

Please have a calculator,
paper and a pen handy before
commencing the mock
station.

Post-Operative Patient on the Ward 2– Notes for Candidate

Post-Operative Patient Station: 10 minutes

Patient: Jason Banks (56M)

DOB: 20/12/1967

E35389702

You are the FY1 on the General Surgical ward.

Jason Banks is a 56-year-old who underwent a right hemicolectomy 48 hours ago for colorectal carcinoma.

His pain is being managed with regular analgesia, and he is complaining of abdominal discomfort and vomiting. He is currently nil by mouth.

This is a medical records-based station, there is no simulator present.

The **examiner** will give you information relating to **clinical symptoms and signs if requested**.

The station will last 10 minutes.

You are expected to:

0-5 minutes:

- Review the available documentation
- Explain to the examiner your approach to the patient and describe your plan for improving nausea and vomiting

5-10 minutes:

- Calculate the patient's fluid balance over the last 24 hours and determine requirements for the next 24 hours. You can use a pen, paper and calculator.
- Assumed insensible losses of 800ml per day
- Describe a suitable fluid regime for the next 24 hours. You will be provided with this list:

Three bags of each of the following are available for use:

- Hartmann's 1L
- 0.9% NaCl 500 mL
- 0.9% NaCl 500 mL with 20 mmol KCl
- 0.9% NaCl 1L
- 0.9% NaCl 1L with either 20mmol OR 40 mmol KCl
- Dextrose saline 500 mL
- Dextrose saline 500 mL with 20 mmol KCl
- Dextrose Saline 1L
- Dextrose Saline 1L with either 20 mmol KCl OR 40 mmol KCl
- 5% Dextrose 500 mL
- 5% Dextrose 500 mL with 20 mmol KCl
- 5% Dextrose 1L
- 5% Dextrose 1L with either 20 mmol KCl OR 40mmol KCl

Post-Operative Patient on the Ward 2: Station documents

Clerking notes

HPC:

56M presenting with a 3-month history of altered bowel habit, occasional rectal bleeding and unintentional weight loss. 2ww referral for colorectal cancer referred by GP. Discussed in colorectal MDT with CT findings showing high rectal mass. Planned for high anterior resection.

Admitted as elective patient. Anaesthetic assessment passed. No prior abdominal surgeries.

O/E:

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

Abdomen: Soft, non-tender

Calves: SNT, no peripheral oedema

PMH:

Hypertension

DHx:

Ramipril

Allergies: nkda

SHx:

Non-smoker, occasional drinker

Patient height, weight:

Height: 173cm

Weight: 85kg

Operation notes

Patient: Jason Banks

Date: 10/3/2024 (Day 1 as inpatient)

Procedure: Anterior Resection, elective laparoscopy

Surgeon: Miss Golding Assistant: Dr. Jacques

Anaesthesia: General, Propofol

The surgery proceeded uneventfully.

Midline laparotomy. Intraoperative exploration confirmed presence of a high rectal tumour consistent with preoperative imaging. No evidence of distant or peritoneal metastasis. Adequate margins were visualised.

Open approach undertaken with mobilisation of the sigmoid colon and rectum. High ligation of the inferior and mesenteric vessels performed. Sharp dissection of the rectum.

Anastomosis created with preservation of the rectal sphincter. Defunctioning loop ileostomy created with aim to reverse in future.

No complications encountered during the procedure.

The rest of the colon was of normal appearance with nil signs of perforation or ischaemia.

Closure: The surgical incision was closed in layers with absorbable sutures. Sterile dressing applied with local anaesthetic injection.

Miss Golding

Electronically signed

Post-operation notes

Patient arrived at post-op recovery 30 minutes after wound closure. The patient tolerated the procedure and anaesthetic well. PCA in situ, basal infusion running.

RIF ileostomy noted, healthy skin and intact sutures. Empty stoma bag at time of transfer to ward. No active intervention required.

Post-op care and follow-up information handed over to ward staff.

Dr Ashish Goyal Anaesthetic CT3

Signed

Day 2 as inpatient (11/03/2024) Post-op review

Patient lying in bed, had resumed eating and drinking 6 hours post-op. But overnight complained of abdominal discomfort, nausea and vomiting ++. Resolved with antiemetic use.

Still has abdominal discomfort and bloating.

Pain adequately controlled with PCA.

No shortness of breath, no chest pain. No dysuria. No stoma output since operation. Surgical site healthy, no signs of infection noted.

Patient made NBM, NG tube inserted

O/E:

Chest – clear

Abdo – soft, no guarding or tenderness. Distended ++, absent bowel sounds

Calves – SNT, no signs DVT or cellulitis

Name: **JASON BANKS** S Number: _____ Ward: _____ Date: _____

NEWS 2 Key	DATE	TIME	DATE	TIME	DATE	TIME
	D1	D1	D1	D2	D2	D2
	6am	10 2pm	1pm	4pm	2pm	6pm
	10am	2pm	6pm	10am	2pm	
A+B	≥25					
Respirations Breaths/min	21-24					
	18-20	•	•	•	•	•
	15-17	•	•	•	•	•
	12-14					
	9-11					
	≤8					
	≥96	•	•	•	•	•
SpO ₂ Scale 1 Oxygen saturation (%)	94-95					
	92-93					
	≤91					
SpO ₂ Scale 2† Oxygen saturation (%) <small>Use Scale 2 if target range is 88-92%, eg in hypercapnic respiratory failure</small>	≥97 on O ₂					
	95-96 on O ₂					
	93-94 on O ₂					
	≥93 on air					
	88-92					
	86-87					
	84-85					
	≤83%					
Air or oxygen? O ₂ L/min Device	A=Air	•	•	•	•	•
	O ₂ L/min					
	Device					
C Blood pressure mmHg <small>Score uses systolic BP only</small>	≥220					
	201-219					
	181-200					
	161-180					
	141-160					
	121-140					
	111-120	↕	↕	↕	↕	↕
	101-110	↕	↕	↕	↕	↕
	91-100					
	81-90					
	71-80					
	61-70					
	51-60					
≤50						
C Pulse Beats/min	≥131					
	121-130					
	111-120					
	101-110					
	91-100					
	81-90	•	•	•	•	•
	71-80	•	•	•	•	•
	61-70	•	•	•	•	•
D Consciousness <small>Score for NEWS based on confusion and score if drowsy</small>	Alert	•	•	•	•	•
	Confusion					
	V					
	P					
E Temperature °C	≥39.1°					
	38.1-39.0°					
	37.1-38.0°	•	•	•	•	•
	36.1-37.0°	•	•	•	•	•
	35.1-36.0°					
≤35.0°						
NEWS TOTAL	0 0 0 1 0 0 0 0 0					
Additional Parameters	Pain Score					
	Nausea		X	X	X	X
	Vomiting		X	X		
Monitoring frequency						
Escalation of care Y/N						
Initials						

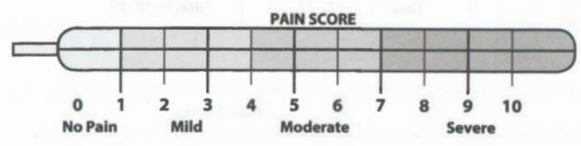
Name: **JASON BANKS** S Number: _____ Ward: _____ Date: _____

Ward Round Review Senior Decision Maker only: (Tick) Previous INPUT: Previous 24 hours BALANCE: Previous OUTPUT: Patients Weight:

Time	INPUT							OUTPUT					BALANCE
	Oral Intake (mls)	Fluids IV or SC/ Blood	Bolus Drugs	Drug Infusions	PCA/ Epidural	NG/TPN/ PEG/Jej (mls)	Running Total In	Urine	Drains	Drains	Vomit/ NGT	Bowels/ Stoma	
1400	01:00	NBM	100		5			40					
1500	02:00		100		5			30					
1600	03:00		100		5			65					
1700	04:00		100		5			50	80			265	
1800	05:00		100		5			40					
1900	06:00		100		5			30					
2000	07:00		100		5			55					
2100	08:00		100		5			30	45			465	
2200	09:00		100		5			30			300		
2300	10:00		100		5			40					
2400	11:00		100		5			55					
0100	12:00		100		5			40	40			970	
0200	13:00		100		5			60			200		
0300	14:00		100		5			40					
0400	15:00		100		5			40					
0500	16:00		100		5			30	40			1380	
0600	17:00		100		5			50					
0700	18:00		100		5			40					
0800	19:00		100		5			40					
0900	20:00		100		5			40	60			1610	
1000	21:00		100		5			50					
1100	22:00		100		5			40					
1200	23:00		100		5			40					
1300	24:00		100		5			50					
Totals	↓		2400		120			1025			500		

Total INTAKE= **2520** mls OUTPUT= **1790** mls

Urinalysis pH: Protein: Blood: Leucocytes: Glucose: Ketones: Nitrates: Date:



Investigations

ECG:

Normal sinus rhythm

Bloods (pre-operative):

FBC: Hb 120(110), WCC 9.7(9.5), neutrs 7.1(7.4), plts 380(345)

U&Es: Na+ 128(139), K+ 3.1(3.9), Ur 5.3(4.1), Cr 92(70), eGFR 73.8, CrCl: 91 ml/min

LFTs: NAD

Bone profile: Adj. Ca 2+ 2.2

Mg2+: 0.73

TFTs - NAD

CRP: 78(130)

AXR:



Credits: Radiologymasterclass

CT AP with contrast:

Dilated small bowel loops throughout the abdomen with air-fluid levels noted.

No evidence of mechanical obstruction or anastomotic leakage.

No pneumoperitoneum or free fluid appreciated.

Post-surgical changes consistent with recent high resection are noted.

No evidence of intra-abdominal abscess or haematoma.

Haemoglobin (Hb):

- ♂ 130 – 180 g/L
- ♀ 115 – 165 g/L

White cell count (WCC):

- Total: 3.6 – 11.0 x 10⁹/L
- Neutrophils: 1.8 – 7.5 x 10⁹/L

Platelet count: 140 – 400 x10⁹/L

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

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

GGT:

- ♂ <60 U/L
- ♀ <40 U/L

Albumin: 35–50 g/L

Medication chart

DRUG ALLERGIES (MUST BE COMPLETED) No known allergies Medication: <input type="checkbox"/> Reaction: <input type="checkbox"/> Sign: <input type="checkbox"/> Date: <input type="checkbox"/>		S No. <input type="text"/> Patient's name: JASON BANKS Date of birth: 20/12/1967
ADULT INPATIENT MEDICATION ADMINISTRATION RECORD University Hospitals of Leicester NHS trust Chart 1 of 1 Consultant: Golding Ward: B14 Site: NHS Date recorded: <input type="text"/> BSA(m ²): <input type="text"/> Wt (kg): 95 Ht: <input type="text"/> HT: <input type="text"/> 173 cm Pregnancy: <input type="checkbox"/> Breastfeeding: <input type="checkbox"/>		
DETAILS OF SUPPLEMENTARY CHARTS IN USE Anticoagulant: <input type="checkbox"/> Chemotherapy: <input type="checkbox"/> Diabetes: <input type="checkbox"/> Syringe driver: <input type="checkbox"/> Supplementary infusion chart: <input type="checkbox"/> Gentamicin/Tobramycin: <input type="checkbox"/> Other (please specify): IPD Haemodialysis: <input type="checkbox"/>		
PRESCRIPTION FOR ONCE-ONLY MEDICATION / PRE-ANAESTHETIC / ANTIMICROBIAL PROPHYLAXIS Date: <input type="text"/> Time: <input type="text"/> Medication: <input type="text"/> Dose: <input type="text"/> Route: <input type="text"/> Prescriber's signature: <input type="text"/> Frequency: <input type="text"/> Stop: <input type="text"/> Time: <input type="text"/> Given: <input type="text"/> Sign: <input type="text"/> 10/03/24 METRONIDAZOLE 500mg IV Golding 125 1809 SR		
MEDICINES MANAGEMENT CHECKLIST Pre-admission: <input type="checkbox"/> Drug history check: <input type="checkbox"/> Source: <input type="checkbox"/> Re-written drug chart checked: <input type="checkbox"/> Allergy check: <input type="checkbox"/> Patient's own medicines: <input type="checkbox"/> Self-administration: <input type="checkbox"/> Compliance aid: <input type="checkbox"/> Patient discharge: <input type="checkbox"/> TCO completed: <input type="checkbox"/> Counselling: <input type="checkbox"/>		
MEDICINE PRIOR TO ADMISSION NOT PRESCRIBED Medication: <input type="text"/> Dosage: <input type="text"/> Freq: <input type="text"/> Reason: <input type="text"/> DISCHARGE INFORMATION Initial: <input type="text"/> Date: <input type="text"/>		

REGULAR ANTIMICROBIAL THERAPY									
MORNING (AROUND 0800); MIDDAY (BETWEEN 1200 & 1400); TEATIME (AROUND 1800); BEDTIME (AROUND 2200)									
ENTER DOSE AGAINST TIME REQUIRED	SWITCH FROM IV ROUTE TO ORAL AS SOON AS POSSIBLE: MAX 48HRS	COURSE LENGTH	VERIFICATION NO.	PHARMACIST	YEAR				
16 METRONIDAZOLE Date: 10/03 Time: 0800 Route: IV Dose: 500mg Indication: Pit - laparotomy Prescriber's signature & name: Golding Special instructions: 2 DAYS						STOP after 5 days (unless otherwise stated)			
17 MEDICINE (approved name) Date: <input type="text"/> Time: <input type="text"/> Route: <input type="text"/> Dose: <input type="text"/> Indication: <input type="text"/> Prescriber's signature & name: <input type="text"/> Special instructions: <input type="text"/> Course length: <input type="text"/> Verification no.: <input type="text"/> Pharmacist: <input type="text"/> Supply: <input type="text"/>						STOP after 5 days (unless otherwise stated)			
18 MEDICINE (approved name) Date: <input type="text"/> Time: <input type="text"/> Route: <input type="text"/> Dose: <input type="text"/> Indication: <input type="text"/> Prescriber's signature & name: <input type="text"/> Special instructions: <input type="text"/> Course length: <input type="text"/> Verification no.: <input type="text"/> Pharmacist: <input type="text"/> Supply: <input type="text"/>						STOP after 5 days (unless otherwise stated)			
19 MEDICINE (approved name) Date: <input type="text"/> Time: <input type="text"/> Route: <input type="text"/> Dose: <input type="text"/> Indication: <input type="text"/> Prescriber's signature & name: <input type="text"/> Special instructions: <input type="text"/> Course length: <input type="text"/> Verification no.: <input type="text"/> Pharmacist: <input type="text"/> Supply: <input type="text"/>						STOP after 5 days (unless otherwise stated)			

AS REQUIRED MEDICINES										
44	MEDICINE	SODIUM CHLORIDE 0.9%	DATE	TIME	DOSE	ROUTE	INDICATION	MAX FREQUENCY	SIGN	GIVEN
					5-10ml	IV	Flush Cannula			
45	MEDICINE	SODIUM CHLORIDE 0.9%	DATE	TIME	DOSE	ROUTE	INDICATION	MAX FREQUENCY	SIGN	GIVEN
					5-10ml	IV	Flush Cannula			
46	MEDICINE	PARACETAMOL	DATE	TIME	DOSE	ROUTE	INDICATION	MAX FREQUENCY	SIGN	GIVEN
			10/03/24		500-1000mg	PO/IV	Pain / fever	QDS	Golding	
47	MEDICINE	ONDANSETRON	DATE	TIME	DOSE	ROUTE	INDICATION	MAX FREQUENCY	SIGN	GIVEN
			10/03/24	1800 0600	4mg	PO/IV	nausea + vomiting	8D	Golding	
48	MEDICINE	CYCLIZINE	DATE	TIME	DOSE	ROUTE	INDICATION	MAX FREQUENCY	SIGN	GIVEN
			10/03/24	2200 0200 1000	50mg	PO/IV	nausea + vomiting	TDS	Golding	
49	MEDICINE		DATE	TIME	DOSE	ROUTE	INDICATION	MAX FREQUENCY	SIGN	GIVEN
50	MEDICINE		DATE	TIME	DOSE	ROUTE	INDICATION	MAX FREQUENCY	SIGN	GIVEN

PARENTERAL INFUSIONS											
Infusion Fluid		Additions to Infusion									
Date	Type/Strength	Vol.	Medicine	Dose	Route	Time to run or ml/hr	Prescriber	Fluid Batch No.	Start Time	Signatures	
										Given by	Checked by
10/03	0.9% SODIUM CHLORIDE 1000ml				IV	10h-11h					
11/03	0.9% SODIUM CHLORIDE 1000ml				IV	14h-15h					

CODE FOR DRUG OMISSIONS: 1 Not administered, 2 Not prescribed, 3 Not given, 4 Not given, 5 Not given, 6 Not given, 7 Not given, 8 Not given, 9 Not given, 10 Not given, 11 Not given, 12 Not given, 13 Not given, 14 Not given, 15 Not given, 16 Not given, 17 Not given, 18 Not given, 19 Not given, 20 Not given, 21 Not given, 22 Not given, 23 Not given, 24 Not given, 25 Not given, 26 Not given, 27 Not given, 28 Not given, 29 Not given, 30 Not given, 31 Not given, 32 Not given, 33 Not given, 34 Not given, 35 Not given, 36 Not given, 37 Not given, 38 Not given, 39 Not given, 40 Not given, 41 Not given, 42 Not given, 43 Not given, 44 Not given, 45 Not given, 46 Not given, 47 Not given, 48 Not given, 49 Not given, 50 Not given, 51 Not given, 52 Not given, 53 Not given, 54 Not given, 55 Not given, 56 Not given, 57 Not given, 58 Not given, 59 Not given, 60 Not given, 61 Not given, 62 Not given, 63 Not given, 64 Not given, 65 Not given, 66 Not given, 67 Not given, 68 Not given, 69 Not given, 70 Not given, 71 Not given, 72 Not given, 73 Not given, 74 Not given, 75 Not given, 76 Not given, 77 Not given, 78 Not given, 79 Not given, 80 Not given, 81 Not given, 82 Not given, 83 Not given, 84 Not given, 85 Not given, 86 Not given, 87 Not given, 88 Not given, 89 Not given, 90 Not given, 91 Not given, 92 Not given, 93 Not given, 94 Not given, 95 Not given, 96 Not given, 97 Not given, 98 Not given, 99 Not given, 100 Not given.

Intentionally left blank. Mark scheme ahead, do not scroll further until the end of station.

Post-Operative Patient on the Ward 2 – Examiner marksheet

MARKING RUBRIC	STATION SPECIFIC NOTES	✓
<p>Gathering of information</p> <ul style="list-style-type: none"> • Reviews available documentation (anaesthetic chart, post-operative instructions, drug prescription/IPAD charts, observation chart including fluid balance) • Reviews the blood result and interprets in the context of the patient 	<p>Gathering of information</p> <ul style="list-style-type: none"> - Hyponatraemia and hypokalaemia post-op likely related to vomiting. As well as being the cause behind paralytic ileus leading to further vomiting. 	
<p>Review of analgesia</p> <ul style="list-style-type: none"> • Reviews analgesia and anaesthetic charts • Indicates how they would assess the patient to determine cause of N&V • Identifies that the likely cause is <u>paralytic ileus</u> • Addresses the need to manage this • Explains the options available (e.g. IV or IM antiemetics, analgesic drug choice change, refers to ladder) 	<p>Review of analgesia</p> <p>Assess patient in A-E manner, focus on haemodynamic and hydration status.</p> <p>Reviews analgesia prescriptions and notes:</p> <ul style="list-style-type: none"> - Patient has PCA in situ - Notes morphine basal infusion running at 4mg/hr - Notes bolus doses of 1mg/hour under patient control <p>- Patient also has paracetamol prescribed on normal drug chart. But not required any doses. The pain is under control, but discomfort resulting from the ileus (if in doubt about adequate pain control, this can be clarified with the examiner in station)</p> <p>Notes patient has been using the ondansetron and cyclizine for nausea to good effect.</p> <p>Notes the electrolyte imbalances and need to replace these, thereby addressing the ileus, abdominal discomfort and lack of stoma output.</p> <p>N.B – sevoflurane and other gaseous anaesthetic agents increase the likelihood of developing PONV. Propofol carries less risk so unlikely the cause in this station.</p>	
<p>Calculations for fluid management over the last 24 hours</p>	<p>Fluid IP: 2520ml Fluid OP: 1790ml</p>	

<ul style="list-style-type: none"> • Reviews the observation chart and confirms that the patient is hypovolaemic • Indicates that they would assess the patient to determine hydration status (thirst, CRT, oedema) • Calculates individual fluid inputs (oral and IV) • Calculates individual fluid outputs (NGT, drain, urine and INSENSIBLE LOSSES [i.e. 800ml]) • Calculates total fluid input, output and overall balance over the past 24 hours 	<ul style="list-style-type: none"> - Consider insensible losses of 800ml - Total OP = 2590ml <p>24-hour balance = -ve 70ml</p>	
<p>Calculation of fluid prescription for the next 24 hours</p> <ul style="list-style-type: none"> • Correctly calculates the maintenance volume requirements by body weight (30ml/kg) • Correctly calculates the normal maintenance K+, Na+, glucose requirements by weight • Takes account of ongoing abnormal losses • Takes account of blood results • Suggests suitable IV fluid regime for the next 24 hours 	<p>Body weight = 81 kg</p> <p><u>Total daily requirements:</u> Water = 2430ml - Fluid deficit of 70 = 2500ml total requirement. Na+ = 81mmol K+ = 81mmol Glucose = 50-100g</p> <p>Note hyponatraemia and hypokalaemia so replenish more than 81 mmol each.</p> <p><u>Example regime I to meet above requirements:</u> 1L 0.9% sodium chloride + 40 mmol K+ 1L 5% dextrose + 40 mmol K+ 500ml 5% dextrose + 20 mmol K+</p> <p>Total content: 154 mmol Na+(1 *154), 100mmol K+, 254 mmol Cl- (154mmol plus Potassium chloride =2*40mmol, 20mmol), 75g glucose (1.5*50) This regime gives higher Na+ and Cl- content but you could justify clinically as the patient is vomiting. Also it is easier to prescribe than the alternative below:</p> <p><u>Alternative Example regime II :</u> 1L 5% dextrose + 40 mmol K+ 500ml 5% dextrose + 20 mmol K+ 500ml 0.9% sodium chloride + 20 mmol K+ 500ml 4% dextrose / 0.18% sodium chloride (dextrose saline) + 20 mmol K+</p> <p>Total content: 92.5mmol Na+ (500ml each 0.9%NaCl, dex-saline), 100mmol K+, 192.5mmol Cl-, 95g glucose (1.5litre dex, 500ml dex-saline).</p>	

Note: Hartmann's 500ml unavailable in the OSCE.

Clinical reasoning

- Clear communication
- Explains fully the reasons for prescribing the IV fluids
- Explains the need to increase the analgesia

*The electrolyte composition of these crystalloid solutions is summarised in the table below.
You must know this information – it will not be provided in the Finals OSCE examination.*

	[Na ⁺] (mmol/L)	[K ⁺] (mmol/L)	[Cl ⁻] (mmol/L)	Glucose (g/L)
0.9% sodium chloride	154		154	
4% dextrose / 0.18% sodium chloride (dextrose saline)	31		31	40
5% dextrose				50
Hartmann's solution	131	5	111	

Global Impression:

- Excellent
- Good
- Pass
- Borderline
- Fail