

Case presentation

An 78 year-old-woman collapses in the waiting area of a hospital out-patients department. **PMH.** IHD, Anterior MI 2011
DH. Bisoprolol 5 mg daily orally, lisinopril 20 mg daily orally , aspirin 75 mg daily orally and atorvastatin 20 mg daily orally

On examination

She is unresponsive GCS 3/15

She has no pulse and is not breathing

The cardiac arrest team arrives with the arrest trolley.

They confirm cardiac arrest and continue CPR.

Initial cardiac monitoring shows sinus rhythm at 58 bpm

Please paste any picture or other illustration
that supports the clinical case into this box

ONCE ONLY MEDICINES**Prescribing request**

Write a prescription for **ONE** drug that is immediately indicated in this scenario

(use the hospital 'once-only medicines' prescription chart provided)

Date	Time	Medicine (Approved name)	Dose	Route	Prescriber – sign + print		

Case presentation

A 78-year-old-man develops diarrhoea, with five type 7 loose stools in the last 6 hours. He has been treated for community acquired pneumonia. He has been on co-amoxiclav and clarithromycin for 6 days. **PH** nil. **DH** Paracetamol 1g 6-hrly,

On examination

He is alert, GCS 15/15. Temp 37.8C, abdomen is soft non-tender, bowel sounds are active. He weighs 80kg.

Investigations

WCC 13.6×10^9 (4-11)

eGFR >60 ml/min (>60 ml/min)

Stools test positive for Clostridium difficile toxin

Co-amoxiclav and clarithromycin have been discontinued

Please paste any picture or other illustration
that supports the clinical case into this box

Prescribing request

Write a regular prescription for **ONE** drug that will effectively treat his diarrhoea.
(use the hospital 'regular medicines' prescription chart provided)

		Date						
		Time						
Drug (Approved name)		6						
		8						
Dose	Route	12						
		14						
Prescriber – sign + print	Start date	18						
		22						
Notes	Pharmacy							

[illegible]

Prescribing Item**ID**

PWS000

This question item is worth **10 marks**You may use the
BNF at any time**Case presentation**

A 58-year-old-man attends your GP practice with a painful right calf with associated general malaise and fever. **PMH.** Type 2 diabetes, varicose eczema and prolonged QT syndrome **DH.** He takes atorvastatin 40mg daily and is allergic to penicillin – causes wheeze and facial swelling.

On examination

HR 78/min and regular, BP 124/76 mmHg, temperature 38 deg C, chest sounds are normal. He has an erythematous area of skin on the lateral aspect of his right lower leg which is spreading proximally up his leg from an area of broken skin.

Investigations

WCC $17.6 \times 10^9/L$ (4.0–11.0), CRP 136mg/L (<10), U 5.2 mmol/L (2.5–7.0), Cr 76 $\mu\text{mol/L}$ (60–110), eGFR >60 mL/min (>60), random blood glucose 9.2mmol/L (4.0-6.5)

Urinalysis negative

Prescribing request

Write a prescription for **ONE** drug that will initially treat his cellulitis

(use the general practice prescription form provided)

Pharmacy Stamp		Age 58yrs D.o.B. 01/01/1963 <small>Please don't stamp over age box</small>	Title, Forename, Surname & Address John Smith 1 High Street New Town NT1
Number of days' treatment N.B. Ensure dose is stated			
Endorsements	Drug Name		
	Dose		
	Frequency		
Signature of Prescriber Signature		Date	
For Dispenser No. of Prescs. on form	Health Authority Dr Exam QUB		
	FP10NC0105		

Case presentation

A 76-year-old man presents to his GP feeling confused and vague.

PMH. He has chronic kidney disease, type 2 diabetes mellitus, epilepsy and depression.

On examination

No significant abnormalities. Clinically euvolaemic.

Investigations

Na⁺ 121 mmol/L (135–145), K⁺ 4.2 mmol/L (3.5–5.0), U 14.1 mmol/L (2.5–7.0), Cr 356 µmol/L (60–110), eGFR 22 mL/min (>60).

His current regular medicines are listed (right).

Question A

Identify the FOUR prescriptions that are most likely to be contributing to his hyponatraemia.

(mark them with a tick in column A)

CURRENT PRESCRIPTIONS

Drug name	Dose	Freq.	Route	A	
Metolazone	5 mg	daily	PO	<input type="checkbox"/>	
Furosemide	60 mg	daily	PO	<input type="checkbox"/>	
Metformin	500 mg	12-hrly	PO	<input type="checkbox"/>	
Sodium valproate	500 mg	12-hrly	PO	<input type="checkbox"/>	
Carbamazepine MR	400 mg	12-hrly	PO	<input type="checkbox"/>	
Aspirin	75 mg	daily	PO	<input type="checkbox"/>	
Simvastatin	40 mg	daily	PO	<input type="checkbox"/>	
Fluoxetine	20 mg	daily	PO	<input type="checkbox"/>	

Case presentation

A 54-year-old man is admitted to hospital with severe vomiting and diarrhoea for the preceding 2 days. **PH**. He underwent coronary artery stenting 3 months ago and has a history of hypertension and chronic back pain.

On examination

HR 112/min and regular, BP 132/70 mmHg. Abdomen soft non-tender with increased bowel sounds. He has decreased skin turgor.

Investigations

U 11.2 mmol/L (2.5–7.0), Cr 176 µmol/L (60–110). eGFR 32 mLs/min/1.72m² (>60)

His current regular medicines are listed (right).

CURRENT PRESCRIPTIONS

Drug name	Dose	Freq.	Route
ATENOLOL	100mg	daily	ORAL
BUMETANIDE	2mg	daily	ORAL
CLOPIDOGREL	75mg	daily	ORAL
DICLOFENAC SODIUM	50mg	8-hrly	ORAL
EPLERENONE	25mg	daily	ORAL
IRBESARTAN	150mg	daily	ORAL
LANSOPRAZOLE	30mg	daily	ORAL
LERCANIDIPINE	20mg	daily	ORAL

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Question A

Identify the **FOUR** prescriptions that should be stopped in this scenario.

(mark them with a tick in column A)

Case presentation

A 90-year-old-woman is admitted from a nursing home with decreasing oral intake and increasing drowsiness in the preceding 24 hours. **PH.** Previous CVA, hypertension, dementia, recurrent UTIs and chronic leg pains.

On examination

She is drowsy but rousable GCS 13/15, somewhat disorientated in time, place and person, neurological examination otherwise is unremarkable. HR 92/min and regular, BP 156/72 mmHg.

Investigations

Na⁺ 136 mmol/L (135-145), K⁺ 4.4 mmol/L (3.5-5.0), WCC 8.6x10⁹/L (4.0–11.0), CRP 16mg/L (<10), U 6.2 mmol/L (2.5–7.0), Cr 70 µmol/L (60–110), eGFR >60 mL/min (>60), random blood glucose 6.2mmol/L (4.0-6.5)

Urinalysis trace of protein nil else

Her current regular medicines are listed (right).

Question A

Identify the **FOUR** prescriptions that should be reduced or temporarily withheld in this scenario .
(mark them with a tick in column A)

CURRENT PRESCRIPTIONS

Drug name	Dose	Freq.	Route	A	
ASPIRIN	75mg	daily	ORAL	<input type="checkbox"/>	
DIAZEPAM	5mg	8-hrly	ORAL	<input type="checkbox"/>	
DOSULEPIN	150mg	daily	ORAL	<input type="checkbox"/>	
FENTANYL PATCH	50micro grams Per hour	daily	TOP	<input type="checkbox"/>	
LISINOPRIL	5mg	daily	ORAL	<input type="checkbox"/>	
MEMANTINE	20mg	daily	ORAL	<input type="checkbox"/>	
METOPROLOL	25mg	12-hrly	ORAL	<input type="checkbox"/>	
TRIMETHOPRIM	100mg	daily	ORAL	<input type="checkbox"/>	
				<input type="checkbox"/>	
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Case presentation

A 75 year-old man presents with worsening bilateral ankle swelling and breathlessness. He has a past history of biventricular heart failure, type 2 diabetes mellitus hypertension, nocturia and osteoarthritis. On examination he has bilateral symmetrical pitting oedema of the ankles, JVP is elevated, HS 1+2 + 0 and he has bibasal fine crepitations on auscultation of his lungs

Investigations

eGFR >60 mL/min (>60)

CXR shows pulmonary oedema

His current regular medicines are listed (right).

Question A

Identify the **FOUR** prescriptions that are most likely to be contributing to his heart failure.

(mark them with a tick in column A)

CURRENT PRESCRIPTIONS

Drug name	Dose	Freq.	Route
BUMETANIDE	2mg	daily	ORAL
DESMOPRESSIN	20 Micro-grams	daily	ORAL
DICLOFENAC SODIUM	75mg	12-hrly	ORAL
DIGOXIN	125 Micro-Grams	daily	ORAL
METFORMIN	500mg	8-hrly	ORAL
PIOGLITAZONE	30mg	daily	ORAL
RAMIPRIL	10mg	daily	ORAL
SPIRONOLACTONE	25mg	daily	ORAL
VERAPAMIL	120mg	12-hrly	ORAL

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Case presentation

A 48-year-old-woman attends the diabetes clinic for routine review.

PH Type 1 diabetes mellitus. **DH** Lisinopril 10 mg daily orally, atorvastatin 20 mg daily orally. NovoMix®30 (Biphasic insulin aspart) 44 units breakfast sc and 32 units evening meal sc

For the last 2 weeks capillary blood glucose monitoring shows:

8AM: 6-9 mmol/L

12Midday: 8-11 mmol/L

5PM: 16-22 mmol/L

10PM: 9-11 mmol/L

MANAGEMENT OPTIONS

- | | |
|----------|--|
| A | Give Actrapid® insulin at 5PM |
| B | Increase the 5PM NovoMix®30 dose |
| C | Increase the 8AM NovoMix®30 dose |
| D | Reduce the calorific content of the lunch time meal |
| E | Switch from NovoMix®30 twice daily sc to Insulin Glargine daily sc |

☐☐☐☐☐**Question**

Select the **ONE** *most appropriate* management option at this stage to improve glycaemic control from the list provided.
(mark it with a tick)

Case presentation

A 28 year-old-woman is commenced on a combined (oestrogen/progestogen) oral contraceptive.

Question

Select the **ONE** *most appropriate* information option that should be communicated to the patient from the list provided.
(mark it with a tick)

INFORMATION OPTIONS

A	Alternative contraceptives must be used if she has an antibiotic
B	If a tablet is missed, an alternative contraceptive should be used for the next 4 weeks
C	If vomiting occurs within 2 hours of taking the pill another pill should be taken
D	Long haul flights should be avoided
E	There is an increased risk of ovarian cancer

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Calculation Skills Item**ID**

CAL000

This question item is worth **2 marks**

You may use a
calculator at any
time

**Case Presentation**

A 72 year old man has low blood pressure after cardiac surgery. The consultant asks you to commence an intravenous Dopamine infusion at an initial rate of 2 micrograms/kg /minute. The nurse gives you a pre-mixed 250 ml solution of 5% dextrose containing 400 mg dopamine. He weighs 50 kg.

Calculation

At what rate will you commence the infusion?
(Write your answer in the box below)

Answer

ml/hour

Calculation Skills Item**ID**

CAL000

This question item is worth **2 marks**You may use a
calculator at any
time**Case Presentation**

A 3 year old child is prescribed 0.05% betamethasone lotion applied topically twice a day, for a severe itchy scalp rash. The child's mother returns to re-fill a repeat prescription after using up all of the 30 mL bottle of lotion in the first week.

Calculation

How much betamethasone in mg has been applied in the first week?

(Write your answer in the box below)

Answer

mg

Case presentation

A 66 year-old-woman with a history chronic persistent atrial fibrillation and left ventricular dysfunction, is commenced on carbamazepine 100mg 12-hrly orally for trigeminal neuralgia.

Question

Select the **ONE** drug that is most likely to have a clinically relevant drug-drug interaction with this new prescription from the list provided.
(mark it with a tick)

OPTIONS

- | | |
|----------|------------|
| A | Bisoprolol |
| B | Dabigatran |
| C | Digoxin |
| D | Ezetimibe |
| E | Ramipril |

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Case presentation

A 64 year-old-man with type 2 diabetes is admitted to hospital with cellulitis. His random blood glucose is 11.4 mmol/L, venous pH 7.2 (7.35-7.45), serum lactate 0.6 mmol/L (0.5-1.6)

Question

Select the **ONE** drug that is *most likely* to be the cause of his acidosis.

(mark it with a tick)

OPTIONS**A** Empagliflozin**B** Gliclazide**C** Pioglitazone**D** Metformin**E** Sitagliptin☐☐☐☐☐

Drug Monitoring Item**ID**

TDM000

This question item is worth **2 marks**You may use the
BNF at any time**Case presentation**

A 17 year old man has been treated in hospital with oral corticosteroids and bronchodilators for an exacerbation of asthma

Question

Select the **SINGLE** *most appropriate* monitoring option for assessing how effectively this regimen has been at resolving his asthma exacerbation.
(mark them with a tick)

MONITORING OPTIONS**A** Room air blood gas**B** Serum CRP**C** Peak expiratory flow rate diary**D** Exercise pulse oximetry**E** Spirometry☐☐☐☐☐

Drug Monitoring Item**ID**

TDM000

This question item is worth **2 marks**You may use the
BNF at any time**Case presentation**

A 27 year old man has been commenced on clozapine by his psychiatrist for schizophrenia.

Question

Select the **SINGLE** *most appropriate* monitoring option for adverse effects of this treatment in the first month of treatment.
(mark them with a tick)

MONITORING OPTIONS

- | MONITORING OPTIONS | |
|--------------------|-----------------------|
| A | Fasting blood glucose |
| B | Fasting lipid profile |
| C | Full blood picture |
| D | Liver function tests |
| E | Urea and electrolytes |

☐☐☐☐☐

Case presentation

A 74 year-old-man is in hospital recovering from a severe bout of viral gastroenteritis. He still has diarrhoea. He develops an acutely painful foot. **PH** chronic kidney disease and chronic obstructive airways disease.

On examination

On inspection, there is an area of erythema and warmth at the base of the right great toe. The area is exquisitely tender.

Investigations

Hb 124g/L (130–185), WCC 7.5×10^9 (4–11), Urea 12.4 mmol/L (2.5–7.0), Cr 179 μ mol/L (60–110), urate 0.6 mmol/l (0.15–0.4).

Question

Select the *most appropriate* course of action with regard to the treatment of his inflamed joint.
(mark it with a tick)

DECISION OPTIONS

- | | |
|----------|---------------------------|
| A | Oral paracetamol tablets |
| B | Oral naproxen tablets |
| C | Oral colchicine tablets |
| D | Oral allopurinol tablets |
| E | Oral prednisolone tablets |

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Case presentation

A 28 year old woman with asthma and type 1 diabetes mellitus presents to hospital feeling very unwell and short of breath.

DH: Insulin Glargine 22 units S/C nocte; Novorapid 8-14 units S/C with meals; Salbutamol 100 micrograms, 2 puffs inhaled PRN.

On examination

RR 28/min. HR 142/min and regular, BP 82/40 mmHg. The chest examination is unremarkable. Capillary refill 3 seconds.

Investigations

Blood Glucose 34 mmol/l (4.0-6.0),

Urinalysis: ++++ glucose, ++++ ketones

Arterial blood gas analysis (breathing air): pH 7.19 (7.35-7.45), pO₂ 18.2 kPa(11-14), pCO₂ 2.2 kPa (4.5-6.0), bicarbonate 8 mmol/l (22-28).

Question

Select the *most appropriate* course of action based on these data from the list provided.

(mark it with a tick)

DECISION OPTIONS

- | | |
|----------|--|
| A | Administer nebulised salbutamol |
| B | Give 14 units short-acting insulin as a one-off dose |
| C | Increase long-acting insulin by 5 units |
| D | Give a sugary drink and some biscuits |
| E | Commence intravenous fluids and an insulin infusion |

☐☐☐☐☐