PRACTICE study<sup>4</sup>, examined 6,048 unique prescription items for 1,777 patients and found that 1 in 20 items were associated with either a prescribing or monitoring error, affecting 1 in 8 patients. Although the majority of these errors were judged to be either of mild or moderate severity, 1 in 550 of all prescription items contained an error considered severe. Many of the errors identified could have been prevented with better training and educational support.

The SCRIPT eLearning programme originated for Foundation trainee doctors with 47 prescribing and therapeutics focussed modules. It was created in 2011 by a team of pharmacists and clinical pharmacologists working in both education and healthcare at the University of Birmingham, together with eLearning experts from OCB Media Ltd. Originally used by West Midlands trainees, this resource is now available to every Foundation trainee in England, Wales and Northern Ireland. In view of the findings from the PRACTICE study and the success of SCRIPT for Foundation trainees, in 2014 Health Education England's (HEE) West Midlands team commissioned the development of GP SCRIPT specifically aimed at doctors working in general practice.

The programme's objectives were to:

- Develop modules across a wide range of therapeutic areas to reflect practice, managing medicines in the NHS and cost-effective prescribing.
- Create an eLearning platform that GP trainees and GPs can access easily for just-in-time learning and revalidation.
- Provide a resource to support CPD and encourage reflective practice.
- Help maintain and develop professional knowledge and competence related to medicines.

---

<sup>1</sup>NHS Digital (2017) Prescription Cost Analysis, England. Available online: <https://digital.nhs.uk/data-and-information/publications/statistical/prescription-cost-analysis/prescription-cost-analysis-england-2017>

<sup>2</sup>Ferner RE, Aronson JK. (2006). Clarification of Terminology in Medication Errors: Definitions and Classification. *Drug Safety*. 29(11):1011-22.

<sup>3</sup>Elliott RA, Camacho E, Campbell F, et al. Prevalence and Economic Burden of Medication Errors in the NHS in England. Policy Research Unit in Economic Evaluation of Health and Care Interventions. Sheffield, United Kingdom: University of Sheffield and University of York; 2018.

<sup>4</sup>Avery AJ, Ghaleb M, Barber N. et al. (2013) The prevalence and nature of prescribing and monitoring errors in English general practice: a retrospective case note review. *British Journal of General Practice*. 63(613): e543-e553. Available online: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3722831/>

## 2.0 THE RESOURCE

The programme comprises 24 web-based eLearning modules relating to prescribing and therapeutics across a wide range of subject areas (Appendix 1). All modules have been authored by specialist healthcare professionals and externally peer reviewed to ensure accuracy and relevance to practice.

The 24 modules are divided into four categories:

Principles of Prescribing
Adherence and Concordance
Managing the Medicines Process*
Managing the Risks of Prescribing*
Prescribing in Infection*
Prescription Documentation and Shared Care*
The Prescribing Landscape*
Utilising the BNF(C)

Therapeutic Groups
Gastrointestinal Medicine*
Paediatric Dermatology
Pain Management and End-of-Life Care*
Rheumatology

Prescribing in Special Circumstances
Dementia Friendly Prescribing
Developmental Pharmacology in Paediatrics
Practical Prescribing in Paediatrics*
Prescribing in Renal and Hepatic Dysfunction*
Older Adults
Pregnancy and Breastfeeding

Prescribing in Medical Emergencies
Acute Coronary Syndrome
Anaphylaxis
Asthma and Croup
Hypoglycaemia
Meningococcal Disease
Seizures
Sepsis*

\* In development, due 2019

### 2.1 Structure of the modules

Each module has the same core components, commencing with a pre-test of 10 questions designed to allow you to determine your baseline knowledge on the subject area. The pre-test will automatically load when you enter the module. You will be given a score out of 10 at the end of the test, but will not be provided with feedback at this stage. This will be followed by a brief Module Overview, recommendations for any reading that may facilitate progress through the module ('Pre-requisites') and Learning Outcomes.

The learning commences with a Case Vignette, which introduces some key concepts covered in the module content. In-module activities are included throughout the modules to embed learning. At the end of the module, when all the content has been viewed, a 10 question post-test is activated. Guidance on this is given in the post-test page in the Summary section of each module. The questions in the post-test will be the same or similar to those presented in the pre-test and asked in a random order. You will be provided with feedback for each question as you answer it and given a score out of 10 at the end of the test.

## 2.2 Certification

Upon completion of the module, a certificate will be made available as a PDF, stating:

- Your name
- The module title
- The learning outcomes of the module
- The date and time the certificate was generated

You will be able to print the certificate or upload it to your online portfolio as proof of module completion.

## 2.3 The pre/post-test score

The pre/post-tests are intended to help you determine your baseline knowledge on the module subject, and be a measure of knowledge acquisition. The questions have not been reviewed by an examination board. As such, a pass mark has not been set and the post-test score is not generated onto the module certificate.

You can access module certificates and information about your pre-test and post-test scores for all modules completed, at any time.

## 3.0 INTEGRATION INTO GENERAL PRACTICE TRAINING

### 3.1 Mandatory modules

Some regions or practices may choose to mandate specific GP SCRIPT modules for trainees. These modules will be determined on a regional basis, not by the SCRIPT team or Health Education England. Should modules be mandated, the certificates provided at the end of the module can serve as evidence of module completion. SCRIPT also has a dedicated management site, which can be accessed by named individuals to monitor the uptake of mandated modules. This function serves two purposes:

1. It can ensure that you are taking steps to develop your prescribing knowledge in postgraduate education
2. It can encourage discussion about prescribing during workplace education and in your appraisals

If modules are mandated, your trainer will have access to the following information about your progress:

- When you have completed the modules (day of week and time of day)
- How long you spent on the learning
- Your pre- and post-test scores

Please note that your progress will only be monitored if modules have been mandated as part of your training.

### 3.2 Re-taking the modules

Trainers monitoring your progress through the learning can re-set any mandatory modules. This is a local decision and one that should be taken in discussion with both yourself and your trainer. In addition, you can also re-set the module yourself.

### 3.3 Probity

Probity is at the heart of medical professionalism. Probity means being honest and trustworthy and acting with integrity. The GMC Good Clinical Practice states: “**You must always be honest about your experience, qualifications and current role**” [Act with honesty and integrity; paragraph 66]<sup>5</sup>.

Dishonest behaviours such as fraudulent creation of module certificates, completion of multiple modules simultaneously, and completion of modules in under 10 minutes can be identified by the programme.

We would like to remind you of the standards set out by the GMC.

---

<sup>5</sup>General Medical Council (2013). Good Medical Practice. Available online at <http://www.gmc-uk.org/guidance/index.asp>



## 4.0 REGISTRATION

Prior to the official launch (due 2019) of GP SCRIPT, the programme is available as a pilot version, free to all GP trainees in the West Midlands. To register for the pilot version of GP SCRIPT:

1. Go to <https://evaluation.gpprescriber.org/login>
2. In the registration field, enter the email address you want to register with and select 'Get Started'.
3. During registration, you will be asked to provide the following information:
  - i. First Name
  - ii. Last Name
  - iii. Email address
  - iv. Telephone Number
  - v. Profession (e.g. GPST1)
  - vi. Year of graduation from medical school
  - vii. Professional Number (i.e. GMC number)
  - viii. Region
  - ix. Password
4. When you have entered your details, you will need to agree to the terms and conditions.
5. You will receive an email confirming your registration. When this is complete, you can login and access all of the GP SCRIPT modules.
6. When you have completed a module, a certificate will be made available which you can print or upload to your online portfolio.

After the official launch of GP SCRIPT, the pilot version will no longer be available. Accounts registered with the pilot will be migrated to the official version of GP SCRIPT. Once available, you can register for the official version of GP SCRIPT as follows:

1. Go to [www.safeprescriber.org](http://www.safeprescriber.org)
2. Register with the 'General Practice' programme.
3. During registration, you will be asked to provide the following information:
  - i. First Name
  - ii. Last Name
  - iii. Email address
  - iv. Telephone Number
  - v. Profession
  - vi. Year of graduation
  - vii. Professional Number (i.e. GMC number)
  - viii. Region
  - ix. Password
4. When you have entered your details, you will need to agree to the terms and conditions.
5. You will receive an email confirming your registration. When this is complete, you can login and access all of the GP SCRIPT modules.
6. When you have completed a module, a certificate will be made available which you can print or upload to your online portfolio.

Your registration information is not shared with a third party and is maintained on a secure server.

## 5.0 FREQUENTLY ASKED QUESTIONS

### 5.1 Technical problems

*What do I do if I have forgotten my password?*

On the login page, click to indicate you have forgotten your password. Enter your email address and click submit. You will receive an email that contains a link to change your password.

*What do I do if I have forgotten the email address I registered with?*

Email us at [info@safeprescriber.org](mailto:info@safeprescriber.org) or click 'Feedback' in the top right hand corner of the homepage. The technical team will respond accordingly.

### 5.2 Content queries and feedback

*Who do I contact if I spot an error on the site?*

Email us at [info@safeprescriber.org](mailto:info@safeprescriber.org) or click 'Feedback' in the top right hand corner of the homepage. The editorial team will review your query and respond accordingly.

### 5.3 SCRIPT and the GP training programme

*Do I get access to Medicine and Surgery SCRIPT during my hospital rotation?*

Medicine and Surgery SCRIPT has a secondary care focus and is available, free of charge, nationally to Foundation trainee doctors. Current funding does not extend to GP trainees. However, you can purchase an individual annual licence online at [www.safeprescriber.org](http://www.safeprescriber.org)

*How long do the modules take to complete?*

Each module takes approximately 60 minutes to complete.

*Is there a pass mark for the post-test?*

The questions have not been reviewed by an examination board. As such, a pass mark has not been set and the post-test score is not generated onto the module certificate. Where modules are mandated, however, progress through the modules may be monitored by your trainers, and low scores may lead to a discussion with your trainer about re-setting the module for the test to be re-taken.

*How do I get the module certificate?*

A certificate is generated upon completion of all elements of the module. This includes the pre- and post-test. This certificate will always be available on your profile to download.

*What should I do with the certificates?*

Once you have downloaded a certificate, it is important that you save this as proof of your module completion.

## 6.0 APPENDICES

APPENDIX 1: Module titles and learning outcomes

## APPENDIX 1: Module titles and learning outcomes

Category	Principles of Prescribing
Module Title	Learning Outcomes
Adherence and Concordance	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Discuss the importance of informed choice and shared decision-making in optimising the safe and effective use of medicines.</li> <li>• Define adherence and how this differs to compliance in relation to drug treatment.</li> <li>• Discuss the influences that affect your patients' adherence to medicines.</li> <li>• Describe the interventions you can make to actively support adherence to medicines and treatment regimens.</li> <li>• Discuss the implications of non-adherence to both your patient and the National Health Service (NHS).</li> </ul>
Managing the Medicines Process	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Discuss the importance of monitoring for both the beneficial and adverse effects of treatment.</li> <li>• Discuss how errors in the monitoring process can be avoided, such as with restricting the duration of supply of medicines as a prompt for monitoring or restricting repeat prescribing.</li> <li>• Discuss the difficulties faced when communicating or receiving medication-related information at the interface, and using examples, discuss how this can lead to error and strategies for reducing this risk.</li> <li>• Describe the role of the Summary Care Record, the importance of keeping it up-to-date and how it is used by secondary care practitioners.</li> <li>• Discuss how the repeat prescribing process can be monitored to reduce the risk of medicines continuing for longer than intended.</li> <li>• Discuss ways in which patients and pharmacists can be encouraged to raise issues with repeat prescriptions.</li> </ul>
Managing the Risks of Prescribing	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Define medication errors, including subtypes.</li> <li>• Identify individual and systems factors that can lead to error.</li> <li>• Describe how medication errors are reported.</li> <li>• Define an ADR and the classification of ADRs.</li> <li>• Identify susceptibility factors that place patients at increased risk of ADRs.</li> <li>• Discuss the concept of pharmacovigilance and its importance for public health.</li> <li>• Demonstrate knowledge of potential drug-drug interactions (DDIs) mechanisms (pharmacodynamic and pharmacokinetic).</li> <li>• Describe patient factors that may intensify drug-drug interactions, related to age, gender, metabolising enzyme profile (sometimes related to ethnicity), disease, diet, smoking and illicit drug use.</li> <li>• Find information on potential drug interactions.</li> <li>• Highlight the importance of identifying and reporting 'suspected' drug interactions and Adverse Drug Reactions (ADRs) to the Medicines and Healthcare Products Regulatory Agency (MHRA).</li> <li>• Explain the role and function of the Yellow Card scheme.</li> </ul>

Category	Principles of Prescribing
Module Title	Learning Outcomes
Prescribing in Infection	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Describe the goals of antimicrobial stewardship.</li> <li>• Discuss why stewardship is important in relation to antimicrobial resistance and the overuse of antibacterial agents.</li> <li>• Describe the mechanisms of antimicrobial resistance.</li> <li>• Discuss the basic principles of prescribing in infection, selecting the appropriate medicines and the importance of adhering to antimicrobial guidelines.</li> <li>• Discuss alternative treatment options when a contraindication exists, such as allergy or renal dysfunction.</li> <li>• Discuss the monitoring and reviewing of antimicrobial treatment, listing some common adverse effects.</li> <li>• List common drug-drug and drug-food interactions with antimicrobials.</li> </ul>
Prescription Documentation and Shared Care	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Discuss the importance of prescribing within the limits of knowledge, skills and experience.</li> <li>• Describe the legal and good practice aspects of prescribing.</li> <li>• Describe the good practice standards for issuing both handwritten and computerised prescriptions.</li> <li>• Define unlicensed, off-label and special medicines.</li> <li>• Discuss good practice when prescribing unlicensed medicines.</li> <li>• Discuss the legal and good practice requirements for prescribing remotely via the telephone, online or video-link.</li> <li>• Describe the importance of adhering to local and national prescribing policy, including the role of the local formulary.</li> <li>• Discuss the standards for prescribing at the recommendation of a professional colleague.</li> </ul>
The Prescribing Landscape	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Understand NHS expenditure on medicines across different healthcare sectors, and how individual practice can be adapted to help manage these costs.</li> <li>• Outline the financial burden of medicines waste, contributing factors and how these can be managed.</li> <li>• Describe the role of Area Prescribing Committees, and how this role promotes cost-effective prescribing and fairer access to medicines.</li> <li>• Know when and why medicines should be prescribed generically or by brands, and the potential implications of substitution on treatment outcomes.</li> <li>• Identify how patient demographics and population can influence prescribing patterns.</li> <li>• Understand the costs of unlicensed and specials medicines, and how these may be managed.</li> </ul>
Utilising the BNF(C)	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Describe the basic layout and structure of the BNF and BNFC.</li> <li>• Navigate the smartphone mobile app, online and printed book versions.</li> <li>• Describe the information contained within the General Guidance section.</li> <li>• Find and accurately interpret the dose, route, frequency and indication for a given medicine.</li> <li>• Find information on the licensed status of a medicine.</li> <li>• Find information about the different formulations available for a medicine, and identify excipients contained within these.</li> <li>• Find instructions on the administration of medicines given via intravenous infusions.</li> <li>• Describe the information available in the appendices and indices of the BNF and BNFC.</li> </ul>

Category	Therapeutic Groups
Module Title	Learning Outcomes
Gastrointestinal Medicine	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Discuss the treatment guidelines and management options for dyspepsia and Gastro-Oesophageal Reflux Disease (GORD).</li> <li>• List the medicines that can cause or exacerbate dyspepsia and/or GORD.</li> <li>• List the pharmacological treatments used in the management of Helicobacter pylori infection and the next steps should eradication fail.</li> <li>• Discuss the treatment guidelines for the management of acute upper gastrointestinal bleeding.</li> <li>• Describe the treatment guidelines and management options available (over-the-counter and prescribed) for irritable bowel syndrome.</li> <li>• List the common medicines that can precipitate constipation or diarrhoea.</li> <li>• Describe the pharmacological treatment options for the management of Inflammatory Bowel Disease (IBD) and the factors affecting drug selection.</li> <li>• Describe the common and serious adverse effects of pharmacological treatments used in the management of gastrointestinal disorders.</li> <li>• Discuss the importance of patient education and self-management with respect to IBD.</li> </ul>
Paediatric Dermatology	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Initiate therapy for the management of atopic eczema and step treatment up and down according to response and as recommended by NICE guidance.</li> <li>• Select and prescribe appropriate topical treatments for psoriasis.</li> <li>• List the systemic treatments available for psoriasis and explain their use to patients and their families.</li> <li>• Select and prescribe topical therapy and antibacterials for acne vulgaris, and list the indications for isotretinoin use.</li> <li>• Differentiate between common skin infections and select appropriate treatment.</li> <li>• Recognise when disease severity may warrant referral for systemic therapy (e.g. with immunosuppressants).</li> <li>• Recognise which haemangiomas need referral for treatment, and the therapeutic options available.</li> <li>• Treat and manage common causes of hair loss.</li> <li>• Describe the management of skin erythemas in the newborn.</li> <li>• Recognise drug reactions and discuss the early management of the most severe, including Stevens-Johnson Syndrome (SJS), Toxic Epidermal Necrolysis (TEN) and DRESS syndrome (Drug Reaction with Eosinophilia and Systemic Symptoms).</li> </ul>

Category	Therapeutic Groups
Module Title	Learning Outcomes
Pain Management and End-of-Life Care	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Using the WHO Pain Ladder, describe the step-wise management of pain.</li> <li>• Discuss the pharmacological treatment options available for neuropathic pain, and the step-wise management recommended by NICE.</li> <li>• Discuss the adverse effects of both non-opioid and opioid analgesics, and how the risks of harm can be minimised to benefit patient care and improve adherence.</li> <li>• Describe the principles of palliative and end-of-life care.</li> <li>• Convert oral opioid analgesics to other delivery systems.</li> <li>• Commence morphine for a patient in chronic pain and make safe and effective dose alterations.</li> <li>• Describe the pharmacological options available to provide comfort and well-being for the symptomatic relief of nausea and vomiting, terminal restlessness and agitation, respiratory secretions, and breathlessness.</li> <li>• Describe the management of palliative care emergencies.</li> </ul>
Rheumatology	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Understand how disease activity is measured and used to guide therapy.</li> <li>• List the commonly prescribed non-biologic and biologic disease modifying drugs and explain how these are monitored for both their beneficial and adverse effects.</li> <li>• Discuss the cautions and contraindications to treatments, including use during pregnancy and breastfeeding.</li> <li>• List the adverse effects of disease modifying drugs and be able to evaluate symptoms in a patient on unfamiliar drug treatments to determine potential problems.</li> <li>• Describe the principles of safe vaccination practice in patients on disease modifying drugs.</li> <li>• Describe important errors that can arise from methotrexate prescribing.</li> <li>• Distinguish between different clinical scenarios to choose an appropriate corticosteroid dose.</li> <li>• List the important extra-articular manifestations of rheumatoid arthritis and common clinical and radiological signs that suggest an extra-articular manifestation.</li> <li>• Discuss the purpose of effective shared care agreements and the requirements of the practitioners should responsibility be shared.</li> <li>• Counsel a patient on the key issues relating to the diagnosis, management and monitoring of treatment.</li> </ul>

Category	Prescribing in Special Circumstances
Module Title	Learning Outcomes
Dementia Friendly Prescribing	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Describe the common presentations and causes of dementia.</li> <li>• Describe how to assess a patient for suspected dementia, including which investigations are relevant.</li> <li>• Identify which patients require referral to specialist services, and what these services will offer.</li> <li>• Describe rational treatment choices to slow the progression of dementia, including National Institute for Health and Care Excellence (NICE) guidance on when these treatments should be prescribed.</li> <li>• Choose suitable treatments for the behavioural and psychological symptoms of dementia (BPSD), including assessing the risk of harm and likelihood of benefit from antipsychotic agents.</li> </ul>
Developmental Pharmacology in Paediatrics	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Describe how children and neonates handle medicines differently from adults and how this will influence prescribing.</li> <li>• Explain how the processes of drug metabolism differ in neonates and children compared to adults.</li> <li>• Discuss why paediatric patients are at particular risk of drug-drug and drug-food interactions.</li> <li>• Describe which Adverse Drug Reactions (ADRs) should be reported in children and adolescents under the age of 18-years-old.</li> </ul>
Practical Prescribing in Paediatrics	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Discuss why children are more vulnerable to medication errors, and how to avoid them.</li> <li>• Demonstrate the different ways a dose may need to be calculated, including those based on age and body weight.</li> <li>• Calculate oral rehydration fluid requirements for children of all weights and ages.</li> <li>• Explain what is meant by unlicensed and off-label prescribing, and provide example of this in paediatrics.</li> <li>• Recognise that age appropriate medicines are not always readily available for children, and understand how this is managed in practice.</li> </ul>
Prescribing in Renal and Hepatic Dysfunction	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Identify common hepatotoxic drugs.</li> <li>• Discuss the impact of cytochrome P450 interactions on prescribing.</li> <li>• List the common drugs that may cause acute kidney injury.</li> <li>• Identify the common drugs that may need dose adjustment and/or increased monitoring in hepatic and renal dysfunction.</li> <li>• Locate reputable, evidence-based information to guide prescribing in patients with renal and hepatic dysfunction.</li> </ul>

Category	Prescribing in Special Circumstances
Module Title	Learning Outcomes
Prescribing in Older Adults	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Describe the processes of absorption, distribution, metabolism and excretion in the older patient.</li> <li>• Explain how age-related physiological and pathological processes affect how the body reacts to drugs.</li> <li>• Explain how physical, cognitive and social aspects may affect an older patient's ability to adhere to treatment.</li> <li>• Discuss the factors that make older adults more at risk of developing Adverse Drug Reactions (ADRs).</li> <li>• Develop strategies to reduce problems with medication in the elderly population.</li> </ul>
Pregnancy and Breastfeeding	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Explain how the physiological changes during pregnancy can alter the pharmacokinetics of a drug, and the need for adjustment of dose regimens as a result.</li> <li>• Discuss the risks and benefits of prescribing in pregnancy and how this risk changes depending on the trimester.</li> <li>• Describe how to minimise the risk of harm to the foetus when prescribing in pregnancy.</li> <li>• Describe the key drugs (or drug groups) that should be avoided during pregnancy and why.</li> <li>• Describe how to minimise risk of complications in women of child-bearing potential.</li> <li>• Provide examples of drugs where concurrent contraceptive use is essential and why.</li> <li>• Identify the main sources of information to guide prescribing in pregnant women or women of child-bearing potential.</li> <li>• Describe both the risks and benefits of prescribing in patients who are breastfeeding, considering the gestational age of the infant and both infant and mother's comorbidities.</li> <li>• Describe how fetal exposure to drug therapy via breast milk may be minimised.</li> <li>• List the drugs known to suppress lactation and describe how they may be used therapeutically.</li> <li>• Identify the sources of advice available to guide your decision-making when prescribing for this group of patients.</li> </ul>



Category	Prescribing in Medical Emergencies
Module Title	Learning Outcomes
Acute Coronary Syndrome	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Identify the steps to manage a presentation of Acute Coronary Syndrome (ACS).</li> <li>• Know the protocol for management of an adult cardiac arrest.</li> <li>• Know the reversible causes of cardiac arrest, and which long term prescriptions increase their risk.</li> <li>• Know the appropriate post-resuscitation care needed.</li> <li>• Know the modifications needed when performing resuscitation on pregnant women and children.</li> </ul>
Anaphylaxis	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• List the signs and symptoms of anaphylaxis.</li> <li>• Distinguish allergic reactions from other adverse drug reactions.</li> <li>• Describe the stepwise pharmacological management of anaphylaxis in the general practice setting.</li> <li>• Counsel patients and their relatives/carers on the administration of adrenaline auto-injectors.</li> <li>• Arrange appropriate follow up for patients who have experienced anaphylaxis.</li> </ul>
Asthma and croup	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Determine the severity of an acute asthma exacerbation.</li> <li>• Describe the emergency treatment of a patient with an acute exacerbation of asthma.</li> <li>• Manage an acute exacerbation of asthma in different patient groups.</li> <li>• Recall the symptoms of croup and assess symptom severity.</li> <li>• Distinguish between episodes of croup that can be managed in primary care and those that require transfer to hospital.</li> <li>• Arrange appropriate follow-up for patients who have experienced and acute exacerbation of asthma or episode of croup.</li> </ul>

Category	Prescribing in Medical Emergencies
Module Title	Learning Outcomes
Hypoglycaemia	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• List the signs and symptoms of hypoglycaemia.</li> <li>• Identify the risk factors associated with hypoglycaemia.</li> <li>• Manage hypoglycaemia in a conscious, semi- or unconscious patient.</li> <li>• Identify episodes of hypoglycaemia that can be managed in primary care from episodes that require transfer to secondary care.</li> <li>• Describe appropriate follow-up for patients who have experienced a hypoglycaemic episode.</li> <li>• Identify medicines that potentially increase the risk of hypoglycaemia.</li> </ul>
Meningococcal Disease	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Recall the possible signs and symptoms of meningococcal disease.</li> <li>• Recognise the differences between meningitis and meningococcal septicaemia.</li> <li>• Describe the emergency management of a patient with suspected meningococcal disease.</li> <li>• Identify 'close contacts' of a patient with confirmed meningococcal disease and initiate appropriate antibacterial chemoprophylaxis.</li> <li>• List the meningococcal vaccines in the UK routine vaccination schedule.</li> <li>• Know that acute meningitis and meningococcal septicaemia are notifiable diseases.</li> </ul>
Seizures	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Describe the step-wise management of a patient developing a seizure and status epilepticus.</li> <li>• Describe the requirements of post-seizure management.</li> <li>• Identify some of the common drug-drug interactions in patients on antiepileptic medicines.</li> <li>• List the potential consequences of inadequate monitoring of antiepileptic medicines.</li> <li>• Discuss the role of therapeutic drug monitoring for antiepileptic drug treatment.</li> </ul>
Sepsis	<p>At the end of this module, you should be able to:</p> <ul style="list-style-type: none"> <li>• Discuss the spectrum of infection and continuum of sepsis.</li> <li>• Identify the groups of people that are more susceptible to sepsis.</li> <li>• Recognise the signs of sepsis and identify whether the patient is at high or moderate risk</li> <li>• Use evidence-based reputable action tools for the correct patient group, to stratify risk of sepsis.</li> <li>• Discuss the immediate management of a patient with Red Flag sepsis and Amber Flag sepsis in primary care.</li> <li>• Explain the importance of prompt referral and clear communication of suspected sepsis to secondary care.</li> <li>• Recognise the six elements of the Sepsis Six® Care bundle and the timeframe in which these should be administered.</li> <li>• Identify the support resources available for sepsis survivors.</li> </ul>



