

Using Investigations to Prescribe Safely 3 – Notes for Candidate

Using Investigations to Prescribe Safely Station: 10 minutes

Patient: Stacey Wallace (33F)

DOB: 27/01/1991

E35822702

You are the FY1 on the AMU.

Stacey Wallace has presented with dysuria and abdominal pain.

The station will last 10 minutes.

Please review the notes and observation chart. The BNF and a calculator are available for you to use

You are expected to:

0-5 minutes:

- Summarise the key points in the history and examination and explain the differential diagnosis.
- Suggest appropriate initial investigations, explaining why
- Review the results and confirm your diagnosis

5-10 minutes:

- Prescribe safely and appropriately for this patient, given the information provided in the station.

Using Investigations to Prescribe Safely 3: Station documents

Clerking notes

HPC:

33F presenting with a 3-day history of dysuria and suprapubic pain. Complaining of strong-smelling dark urine and urinary urgency. No history of loin pain, fever or vomiting. Eating and drinking as normal, and bowels have been open as normal too. She is 21 weeks pregnant. Active foetal movements and no complaints of haematuria, PV bleeding or discharge. She has previously had UTIs outside of pregnancy.

O/E:

Chest : clear, HS I+II+0 regular rhythm

Abdomen: SNT, distended

Calves: SNT, no peripheral oedema

PMH:

Nil

DHx:

Nil

Allergies: nkda

SHx:

Non-smoker, non-drinker

Patient height, weight:

Height: 165cm

Weight: 72kg

NEWS key		FULL NAME	
0	1	2	3
DATE OF BIRTH		DATE OF ADMISSION	
DATE TIME			DATE TIME
A+B Respirations <small>Breaths/min</small>	≥25	3	≥25
	21-24	2	21-24
	18-20		18-20
	15-17		15-17
	12-14		12-14
	9-11	1	9-11
≤8	3	≤8	
A+B SpO ₂ Scale 1 <small>Oxygen saturation (%)</small>	≥96	1	≥96
	94-95		94-95
	92-93	2	92-93
	≤91	3	≤91
SpO₂ Scale 2! <small>Oxygen saturation (%)</small> <small>Use Scale 2 if target range is 88-92%, eg in hypercapnic respiratory failure</small> <small>!ONLY use Scale 2 under the direction of a qualified clinician</small>	≥97 _{on O₂}	3	≥97 _{on O₂}
	95-96 _{on O₂}	2	95-96 _{on O₂}
	93-94 _{on O₂}	1	93-94 _{on O₂}
	≥93 _{on air}		≥93 _{on air}
	88-92		88-92
	86-87	1	86-87
	84-85	2	84-85
	≤83%	3	≤83%
Air or oxygen? <small>O₂ L/min</small> <small>Device</small>	A=Air		A=Air
	O ₂ L/min	2	O ₂ L/min
	Device		Device
C Blood pressure <small>mmHg</small> <small>Score uses systolic BP only</small>	≥220	3	≥220
	201-219		201-219
	181-200		181-200
	161-180		161-180
	141-160		141-160
	121-140		121-140
	111-120		111-120
	101-110	1	101-110
	91-100	2	91-100
	81-90		81-90
	71-80		71-80
61-70	3	61-70	
51-60		51-60	
≤50		≤50	
C Pulse <small>beats/min</small>	≥131	3	≥131
	121-130	2	121-130
	111-120		111-120
	101-110	1	101-110
	91-100		91-100
	81-90		81-90
	71-80		71-80
	61-70		61-70
	51-60	1	51-60
	41-50		41-50
31-40	3	31-40	
≤30		≤30	
D Consciousness <small>Score by NEWS</small> <small>(No score 7 (drowsy))</small>	Alert		Alert
	Confusion		Confusion
	V	3	V
	P		P
	U		U
E Temperature <small>°C</small>	≥39.1°	2	≥39.1°
	38.1-39.0°	1	38.1-39.0°
	37.1-38.0°		37.1-38.0°
	36.1-37.0°		36.1-37.0°
	35.1-36.0°	1	35.1-36.0°
	≤35.0°	3	≤35.0°
NEWS TOTAL			TOTAL
Monitoring frequency			Monitoring
Escalation of care Y/N			Escalation
Initials			Initials

National Early Warning Score 2 (NEWS2) © Royal College of Physicians 2017

NOW TAKE A MOMENT TO SUGGEST APPROPRIATE INITIAL INVESTIGATIONS BEFORE SCROLLING DOWN
Come up with a list of differentials.

Investigations

Urinalysis:

Nitrites: +

Leucocytes: ++

Culture: pending

Previous culture:
nitrofurantoin resistance

Bloods:

FBC: Hb 120, WCC 11.2, neuts
6.8, plts 310

U&Es: Na⁺ 139, K⁺ 4.5, Ur 4.3,
Cr 123,

LFTs: NAD

Bone profile: Adj. Ca 2+ 2.1

CRP: 78

Na⁺: 133-146 mmol/L

K⁺: 3.5-5.3 mmol/L

Ca²⁺(adjusted): 2.2-2.6 mmol/L

Mg²⁺: 0.7-1.0 mmol/L

Chloride: 98-106 mmol/L

Phosphate: 0.74 - 1.4 mmol/L

Urea: 2.5 - 7.8 mmol/L

Creatinine:

• ♂ 59-104 µmol/L

• ♀ 45-84 µmol/L

Platelet count: 140 - 400 x10⁹/L

Alkaline phosphatase (ALP): 30-130 U/L

Alanine aminotransferase (ALT):

• ♂ <41 U/L

• ♀ <33 U/L

Aspartate aminotransferase (AST): 1 - 45 U/L

Bilirubin: <21 µmol/L

Haemoglobin (Hb):

• ♂ 130 - 180 g/L

• ♀ 115 - 165 g/L

GGT:

• ♂ <60 U/L

• ♀ <40 U/L

White cell count (WCC):

• Total: 3.6 - 11.0 x 10⁹/L

• Neutrophils: 1.8 - 7.5 x 10⁹/L

Albumin: 35-50 g/L

Using Investigations to Prescribe Safely 3 – Examiner marksheet

MARKING RUBRIC	✓
Assimilation of information <ul style="list-style-type: none"> Confident, accurate approach to reviewing and summarising information 	
Investigations <ul style="list-style-type: none"> Requests appropriate initial investigations and appropriately justifies these 	
Interpretation of results and diagnostic reasoning <ul style="list-style-type: none"> Concise, structured approach to interpretation of results Generates appropriate list of differential diagnoses and uses investigation results to refine this appropriately, giving an appropriate most-likely diagnosis 	
Clearly documented prescription <ul style="list-style-type: none"> Capitals, time, date, signature with block print name Legible, black ink 	
Confident prescriber <ul style="list-style-type: none"> Can prescribe correctly (without using the BNF if it is straightforward) Evidence of having practiced prescribing 	
Prescribes safely (patient details) <ul style="list-style-type: none"> Allergies documented Correct boxes completed, including any special instructions 	
Prescribes safely (Drug) <ul style="list-style-type: none"> Drug name, dose, route, frequency Confident accurate approach Considers relevant investigation results: and makes appropriate adjustments 	

Global Impression:

- Excellent
- Good
- Pass
- Borderline
- Fail

Using Investigations to Prescribe Safely 3: Example answer

Differential diagnosis:

1. Urinary tract infection
2. Pyelonephritis

Prescribing considerations:

This is a case of urinary tract infection. As per the BNF, first line treatment is with nitrofurantoin in and out of pregnancy.

In pregnant women, antibiotic treatment is for 7 days rather than 3 days.

If nitrofurantoin is unsuitable, amoxicillin is preferred - given culture sensitivity. However, in this case, culture is awaited. So cefalexin is preferable.

The following prescription will score full marks:

Cefalexin 500mg PO BD for 7 days