

### Web-based assessment tool — Example of multiple-choice questions

Please answer the multiple-choice questions below:

**1. Which of the following drugs should be prescribed together with an oral laxative as prophylaxis?**

- ibuprofen
- amitriptyline
- paracetamol (acetaminophen)
- morphine
- acetylsalicylic acid

**2. Which of the following drugs is most likely to cause respiratory depression?**

- amitriptyline
- morphine
- ibuprofen
- paracetamol (acetaminophen)
- acetylsalicylic acid

**3. Which of the following antihypertensive drugs is most likely to cause hypokalemia?**

- calcium antagonists
- beta-blockers
- ACE-inhibitors
- thiazide diuretics
- angiotensin receptor blockers

**4. Which of the following antibiotics is most likely to cause nephrotoxicity?**

- penicillin
- macrolide
- aminoglycoside
- tetracycline
- quinolone

**5. Which of the following drugs is most likely to decrease kidney function (eGFR)?**

- paracetamol (acetaminophen)
- morphine
- prednisolone
- ibuprofen
- amitriptyline

**6. What can be expected when an angiotensin-converting enzyme (ACE) inhibitor is combined with a non-steroidal anti-inflammatory drug (NSAID)?**

- hyperkalemia
- hypokalemia
- hypernatremia
- hypocalcaemia
- hyperthermia

## Web-based assessment tool — Example of clinical case scenario

Situation: you are a general practitioner working in a primary health care centre.

The following patient comes to see you:

Mrs. Smith.

Age: 47.

Medical history:

- bronchial asthma for 25 years.
- atopic eczema for 25 years.
- diabetes mellitus type II for 7 years.
- hypercholesterolemia for 7 years.
- essential hypertension for ½ year.

Current medication:

- salbutamol 100µcg aerosol inhalation, when needed.
- beclomethasone 200µcg rotacaps inhalation, three times daily.
- hydrocortisone acetate cream 1%, twice daily to the affected area(s) of skin.
- metformin 850mg tablet, two times daily.
- simvastatin 10mg tablet, once daily.
- hydrochlorothiazide 12.5mg tablet, once daily.

Allergy: none.

Habits: 20 cigarettes per day, no alcohol.

Six months ago, Mrs. E. had a blood pressure of 159/100 mmHg during a routine check. She had no complaints and no abnormal findings were found on physical examination. You told Mrs. E. to follow a diet with a low sodium and low cholesterol content, and advised her to take more physical exercise.

Three months ago, her blood pressure was 168/110 mmHg even though she said she followed you advice. She still had no complaints, and all other findings were normal. You prescribed hydrochlorothiazide 12.5mg, once daily.

Today, her blood pressure is 157/98 mmHg. Again, all other findings are normal.

Your working diagnosis is: **essential hypertension**, not sufficiently responding to hydrochlorothiazide 12.5mg and life style changes.

Attention: only relevant information about the patient is given above. You may think you need more information (physical examination, laboratory investigations), but this is not the case. If information is not provided, you may assume that this is not relevant.

**1. If you want to prescribe a drug for this patient, please fill in:**

Drug name	<input type="text"/>
Drug dose	<input type="text"/>
Drug dosage	<input type="text"/>
Duration	<input type="text"/>
Route of administration	<input type="text"/>

**2. If you want to prescribe another drug for this patient, please fill in:**

Drug name	<input type="text"/>
Drug dose	<input type="text"/>
Drug dosage	<input type="text"/>
Duration	<input type="text"/>
Route of administration	<input type="text"/>

**3. If you want to stop a drug, please fill in the drug name:**

**4. If you do NOT want to prescribe a drug for this patient, please select the option below:**

I don't want to write a drug prescription for this patient.

Web-based questionnaire — demographics

**1. Are you male or female?**

- Male
- Female

**2. How old are you?**

**3. What is your nationality?**

**4. At which medical school are you studying?**

**5. In which year did you start with your current medical study?**

**6. I will probably graduate (i.e. become a medical doctor) in**

### Web-based questionnaire — self-reported confidence

How confident would you feel in the following skills when prescribing a drug by yourself?

**1. Taking all the relevant patient information into consideration in prescribing**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**2. Specifying a specific, measurable and achievable therapeutic objective**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**3. Specifying a standard treatment for a given diagnosis**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**4. Verifying the suitability of the treatment for the patient (e.g. checking all relevant contraindications and interactions)**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**5. Choosing the correct (drug) treatment (i.e. effective, safe, and at low cost)**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**6. Choosing the correct dose and interval of administration**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**7. Calculating the correct drug dose (e.g. for children)**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**8. Writing/typing a drug prescription**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**9. Giving the patient all relevant instructions, information and warnings about the prescribed drug**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

**10. Determining all relevant monitoring parameters (e.g. plasma potassium, creatinine concentration)**

Very unconfident  Unconfident  Neutral  Confident  Very Confident

## Web-based questionnaire — undergraduate CPT education

**1. How many hours of training in therapeutics do you think you have received (so far) during your undergraduate study**

Lectures and seminars

Workgroups and small-group sessions

Computer-based teaching and eLearning

Clinics (e.g. prescribing for real patients)

Individual teaching by supervisor (e.g. after having seen a patient)

Self-study

**2. The number of times you wrote/typed a drug prescription during your undergraduate study (so far) is**

Prescribing education can be divided into three disciplines, each with a specific focus:

**Basic pharmacology:** education about the basic principles of how drugs act in biological systems including pharmacodynamics (e.g. receptors and other drug targets), pharmacokinetics (e.g. absorption, distribution, metabolism and excretion) and pharmacogenetics.

**Clinical pharmacology:** education about the application of pharmacological principles and methods in clinical practice (e.g. rational drug selection, adverse drug reactions, drug interactions, errors, adherence).

**Pharmacotherapy:** education about the process of rational prescribing for specific clinical conditions (i.e. how to choose a specific drug for an individual patient).

**3. During your undergraduate medical study, you feel that the amount of teaching in**

	Far too little	Too little	Just about right	Too much	Far too much
Basic pharmacology is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical pharmacology is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pharmacotherapy is	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**4. During your undergraduate study, you rate the overall teaching of**

	Very poor	Poor	Average	Good	Very good
Basic pharmacology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clinical pharmacology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pharmacotherapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**5. You what extent do you agree with the statement: I feel confident in how to find relevant, updated and unbiased information on drugs, to support the prescribing process**

Disagree  Tend to Disagree  Neutral  Tend to Agree  Agree

**6. To what extent do you agree with the statement: I feel that my medical curriculum prepared me adequately for my future prescribing responsibilities as a junior doctor**

Disagree  Tend to Disagree  Neutral  Tend to Agree  Agree