



School of Pharmacy,
University of London

Postgraduate Diploma
in
General Pharmacy Practice

**CLINICAL SERVICES
CURRICULUM GUIDE
2013/14**

In association with the Joint Programmes Board:

East and South East England Specialist Pharmacy Services
King's College
Kingston University
Medway School of Pharmacy
School of Pharmacy, University of London
University of Brighton
University of East Anglia
University of Hertfordshire
University of Portsmouth
University of Reading

INTRODUCTION

This curriculum guide is intended to direct the learner towards the relevant skills and knowledge required of a general pharmacy practitioner providing clinical pharmacy services. The learning objectives listed in this document represent the competencies to be met during the first 18 months of the programme i.e. to satisfy the global aim and objectives described for the Postgraduate Certificate in General Pharmacy Practice (PG Cert GPP).

Two important aspects of practitioner performance that are relevant to all areas are the development of robust processes and good decision making. Practitioners receive some support in developing processes and decision making through specific learning sets but it is essential that these are the focus in the early stages of the pharmacist's career as they underpin competent performance and practitioner development into advanced practice. Reflecting on processes used and decision making will support the development of these. Educational and Practice Supervisors can provide support with identifying areas for development and practitioners should ask for feedback on these during workplace assessments and appraisals.

The programme recognises that access to the variety of patients representing a "general" level of care will not follow a standard approach, being influenced by the various rotations on offer within the Training Centre. Consequently the general learning objectives have been presented in a generic format so that they can be achieved in **a range of different patient care settings**. The specific learning objectives associated with the different disease states have then been listed and should all be achieved on completion of the PG Cert GPP. In addition a list of commonly used and high risk drugs has been produced to help practitioners focus their learning (see Appendix I). It is expected that practitioners will work under the direction of relevant national and local policies, guidelines and Standard Operating Procedures (SOPs) at all times and will be able to demonstrate knowledge of these policies and procedures on questioning.

Using the Guide:

The clinical services curriculum guide should be used in conjunction with the three other curriculum guides to support learning in pharmacy practice. There are a number of areas of overlap between the curriculum guides which have been signposted to help the learner to achieve learning outcomes across the four core service areas where possible. Practitioners should aim to be working through the four guides simultaneously although one may be used more prominently in specific rotations e.g. MI or technical services.

The four curriculum guides should be brought to the Record of In-service Training Assessment (RITA) meetings that occur at regular intervals throughout the programme. The Guides will be used to review practitioner progress and to assist in planning the focus of learning for the next period of the programme.

In order to facilitate this process, **practitioners** are asked to place a tick against the learning objectives as and when they feel they have been achieved. Practitioners are reminded that **all** learning outcomes are subject to assessment either in the workplace (mini-CEX, CbD, MRCF, DOPS) or at their HEI portfolio review, MCQs or OSCEs.

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1. GLOBAL LEARNING OBJECTIVES

- Consult effectively with patients, carers and the multidisciplinary healthcare team, respecting diversity and confidentiality.
- Independently develop clinical pharmacy knowledge and skills in order to identify, prioritise and resolve complex pharmaceutical problems in a range of common conditions.
- Critically review the overall management and monitoring of patients with a range of common disease states.
- Recognise the evidence-based approach to management of a range of common conditions and apply evidence-based medicine (EBM) to individualised patient care.
- Identify, prioritise and resolve the medicines management needs of patients, carers and other social and health care professionals.
- Demonstrate a systematic approach to medicines management for patients with a range of common conditions.
- Apply pharmacokinetic and pharmacodynamic principles to the design of appropriate drug regimens.
- Advance knowledge and understanding through continuing professional development and life long learning

2. GENERAL PRACTICE LEARNING OBJECTIVES

GENERAL SKILLS	ACHIEVED?
Medicines reconciliation	
<ul style="list-style-type: none"> • Differentiate between and demonstrate understanding of the use of the following processes: <ul style="list-style-type: none"> ○ drug history taking ○ medicines reconciliation ○ medication review ○ medicines use review (MUR) 	
<ul style="list-style-type: none"> • Accurately obtain a drug history (from a variety of sources e.g. patient, carer, GP) 	
<ul style="list-style-type: none"> • Accurately document a drug history 	
<ul style="list-style-type: none"> • Use a structured approach to elicit information 	
<ul style="list-style-type: none"> • Reconcile medicines prescribed on admission with medicines being taken pre- admission 	
<ul style="list-style-type: none"> • Evaluate and comment appropriately on the quality of information collected during the reconciliation process e.g. accuracy, currency, relevance 	
<ul style="list-style-type: none"> • Identify and document intentional and unintentional discrepancies 	
<ul style="list-style-type: none"> • Demonstrate resolution of issues identified or referral to another healthcare practitioner if appropriate 	
<ul style="list-style-type: none"> • Take appropriate action to ensure the prescription is appropriate 	
<ul style="list-style-type: none"> • Accurately document the medicines reconciliation process and outcome(s) in accordance with local policy 	
Prescription prioritisation	
<ul style="list-style-type: none"> • Identify pharmaceutical issues in order to optimise patient care 	
<ul style="list-style-type: none"> • Prioritise the issues identified according to their importance 	
<ul style="list-style-type: none"> • Take appropriate action to resolve issues and ensure interventions are carried out in a timely manner 	
<ul style="list-style-type: none"> • Appropriately follow up on interventions made 	
Discharge processes	see Patient Services Curriculum Guide (CG)
<ul style="list-style-type: none"> • Demonstrate an understanding of how to manage medicines across the interface e.g. compliance aids, homecare, drug dependency, home IV therapy 	
<ul style="list-style-type: none"> • Critically appraise the advantages and disadvantages of compliance aids 	

GENERAL SKILLS	ACHIEVED?
Clinical information gathering	
<ul style="list-style-type: none"> • Demonstrate the ability to locate and interpret relevant information from medical notes 	
<ul style="list-style-type: none"> • Retrieve relevant data from information sources (includes laboratory and end of bed data) 	
<ul style="list-style-type: none"> • Accurately identify a patient's diagnosis from the medical notes. 	
Information query answering	see MI Curriculum Guide
Dosing and administration	see also Technical Pharmacy CG
<ul style="list-style-type: none"> • Undertake all mathematical calculations accurately 	
<ul style="list-style-type: none"> • Apply the appropriate bioavailability calculations to convert between different formulations including tablets, liquids, injections 	
<ul style="list-style-type: none"> • Ensure that appropriate dose conversion occurs between short acting and extended release preparations. 	
<ul style="list-style-type: none"> • Calculate doses from relevant parameters provided e.g. weight, surface area 	
<ul style="list-style-type: none"> • Calculate appropriate volume of fluid required and appropriate rate of administration for drugs administered by infusion 	
<ul style="list-style-type: none"> • Demonstrate the ability to convert between rate of administration in mL and drip rates for IV giving sets/infusion pumps 	
<ul style="list-style-type: none"> • Provide advice on the reconstitution of drugs including taking account of displacement values 	
Biochemistry	
<ul style="list-style-type: none"> • Be able to interpret common biochemistry data including urea and electrolytes (U+Es) and thyroid function tests and understand the clinical consequences of deranged test results 	
<ul style="list-style-type: none"> • Identify the role of potassium, sodium, phosphate, magnesium and calcium with regard to physiological function and the consequences of too little or too much of these electrolytes 	
<ul style="list-style-type: none"> • Identify common medicines and diseases that cause changes to the normal ranges for electrolytes. 	
<ul style="list-style-type: none"> • Provide appropriate advice on correcting electrolyte imbalances 	

GENERAL SKILLS	ACHIEVED?
Drug therapy in renal impairment	See also MI Curriculum Guide
<ul style="list-style-type: none"> Describe the limitations of using urea and creatinine to estimate renal function. 	
<ul style="list-style-type: none"> Estimate glomerular filtration rate using the Cockcroft and Gault equation and describe its limitations 	
<ul style="list-style-type: none"> Describe how eGFR is calculated and its limitations 	
<ul style="list-style-type: none"> Describe alternative methods of estimating renal function and their limitations e.g. 24 hour creatinine clearance, EDTA 	
<ul style="list-style-type: none"> Classify a patient's renal status in accordance with NICE 	
<ul style="list-style-type: none"> Identify common medicines and diseases that cause changes in renal function 	
<ul style="list-style-type: none"> Use the appropriate method to estimate renal function and modify medicines and dosing regimens in line with renal status 	
Drug therapy in liver impairment	See also MI Curriculum Guide
<ul style="list-style-type: none"> Describe the functions of the liver in drug metabolism. 	
<ul style="list-style-type: none"> Demonstrate an understanding of the tests used to estimate liver function 	
<ul style="list-style-type: none"> Be able to interpret tests of liver function and understand the clinical consequences of derangement of each of these 	
<ul style="list-style-type: none"> Identify common medicines and diseases that cause changes in liver function 	
<ul style="list-style-type: none"> Modify medicines and dosing regimens to take account of liver impairment 	
Therapeutic drug monitoring	See also MI Curriculum Guide
<ul style="list-style-type: none"> Identify common pharmacokinetic parameters and demonstrate how these impact on drug dosing decisions 	
<ul style="list-style-type: none"> Identify medicines that require TDM; know when it is appropriate to measure levels and their therapeutic ranges 	
<ul style="list-style-type: none"> Apply pharmacokinetic principles, including calculations when appropriate, to individualise therapy for patients taking medicines with a narrow therapeutic range 	
<ul style="list-style-type: none"> Demonstrate the ability to interpret measured drug levels and make appropriate recommendations 	

GENERAL SKILLS	ACHIEVED?
Haematology	
<ul style="list-style-type: none"> • Be able to interpret common haematological tests and understand the clinical consequences of abnormalities of these 	
<ul style="list-style-type: none"> • Identify common medicines and diseases that cause abnormalities in haematological laboratory tests. 	
<ul style="list-style-type: none"> • Provide advice on the treatment of common haematological abnormalities including clotting disorders 	
Microbiology	
<ul style="list-style-type: none"> • Be able to interpret clinical signs and laboratory tests of patients with infectious diseases 	
<ul style="list-style-type: none"> • Demonstrate an understanding of the rationale for antimicrobial policies 	
<ul style="list-style-type: none"> • Provide advice on antimicrobial treatment, including duration and monitoring, in accordance with local policies 	
<ul style="list-style-type: none"> • Demonstrate understanding and the application of infection control policies 	
Risk management	See also Patient Services and Technical Pharmacy CGs
<ul style="list-style-type: none"> • Identify pharmaceutical and legal risks associated with the prescribing, supply, storage and administration of medicines in your clinical area(s) and respond appropriately 	
<ul style="list-style-type: none"> • Demonstrate that you can take into account identified pharmaceutical and legal risks in a way which ensures safe patient care. 	
<ul style="list-style-type: none"> • Be aware of relevant safety alerts and implement best practice in accordance with local policy 	
<ul style="list-style-type: none"> • Identify methods of changing your practice to reduce risk 	
<ul style="list-style-type: none"> • Report incidents in accordance with local policy 	
Patient education (including devices)	
<ul style="list-style-type: none"> • Identify and discriminate between intentional and non-intentional non-adherence 	
<ul style="list-style-type: none"> • Identify a patients' need for information about medicines 	
<ul style="list-style-type: none"> • Identify barriers to adherence 	
<ul style="list-style-type: none"> • Provide individualised information in a professional manner 	
Health promotion	
<ul style="list-style-type: none"> • Provide non-pharmacological advice on lifestyle management to support priority NHS targets, e.g. smoking cessation, reduction in alcohol intake, exercise 	

NB: The General Practice learning objectives should be met during the first 12 months of the programme

3. SPECIFIC, DISEASE BASED LEARNING OBJECTIVES NB: The learning objectives in section 3 should be met during the first 18 months of the programme

	Learning Objectives	1. Disease	2. Drug	3. Patient Factors	4. Monitoring
	Therapeutic Area	1.1 Cause 1.2 Signs & Symptoms 1.3 Prevention 1.4 Risk factors/ exacerbating factors	2.1 List the commonly used drugs , usual doses and routes of administration 2.2 Describe place in therapy of each drug wrt guidelines/ evidence 2.3 Describe the mechanism of action and pharmacokinetics of drugs used 2.4 Adverse effects: identify & advise appropriate action to manage/ prevent	3.1 Drug- drug, drug- patient e.g. drug handling in the elderly, drug- disease interactions: identify, prioritise and manage 3.2 Treatment targets: identify, prioritise, manage 3.3 Optimise patient concordance	4.1 Identify monitoring parameters 4.2 Prioritise monitoring parameters 4.3 Advise suitable actions to ensure appropriate monitoring
		LO's Achieved?	LO's Achieved?	LO's Achieved?	LO's Achieved?
A	CARDIOLOGY				
1	Acute Coronary Syndromes				
2	Atrial Fibrillation				
3	Heart Failure				
4	Hypertension				
5	Stable angina				
B	RESPIRATORY				
1	Asthma				
2	COPD				
C	SURGERY				
1	Surgical Antibiotic Prophylaxis				
2	Peri- operative management of diabetes and anticoagulation				
3	Post- operative nausea & vomiting				
4	Fluid Balance				
5	Management of NBM patient				
D	ENDOCRINOLOGY				
1	Diabetes				
E	STROKE				

Practitioner can tick or sign appropriate box to indicate Learning Outcome achieved
Clinical Services Curriculum Guide 2013, JPB DipGPP Module 1

3. SPECIFIC, DISEASE BASED LEARNING OBJECTIVES (cont.)

NB: The learning objectives in section 3 should be met during the first 18 months of the programme

Learning Objectives		1. Disease	2. Drug	3. Patient Factors	4. Monitoring
	Therapeutic Area	1.1 Cause 1.2 Signs & Symptoms 1.3 Prevention 1.4 Risk factors/ exacerbating factors	2.1 List the commonly used drugs, usual doses and routes of administration 2.2 Describe place in therapy of each drug wrt guidelines/ evidence 2.3 Describe the mechanism of action and pharmacokinetics of drugs used 2.4 Adverse effects: identify & advise appropriate action to manage/ prevent	3.1 Drug- drug, drug- patient e.g. drug handling in the elderly, drug- disease interactions: identify, prioritise and manage 3.2 Treatment targets: identify, prioritise, manage 3.3 Optimise patient concordance	4.1 Identify monitoring parameters 4.2 Prioritise monitoring parameters 4.3 Advise suitable actions to ensure appropriate monitoring
		LO's Achieved?	LO's Achieved?	LO's Achieved?	LO's Achieved?
F	CNS				
1	Pain management				
2	Parkinson's Disease				
3	Epilepsy (Status and initial management)				
4	Dementia				
5	Opioid dependence				
G	GASTROENTEROLOGY				
1	Duodenal/ Gastric Ulcer including GI bleed				
2	Alcoholic Liver Disease				
3	Inflammatory Bowel Disease				
H	VTE (including prophylaxis)				
I	INFECTIOUS DISEASE				
1	Respiratory infections i.e. CAP, HAP (& exacerbation of COPD/asthma)				
2	Cellulitis				
3	Infections of the Urinary Tract i.e. UTI & pyelonephritis				
4	Healthcare associated infection i.e. MRSA, c diff, neutropenic sepsis				

Practitioner can tick or sign appropriate box to indicate Learning Outcome achieved
Clinical Services Curriculum Guide 2013, JPB DipGPP Module 1

Appendix I List of commonly used and high risk medicines

This list includes medicines that are commonly used in clinical practice and high risk medicines that may be used less commonly. It is intended to be used as a guide to the medicines and classes that a pharmacist is expected to know about in detail as a basis for practice during the Diploma. Knowledge of these medicines may be assessed throughout the programme and will be a focus of the assessments particularly during the first 18 months of the programme. It is not an exhaustive or exclusive list. Practitioners should also be familiar with medicines they deal with in their day to day work and be able to work from first principles for medicines not on the list.

Practitioners are expected to be familiar with all aspects of the medicines and medicine groups on this list including: mechanism of action; pharmacology; pharmacokinetics; pharmaceutical aspects; adverse effects, contraindications and interactions; usual doses and routes of administration; place in therapy; and, monitoring requirements.

1. Gastrointestinal system

Alginates
Aminosalicylates
Bowel cleansing preparations
H₂-receptor antagonists
Laxatives*
Loperamide*
Proton Pump Inhibitors

2. Cardiovascular system

ACE inhibitors
Adrenaline/
Epinephrine*
Aldosterone antagonists
Amiodarone
Angiotensin 2 receptor blockers
Anticoagulants
Antiplatelets
Beta blockers
Calcium channel blockers
Digoxin
Doxazosin
Hydralazine
Loop diuretics
Nicorandil
Nitrates
Statins
Thiazide diuretics

3. Respiratory system

Antimuscarinic
bronchodilators
Beta 2 agonists
Carbocisteine
Inhaled steroids
Oxygen
Theophylline (&
Aminophylline)

4. Central Nervous system

Analgesics (non-opioid & compound)
Antiemetics
Anti-histamines*
Antipsychotics (atypical & typical)
Benzodiazepines*
Carbamazepine
Chlordiazepoxide
Gabapentin
Hyoscine*
Lamotrigine
Levodopa
(co-careldopa, co-beneldopa)
Lithium*
MAOIs*
Mirtazepine*
Nicotine replacement
Opioids
Phenobarbitone
Phenytoin
Sodium valproate
SSRIs*
Sumatriptan*
Tricyclic antidepressants

5. Infections

Aciclovir*
Aminoglycosides
Amphotericin*
Carbapenems
Cephalosporins
Co-trimoxazole*
Doxycycline
Imidazoles*
Macrolides
Metronidazole
Nystatin*
Penicillins
Rifampicin*
Quinolones
Teicoplanin
Trimethoprim
Vancomycin

6. Endocrine system

Corticosteroids
Exenatide
Gliclazide
Gliptins
Insulin
Levothyronine &
Levothyroxine*
Metformin
Terlipressin

7. Obstetrics, gynaecology and urinary tract disorders

Alpha 1 blockers*
Ethinyloestradiol*
Norethisterone*
Progesterone*
Sildenafil*

8. Malignant disease & immunosuppression

Oral cytotoxics*
Vinca alkaloids*

9. Nutrition & blood

Glucose
Calcium & Vitamin D
Ferrous sulphate
Folic acid
Magnesium sulphate
Phosphate-binders
Potassium chloride
Sodium chloride
Thiamine/Pabrinex®
Vitamins

10. Musculoskeletal & joint diseases

Allopurinol*
Bisphosphonates*
NSAIDs

11. Eye

Beta blockers*
Carbonic anhydrase inhibitors*
Chloramphenicol*
Prostaglandin analogues*

14. Immunological products & Vaccines

Common childhood & travel vaccinations*

15. Anaesthesia

Lidocaine*
Midazolam*
Naloxone
Suxamethonium*

Medicines marked * are those not covered by the learning outcomes in the sections 2 or 3 of the curriculum guide but of which practitioners are expected to have a working knowledge.