Script

Dental

An eLearning programme to improve prescribing competency

A Guide for Dental Foundation Trainees

NHS

Health Education England

CONTENTS

1.0   BACKGROUND

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"* [1]. Medication prescribing errors are those that have specifically occurred during the prescribing process, where there is a failure to order the right drug at the right dose at the right frequency for the right patient. In the UK, medication errors account for 10–20% of all adverse events in the National Health Service (NHS), and preventable harm from medicines is estimated to cost more than £750 million each year. A quarter of litigation claims in the NHS also stem from such errors.

In 2014, 5.6 million prescription items were prescribed by dentists in England and subsequently dispensed to patients, at a Net Ingredient Cost (NIC) of £26 million [2]. With the exception of 'Nutrition and Blood', the most frequently prescribed items were for 'Infection'. The year on year increase in prescriptions being issued by dentists and the public health issue of antibacterial resistance highlighted the need for postgraduate education in prescribing and therapeutics.

In 2013, Health Education England's West Midland team commissioned the University of Birmingham and OCB Media Ltd to develop an online eLearning programme to improve prescribing competency of Foundation Dentists and dental professionals. SCRIPT (Standardised Computerised Revalidation Instrument for Prescribing and Therapeutics) was launched in 2014 by a team of clinical pharmacists and clinical pharmacologists working in both education and healthcare.

The overall aims of the project were to:

- *Encourage safe, effective, and rational prescribing by developing learning modules that reflect current prescribing practice in the UK.*

- *Improve the prescribing knowledge and skills of newly qualified dentists during the formative years of their professional development, in order to reduce medication errors, improve patient safety, and encourage high standards in the profession.*

- *Create an eLearning platform for qualified dental practitioners that can contribute to their ongoing professional development and process of revalidation.*

1.1   Continuing professional development

The regulations governing the prescribing, administration and supply of medicines are subject to regular review. In addition, as new evidence emerges, guidance on the management of conditions and monitoring of pharmacological treatments can change. Keeping up-to-date with changes in prescribing practice is essential for patient safety and to maintain high standards in the profession.

Since 2008, it has been a legal requirement that dental professionals take part in Continuing Professional Development (CPD) that relates to the learning outcomes outlined in the General Dental Council (GDC) standards [3]. The GDC set out the requirements of dental professionals **to ensure the knowledge of practitioners remains current and up-to-date, and to encourage the development of new skills in order to benefit the care of patient's life"**.

The GDC mention eLearning as an example of an activity that can be used for CPD. The seven modules in this programme account for a total of seven hours of learning relating to prescribing and therapeutics.

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[1] Ferner RE, Aronson JK. Clarification of Terminology in Medication Errors: Definitions and Classification. Drug Safety. 2006;29(11):1011-22.

[2] Health and Social Care Information Centre. Dental Prescribing. Available online at http://www.hscic.gov.uk/home

[3] General Dental Council (2013). Continuing Professional Development for dental professionals. Available online at http://www.gdc-uk.org/Dentalprofessionals/CPD/Pages/default.aspx

2.0 THE RESOURCE

The programme comprises seven web-based eLearning modules relating to prescribing and therapeutics across:

Safe Prescribing in Dentistry:

- Medication Errors and Adverse Drug Reactions
- Prescription Documentation and the Drug History
- Special Patient Groups

Therapeutic Groups:

- Management of Infection
- Medical Emergencies
- Pain, Ulceration and Inflammation
- Periprocedural Prescribing

The learning outcomes for the modules are based on the outcomes and competencies outlined in the Dental Foundation Training Curriculum (2015)[4] , particularly those stated in the Clinical Domain: [1] Patient examination and diagnosis; [2] Treatment planning and patient management; and [4] Medical and dental emergencies.

All modules have been authored by specialist healthcare professionals and have been externally peer reviewed to ensure accuracy and relevance to practice.

2.1   Structure of the modules

Each module has the same core components, commencing with a pre-test of 10 questions with True/False or multiple choice formats. You will be given a score out of ten at the end of the test, but will not be provided with feedback at this stage. This will be followed by the *'session overview'*, recommendations for any reading that might facilitate progress through the module ('*Pre-requisites*') and 'learning outcomes'.

The learning starts with a Case Vignette that will introduce some key concepts from the module. Additional activities are presented throughout the module to embed learning. Note that some of the key learning points may be provided within the feedback to these cases.

At the end of the module, you will sit a post-test of the same 10 questions presented in the pre-test. These will be asked in a random order and, as the resource develops, the post-test questions may be different for some modules. In order for the post-test to be activated you must have viewed all content in each module. Guidance on this is given on the 'Post-test' page in the Summary section of each module.

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[4] Committee of Postgraduate Dental Deans and Directors UK (2015). The Dental Foundation Training Curriculum [Draft]. Available online at http://www.copdend.org/content.aspx?Group=foundation&Page=foundation_programme

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.

2.3   The pre/post-test score

The pre/post-test is intended to help you determine your baseline knowledge on the module subject, and be a measure of knowledge acquisition. It also adds an element of interactivity.

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. However, progress through the modules may be monitored by your trainer, and consistent low scores throughout may call for modules to be re-set and for the test to be re-taken (*see section 3.3, Integration into Foundation Training*).

3.0   INTEGRATION INTO FOUNDATION TRAINING

3.1   Mandatory modules

The SCRIPT eLearning is fully integrated into the Dental Foundation programme. You are required to complete all seven modules during your training.

We advise that you complete modules gradually over the year, so that you can gain the benefits of the learning. Your progress will be monitored to ensure that this is being adhered to, and that you are not completing modules in a hurry prior to review meetings. We have provided you with a checklist to facilitate the documentation of completed modules over the year.

You are expected to complete all SCRIPT modules before the Foundation year is complete.

3.2   How is my progress monitored?

SCRIPT eLearning has a dedicated management site that will be accessed by your trainer to monitor your progress through the mandatory modules. This serves two purposes:

1. They can ensure that you are taking steps to develop your prescribing knowledge in postgraduate education.

2. They can encourage discussion about prescribing in workplace education and during your appraisals.

They will see 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.

Information from the management site may be used in addition to module certificates to confirm that the learning has been completed in full.

3.2.1 SCRIPT and the ePortfolio

We strongly recommend that you save your certificates and upload these to your ePortfolio as evidence of module completion. These may be assessed during the progress review meetings, in addition to the information gathered from the management site.

3.3 Re-taking the pre/post-test

As mentioned in section 2.3, a pass mark has not been set. However, trainers monitoring your progress through the learning can re-set the module and request that you re-take the test. This is a local decision, and one that should be taken in discussion with both yourself and your trainer.

3.4 Probity

Probity is at the heart of any healthcare profession. Probity means being honest and trustworthy and acting with integrity. The GDC Standards for the Dental Team states: "*You must always be honest and act with integrity* " [1.3][5].

"You must justify the trust that patients, the public and your colleagues place in you by always acting honestly and fairly in your dealings with them. This applies to any business or education activities in which you are involved as well as to your professional dealings." [1.3.1]

SCRIPT has been mandated in the West Midland region for some time. During this time, we have learned of dishonest behaviours to 'work around' the mandated modules. This includes fraudulently creating certificates for modules that have not been completed and completing multiple modules simultaneously by opening a number of tabs on the computer. These behaviours can now be identified from the management site, as can modules that are completed in less than 10 minutes (the average time to complete a module is one hour).

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

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[5] General Dental Council (2013). Standards for the Dental Team. Available online at http://www.gdc-uk.org/Pages/default.aspx

4.0 REGISTRATION

1. Go to www.safeprescriber.org , and click **'Sign up today!'**

2. Select the **'Dental'** programme.

3. Select **'England'**.

4. Select **'Health Education England'**.

5. Under **'Register'**, enter your email address and click **'Get Started'**.

6. You will be asked to provide the following information:

    i.   Name
    ii.   Email address
    iii.   Telephone number
    iv.   Profession
    v.   Start year
    vi.   Region
    vii.   GDC number
    viii. Password

7. When you have entered your details, you will need to agree to the terms and conditions.

8. You will receive an email confirming your registration. When this is complete, you can login and access all the modules.

9. When you have completed a module, a certificate will be made available which you can upload to your ePortfolio.

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 or click 'Feedback' in the bottom left 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 or click 'Feedback' in the bottom left hand corner of the homepage. The editorial team will review your query and respond accordingly.

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[4]General Medical Council (2013). Good Medical Practice. Available online at http://www.gmc-uk.org/publications/standards_guidance_for_doctors.asp#gmp

5.3   SCRIPT and the Foundation Programme

What are the requirements for module completion?

You are required to complete all seven modules during your Foundation training.

How long do the modules take to complete?

Each module qualifies as one hour of CPD.

Is there a pass mark for the post-test?

The pre/post-test is intended to help you determine your baseline knowledge on the module subject, and be a measure of knowledge acquisition. It also adds an element of interactivity.

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.

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.

What should I do with the certificates?

Once you have downloaded a certificate, it is important you save this and upload it to your ePortfolio. This will be used by your trainer and Training Programme Director to monitor progress throughout the Foundation programme.

6.0   APPENDICES

APPENDIX 1: Module titles and learning outcomes

APPENDIX 2: Checklist of modules completed during Foundation

APPENDIX 1: Module titles and learning outcomes

Module Title	Learning Outcomes
Medication Errors and Adverse Drug Reactions	By the end of this session, you should be able to: • Define medication errors, including subtypes. • Identify individual and systems factors leading to error. • Describe how medication errors are reported. • Define an Adverse Drug Reactions (ADRSs) and the classification of ADRs. • Identify susceptibility factors that place patients at increased risk of ADRs. • Discuss the concepts of pharmacovigilance and its importance for public health. • Explain the role and function of the Yellow Card scheme. • Identify sources of information on ADRs.
Prescription Documentation and the Drug History	By the end of this session, and with reference to *'The Ten Principles of Good Prescribing'* (accessible via the British Pharmacological Society website), you should be able to: • Describe the legal aspects of prescribing, including the prescribing of drugs subject to control under the Misuse of Drugs Regulations 2001. • Describe the different types of prescription documentation available to all medical and non medical prescribers. • Know the legal requirements of a private prescription, and when such documentation is appropriate for use. • Explain what is meant by unlicensed and off-label prescribing. • Describe the standards expected of both hand-written and computer-generated prescriptions. • Know what information is needed to complete a safe and effective drug history. • Discuss the importance of prescribing within the limits of your knowledge, skills and experience.
Special Patient Groups	By the end of this session, you should be able to: • Discuss how impaired renal and hepatic function can alter the pharmacokinetics of drugs. • List common nephrotoxic and hepatotoxic drugs. • Identify common drugs that need dose adjustment or increased monitoring in renal and hepatic dysfunction. • Describe the physiological changes that occur with age and how this can alter the way in which the body deals with drugs. • Describe how drug exposure to the fetus can be minimised to reduce the risk of harm during pregnancy. • Describe the factors that should be considered when prescribing for a breastfeeding mother. • Know where to find reputable, evidence-based information to guide prescribing in special patient groups.
Management of Infection	By the end of this session, you should be able to: • Discuss the basic principles of managing infection in dental practice. • Know when pharmacological management is indicated. • Select the most appropriate pharmacological treatment and know where to look for information to guide decision making. • Inform and advise patients at risk of bacterial endocarditis and understand why prescribing guidelines have changed. • Explain the potential complications of treatment and how best to advise your patient. • Manage infection in special patient groups.

Module Title	Learning Outcomes
Medical Emergencies	At the end of this session, you should be able to: • Describe the standards outlined by the General Dental Council and for medical emergency training in dental practice. • Describe the core quality standards outlined by the Resuscitation Council (UK) for cardiopulmonary resuscitation practice and training. • Know the core list of drugs to be maintained in the dental practice for the immediate pharmacological management of medical emergencies and be able to describe the dosing and administration of each. • List the signs and symptoms of anaphylaxis, asthma, myocardial infarction, seizures and hypoglycaemia. • Describe the step-wise management of anaphylaxis, acute asthma, myocardial infarction, seizures and hypoglycaemia, including when to call for an ambulance.
Pain, Ulceration and Inflammation	By the end of this session, you should be able to: • Describe the different types of analgesia available to prescribe and which are appropriate. • Describe the WHO pain ladder and how it assists the practitioner in the rational prescribing of analgesics. • Understand the risks associated with paracetamol and Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) and how these may be minimised. • Select the most appropriate route, dose, and duration of treatment, taking into account special patient groups. • Discuss the different causes of facial pain. • Know how to manage neuropathic pain and when to refer. • List the causes of oral ulceration and inflammation and the pharmacological management options available. • Describe the potential complications of treatments and common drug-drug interactions. • Know when to make an urgent referral.
Periprocedural Prescribing	By the end of this session, you should be able to: • Discuss the importance of taking a complete medical and drug history. • Have a working knowledge of drug therapies that may need to be altered during a dental treatment plan. • Describe the common antithrombotic agents and their implications for dental treatment. • Define what conscious sedation is and know the difference between standard and non-standard techniques. • Discuss the pharmacology of drugs commonly used for conscious sedation, the differences between them and when each is indicated. • Explain how conscious sedation is conducted and how patients are monitored and recovered. • Define what a general anaesthetic is, discuss the agents used in induction and maintenance of anaesthesia and how patients are recovered after. • Describe the dentist's obligations with regard to consent, record keeping and postoperative instructions for both conscious sedation and general anaesthesia. • Explain the WHO pain ladder as an approach to managing postoperative pain.

APPENDIX 2: Checklist of modules completed in Foundation

Module Category	Module title	Date completed
Safe Prescribing in Dentistry	Medication Errors and Adverse Drug Reactions	
	Prescription Documentation and the Drug History	
	Special Patient Groups	
Therapeutic Modules	Management of Infection	
	Medical Emergencies	
	Pain, Ulceration and Inflammation	
	Periprocedural Prescribing	