Simulation Scenario

Title	Gastrointestinal haemorrhage and ALD	**Version**	1.4
Target Audience	FY doctors & student nurses	**Run time**	10 -15 mins
Authors	J Foxlee, U Naidoo, M Loughrey, P Wilder	**Last review**	4/7/18
Faculty comments	Normal faculty requirements	**Necessity**	n/a

Brief Summary

A young man with mild decompensation of ALD who has been on the ward for several days becomes hypotensive following a (concealed) GI bleed from oesophageal varices.

Educational Rationale

This scenario assesses rapid patient assessment, initial resuscitation and differential diagnosis. The candidate is expected to make a rapid assessment from the notes as well as directly from the patient. The candidate must institute fluid resuscitation and assess its adequacy. The candidate is expected to recognise coagulopathy, the likely cause, and appropriately order/use of blood products targeted to laboratory results.

Learning Objectives: Nurse

- A-E assessment of an acutely deteriorating patient
- Appropriate escalation of an unstable patient
- SBAR handover

Learning Objectives: Doctor

- A-E assessment of an acutely deteriorating patient
- Awareness of differential diagnosis for shock
- Risk stratification for patients with gastrointestinal bleeding
- Medical management of hypovolaemic shock due to GI bleeding
- Communication with patient and SBAR handover with colleagues

No	CURRICULUM MAPPING	This scenario
1	Acts professionally	✓
2	Delivers patient-centred care and maintains trust	✓
3	Behaves in accordance with ethical and legal requirements	✓
4	Keeps practice up to date through learning and teaching	✓
5	Demonstrates engagement in career planning	
6	Communicates clearly in a variety of settings	✓
7	Works effectively as a team member	✓
8	Demonstrates leadership skills	✓
9	Recognises, assesses and initiates management of the acutely ill patient	✓
10	Recognises, assesses and manages patients with long term conditions	✓
11	Obtains history, performs clinical examination, formulates differential diagnosis and management plan	✓
12	Request relevant investigations and acts upon results	✓
13	Prescribes safely	✓
14	Performs procedures safely	✓
15	Is trained and manages cardiac and respiratory arrest	
16	Demonstrates understanding of the principles of health promotion and illness prevention	✓
17	Manages palliative and end of life care	
18	Recognises and works within limits of personal competence	✓
19	Makes patient safety a priority in clinical practice	✓
20	Contributes to quality improvement	

Candidate Briefing: Nurse

Setting	Medical ward

You are working on the medical ward. Mr Smith is a 44 year old gentleman who was admitted with confusion, diarrhea and vomiting 5 days ago. He is known to have alcoholic liver disease (ALD) and is still drinking.

He had an ascitic tap on admission which was negative. He has been treated for viral gastroenteritis and an ALD decompensation. His confusion and diarrhea have improved greatly and he was walking around the ward this morning and making phone calls.

Candidate Briefing: Doctor

Setting	Medical ward

You are the house officer on-call for Medicine at the weekend. You have been asked to attend the medical ward to assess a 44 year old man who has become hypotensive and pale.

Your handover sheet lists a history of alcoholic liver disease (ALD). The patient was admitted with a mild decompensation due to viral gastroenteritis.

He has been an inpatient for 5 days.

Technical set-up

Setting	Medical ward		
Simulator	High fidelity manikin		
Gender	Male	Age	44

Initial monitor parameters

RR	O2 sats	Pulse (HR)	BP	ECG rhythm
18	92% on air	110	90/50	Sinus tachycardia
Cap Refill Time	**Blood glucose**	**Temp.**		
4s	6.4	35.5		

Initial patient set-up

Airway	**Obstruction**	**Airway adjunct**
	No	No

Breathing	**Chest sounds**	**O2 supply**
	Normal	Air

Circulation	**Heart sounds**	**Cannula**	**BP cuff**	**Peripheral pulses**
	Normal	Present	Attached	Weak throughout

Disability	**Eyelids**	**Pupils**	**AVPU/GCS**
	Open	PEARL	14

Exposure	**Posture**	**Moulage**	**Bowel sounds**
	Supine	Dressing from ascitic tap	Normal

Specific equipment / prop requirements

- Monitoring: ECG, non-invasive BP (cuff), pulse oximeter (attached / unattached)
- Crash trolley: available outside the room
- Set of notes - this admission only, patient usually treated in London
- Patient name-band, allergy band (penicillin NB not relevant in this scenario, however will hopefully force drug chart review)
- Drug chart (prefilled)
- ABG (available on request)
- ECG (available on request)
- Chest x-ray (available in X-ray folder on SimMan tablet PC)

Facilitator Briefing

Telephone Advice

This is a relatively straightforward scenario. Depending on how the candidates are performing, you may delay calling them back, be stuck with another patient, or request that investigations are done before they call you back.

- Ask for brief history of admission
- Ask for current state and examination
- Ask for cardiovascular status - pulse volume, capillary refill time, whether hands warm/cold, any signs of sepsis
- Ask about abdominal findings - any haematemesis/melaena? Have they done a PR?
- (if not given) Ask about Hb and haematocrit values - compared with admission
- (if not given) Ask if urea elevated
- (if not given) Ask about clotting
- Ask if G&S sent, is blood available? Request FFP and 4 units RBC
- You will come to review the patient

CONDUCT

- You will be sitting in the control room for the duration
- Answer all calls as "switchboard" in the first instance to allow for realistic delay. Call back after 1 - 2 minutes
- The Medical Registrar should sound busy and state they are tied up with another patient
- They should be helpful but press the candidate hard about what assessment has been performed e.g. nature of pain, findings of physical examination
- If the candidate is not armed with the information, tell them to get the required info and call you back

How to run with candidates from only one discipline

An additional member of faculty can play the role of the nurse in this scenario if needed.

Sim Nurse briefing:

You are a nurse working on the medical ward. Mr Smith is a 44 year old gentleman who was admitted with confusion, diarrhoea and vomiting 5 days ago. He is known to have alcoholic liver disease (ALD) and is still drinking.

He had an ascitic tap on admission which was negative; he has been treated for viral gastroenteritis and an ALD decompensation. His confusion and diarrhoea have improved greatly and he was walking around the ward this morning and making phone calls.

You have performed routine observations and found him to be pale, hypotensive and tachycardic. He is complaining of lightheadedness but no other symptoms; you have called the foundation doctor to assess the patient.

If asked, the patient opened their bowels earlier with dark stool but not melaena.

CONDUCT

Throughout the scenario you should act as a "competent robot" i.e. you should perform all tasks requested to the best of your ability, but should not initiate any treatment on your own. If you are not being effectively instructed by the candidate, you may be prompted via your ear piece by the lead facilitator as to what your next action should be.

If you strongly disagree with management then you are free to question them, stating your reasons.

If asked to give drugs, you should request that they are prescribed on the drug chart. If they are unsure of the dosage please refer them to the BNF or Hospital Guidelines App or via Intranet.

Patient Briefing

Setting	Medical ward
Name	Sam Smith
Age	44
Gender	Male

What has happened to you?

- You attended A&E with confusion 5 days ago. You were also vomiting with diarrhoea.
- Your antibiotics were stopped after 2 days (ascitic tap was negative for infection).
- Diarrhoea settled with loperamide.
- You have gradually improved and your team planned for discharge back to your tertiary centre (Royal Free) after the weekend.

How you should role-play

- Confused but not abusive.
- Feels “unwell” and lightheaded.
- Felt dizzy when walking earlier.
- No melaena/haematemesis.
- No abdo pain.

Your background

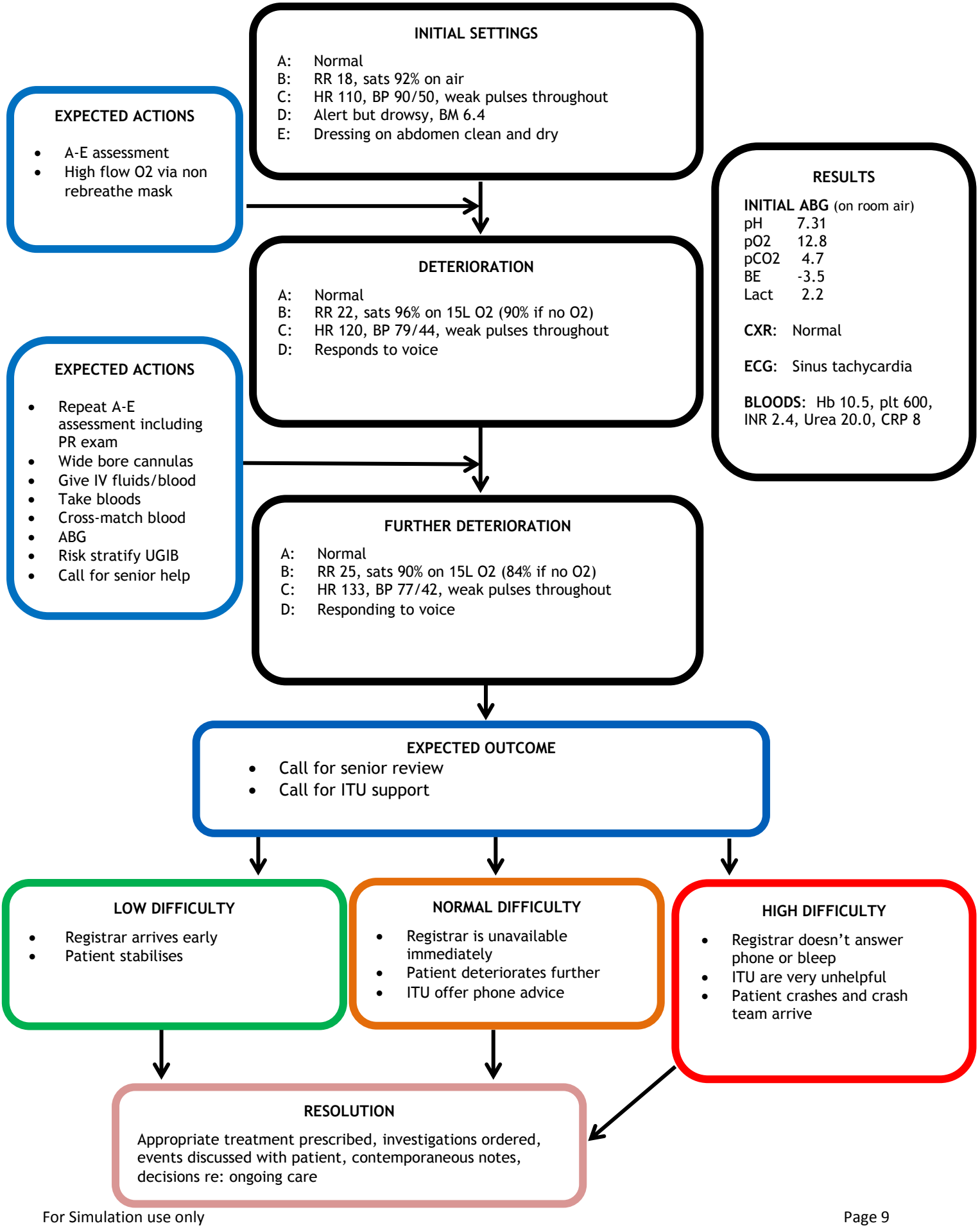
PAST MEDICAL HISTORY

- Alcoholic liver disease - told 5 years ago to “quit drinking or would need a transplant”. (Usually under care of Royal Free Hospital)
- Hypertension - doesn’t take tablets
- Multiple falls due to EtOH and #R wrist x2

SOCIAL HISTORY

- Alcohol 60 units+ / week; ongoing for 18 years. Several failed attempts at “detox”. Still drinking
- Smoker
- Lives alone in London (visiting mother in Frimley)
- Unemployed

Scenario flowchart



References

- NICE Clinical Guideline CG141: Acute upper gastrointestinal bleeding in over 16s: management. Issued June 2012. Found at: https://www.nice.org.uk/Guidance/cg141
- Local massive haemorrhage protocol.
- EASL Clinical Practical Guidelines: Management of alcoholic liver disease. European Association for the Study of the Liver. 2012. http://www.easl.eu/medias/cpg/Alcoholic-LiverDisease/English-report.pdf

Clinical props

RADIOMETER ABL800 FLEX

Identifications			
Patient ID	789987		
Patient Last Name	SMITH		
Patient First Name	Sam		
Sex	M		
Date of birth			
$FO_2(I)$	21.0	%	
T	35.5	C	
Sample type	Arterial		
Operator	TEMP PPH 1		
Blood Gas Values			
↓ pH	7.310		[7.350 - 7.450]
pCO_2	4.70	kPa	[4.70 - 6.00]
pO_2	12.8	kPa	[11.1 - 14.4]
Hct_C		%	
Oximetry Values			
ctHb	10.2	g/L	
FO_2Hb	91.0	%	[94.0 - 98.0]
sO_2	92.0	%	
FCOHb	1.4	%	[0.5 - 1.5]
FHHb	4.0	%	[0.0 - 5.0]
FMetHb	0.1	%	[0.0 - 1.5]
Calculated Values			
$cBase(Ecf)_C$	-3.5	mmol/L	
$cHCO_3^-(P)_C$	20.2	mmol/L	
Electrolyte Values			
cNa^+	140	mmol/L	[136 - 146]
cK^+	4.0	mmol/L	[3.4 - 4.5]
cCl^-	106	mmol/L	[98 - 106]
cCa^{++}	2.40	mmol/L	[2.2 - 2.45]
$Anion\ Gap_C$		mmol/L	
Metabolite Values			
↓ cGlu	3.5	mmol/L	[3.9 - 5.8]
↑ cLac	2.2	mmol/L	[0.5 - 1.6]
cCrea	94	µmol/L	[44 - 97]

Notes

↑ Value(s) above reference range
↓ Value(s) below reference range
c Calculated value(s)

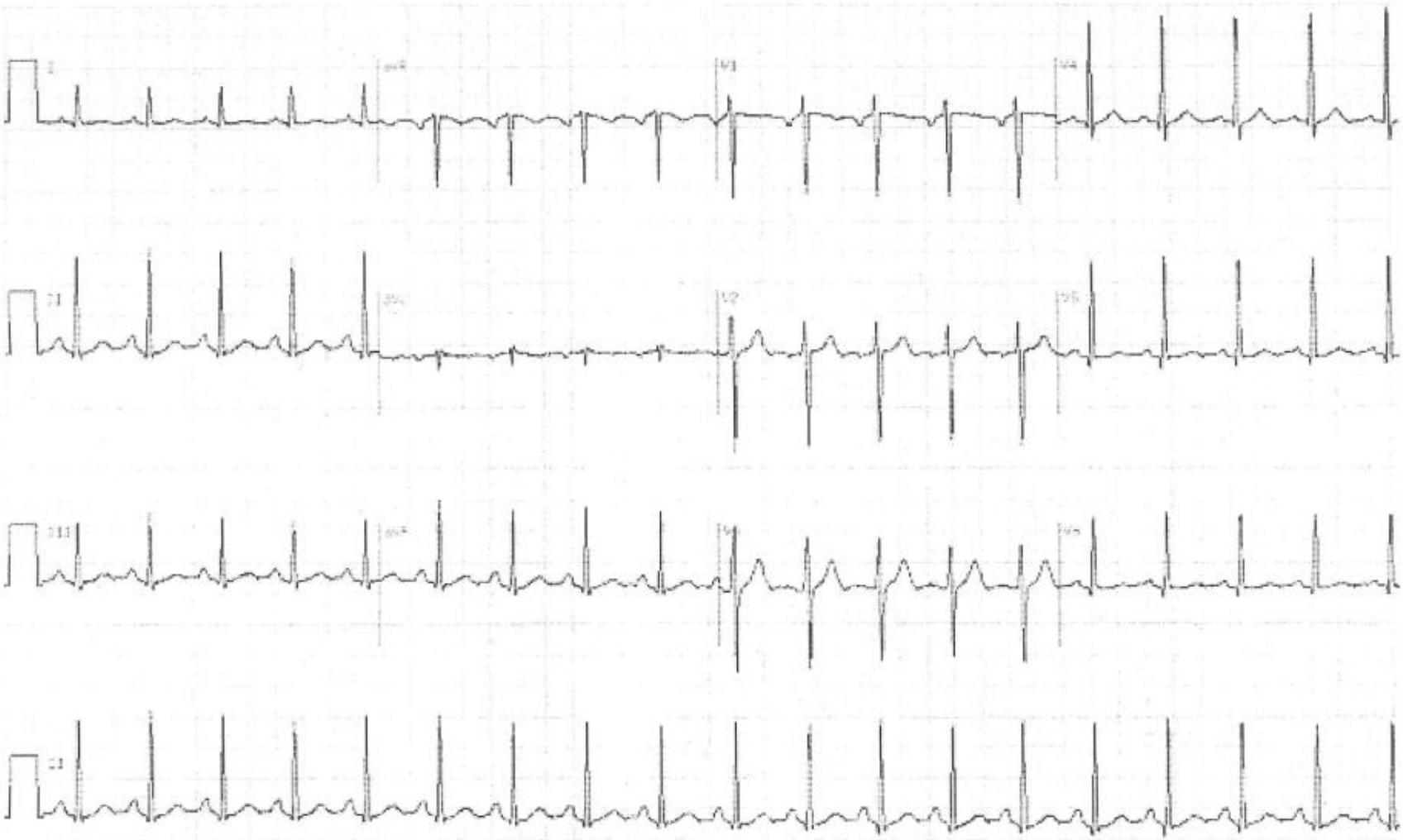
Blood Results

TEST	RANGE	ADMIT	ADMIT+1	ADMIT+2	ADMIT+4	TODAY
Hb	13 - 18	16.8	14.9		14.7	10.5
Hct	0.4 - 0.54	0.56	0.48		0.47	0.45
WBC	4 - 11					
neuts	2.0 - 7.5					
Platelets	150 - 450	402	389		404	600
PT	12 - 14					
INR	0.9 - 1.2	1.9	2.0	1.6	1.4	2.4
APTT	35 - 44	44	43	44	42	43
Na	135 - 145	144	140		139	137
K	2.5 - 7.8	3.2	3.4		3.8	4.2
Urea	2.0 - 7.0	7.5	4.6		5.2	20.0
Creat	50 - 90	100	82		85	89
Albumin	35 - 50	33	33		35	
Bili (total)	< 21	24	20		21	
Bili (unconjugated)						
AST	< 40	34	44		40	
[illegible]	< 50	43	44		34	
ALP	30 - 130	160	168		158	
CRP	< 4.0	19	12			8

Micro Results

ADMIT	ADMIT +1
Blood cultures - no growth after 48 hours	Ascitic fluid - microscopy NAD No growth
MSU - WCC 4, culture not performed	

SAM SMITH #78998



NEWS - OBSERVATION CHART

Frimley Health NHS Foundation Trust

Surname: Smith	First name: Sam
Hospital number: 12345	D.O.B: 1.1.1975
Date of admission: 5 days ago	

Parameter	Range	Observation 1	Score
	DATE		
	TIME		
A+B Respirations Breaths/min	≥25		3
	21–24		2
	18–20	18	
	15–17		
	12–14		
	9–11		1
	≤8		3
A+B SpO2 Scale 1 Oxygen saturation (%)	≥96		
	94–95		1
	92–93	92	2
	≤91		3
SpO2 Scale 2† Oxygen saturation (%) Use Scale 2 if target range is 88–92%, eg in hypercapnic respiratory failure. † ONLY use Scale 2 under the direction of a qualified clinician	≥97 on O_2		3
	95–96 on O_2		2
	93–94 on O_2		1
	≥93 on air		
	88–92		
	86–87		1
	84–85		2
	≤83%		3
Air or oxygen?	A=Air	A	
	O2 L/min		2
	Device		
C Blood pressure mmHg. Score uses systolic BP only	≥220		
	201–219		
	181–200		
	161–180		
	141–160		
	121–140		
	111–120		
	101–110		1
	91–100		2
	81–90	90	3
	71–80		3
	61–70		3
	51–60		3
	≤50	50	3
C Pulse Beats/min	≥131		3
	121–130		2
	111–120	110	2
	101–110		1
	91–100		1
	81–90		
	71–80		
	61–70		
	51–60		
	41–50		1
	31–40		3
	≤30		3
D Consciousness Score for NEW onset of confusion (no score if chronic)	Alert	A	
	Confusion		3
	V		3
	P		3
	U		3
E Temperature °C	≥39.1°		2
	38.1–39.0°		1
	37.1–38.0°	37	
	36.1–37.0°		
	35.1–36.0°		1
	≤35.0°		3
NEWS TOTAL		6	
Monitoring frequency			
Pain score			
Initials			

National Early Warning Score 2 (NEWS2) © Royal College of Physicians 2017 Version: 201807_004 Product Code:

Frimley Park Hospital NHS
NHS Foundation Trust

Hospital Number: 789987 NHS Number:	
Title: DoB: Surname: SMITH First name: SAM Address: London Postcode: Tel (H): Tel (M): Employer / Educ. Est: Religion: Language: Sex: Age: 16 Yrs	NOK: Address: Relationship Tel (H): Tel (M): NOK: Address: Relationship: Tel (H): Tel (M):
Source of Referral: Date of Arrival: [illegible] [5 DAYS AGO] Time of Arrival: 6h30' Mode of arrival: No of Attendances in past year: 5 Previous Attendance Number: To be seen in:	GP: Address: Tel No: Fax No:

Speciality Expected: Specialty:	Time referred to specialty: Time seen:	Duty/On-Call Emergency Department Consultant:
Presenting Complaint: D+V		

Triage Nurse: Presenting Complaint: History of Presenting Complaint: D+V x 5 days On Assessment: Previous Medical History: ACO Social History: Unemployed	Time of Triage Triage (ESI) Pain Score Allergies Tetanus Status Triage Treatment Triage Notes

Temperature	35.7°c	Blood Pressure	100/80	Nurse Concern	
Pulse	110/—	SP O² (Air)	96 Y	GCS	E V M = /15
Respiratory rate	18	Pupils (Left)		Pupils (Right)	
Peak Flow	(Pre/Post)	Blood sugar	5,6	Weight	
MET SCORE =					

Hosp No.: 789987

Name	Signature	Initials	Position	Speciality	Date	Time

Have you considered the use of a Chaperone when seeing this patient,
Please refer to the Trust and Emergency Department Chaperone Policy.

Chaperone Used? Y / (N)

Name:

Presenting Complaint:

D+V Confusion

HISTORY: (Please continue on continuation sheets if necessary)

5/7 hx of confusion

D+V 8x daily

abdo distended

Had chinese takeaway 1/52 ago

no haematemesis / melaena

Age >65	
3 Coronary Artery Disease (CAD) Risk Factors: Family history, raised cholesterol, diabetes mellitus, hypertension, active smoker	
Known CAD stenosis >50%	
Aspirin use in past 7 days	
Recent (<24 hours) severe angina	
Raised cardiac markers (CK)	
ST deviation >0.5mm	
TIMI Risk Score	

Age >60	
BP >140/90	
Clinical features: Unilat weak (2 pts) Speech only (1 pt)	
Duration: >60 mins (2 pt) 10-59 mins (1 pt) <10 mins (0 pt)	
Diabetic	
ABCD2 Score (max 7)	

Women of Childbearing age? LMP: ..... Pregnant? Y / N

2

Hosp No.: 789987

Past Medical History

Alcoholic hepatitis
Banding of oesophageal varices.
Ascites
fall (Burst # x 2.

- [ ] Diabetes
- [x] COPD
- [ ] AF
- [ ] Arthritis
- [ ] Hx Dementia
- [ ] Epilepsy
- [x] Hypertension
- [ ] Asthma
- [ ] IHD/Angina
- [ ] Pacemaker

(Please tick relevant conditions if present)

Drugs

Is the patient on anti-cancer medication? YES/NO If yes, what?
Please contact Lead Chemo Nurse on bleep 277

Pentoxyfylline i bd.
Thiamine 100mg od.
Vit B Strong ii od.

Allergies

Drug	Reaction	Date
NKDA		

3

Hosp No.: 789987

Systematic Enquiry:

None

Family History

None.

Social History

Alcohol: ..60.. units/week Smoking: 20 c/d ex-smoker

Occupation: Retired: Yes / No

Lives in: House / Flat / Bungalow / WCF / Residential Home / Nursing Home/ Barracks

Surrey / Hampshire / Berkshire/ Other/ Not known

Usually able to go out: Yes / No Lives alone: Yes / No Stairs: Yes / No

Mobility: ☐ Independent ☐ Stick ☐ Frame ☐ Wheelchair

Services: ☐ MOW ☐ Bathing services ☐ District Nurse ☐ Day Centre ☐ Day Hospital

Carer/s: ☐ None ☐ Spouse ☐ Other family ☐ Friend/ Neighbour ☐ OD ☐ BD ☐ TDS ☐ QDS

Drives: Yes / No

Has memory deficit been present for 6 months or more? ☐ Yes ☐ No

AMT (N/A)

☐ Age ☐ Recognition of two persons ☒ Time (to nearest hour) ☐ Date of Birth

☒ Address for recall ☐ WW2 ☐ Year ☐ Present monarch

☐ Location ☒ Count backwards 20 - 1

Score 7 /10

If Score 7 or below commence dementia CQUIN ☐ Yes ☐ No

4

Hosp No.: 789987

EXAMINATION

Jaundiced ✓ Anaemic ✗ Cyanosed ✗ Clubbed ✗ Lymphadenopathy ✗

Temp 35.3°C Cap Blood Glucose 5.6

General Impression: Yellow +++ . no LN.

Cardiovascular

HR 110 reg / irreg BP sitting ....

BP lying 100/50 BP Standing .... (Remember >2 mins for Postural BPs)

HS S1 + S2 Murmur? Y / (N) Carotid Bruit? Y / (N)

JVP ✗ Oedema ✗

Respiratory

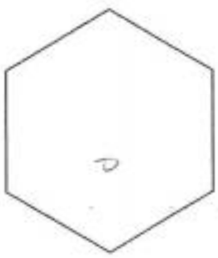
RR 16/min Sats on Air 96% Sats on ......% 0_2 ....

Current PEFR ✗ Best PEFR .... Predicted PEFR ....

Percussion / Auscultation

→ clear

Abdominal



distended

tense.

ascites

↑ peritonism

+ B/S.

Ascites? (Y) / N

PR not done.

PV n/a

5

Hosp No.: 789987

Neurological

GCS: E 4 V 4 M 6 14/15

Pupils: .....

Cranial Nerves: (Not Assessed - tick here:)

Abnormalities:

Peripheral Nerves: (Not Assessed - tick here:)

		Power			Reflexes		Tone	
		Right	Left		Right	Left	Right	Left
Shoulders	abd (c5,6)							
	add (c5,6,7)							
Elbow	flex (c5,6)			Biceps (c5,6)				
	ext (c7,8)			Triceps (c7,8)				
Wrists	flex (c6,7,8)			Supinator (c6)				
	ext (c7,8)							
Hips	flex (l1,2,3)							
	ext (l5,s1,2)	N	N		N		N	
	abd (l4,5,s1)							N
	add (l2,3,4)							
Knees	flex (l4,5,s1,2)			Knee (l2-4)				
	ext (l2,3,4)							
Ankles	flex (l4,5,s1,2)			Ankle (s1,2)				
	ext (s1,2)			Plantar (l5-s2)				

Cerebellar Signs:

Nystagmus N

Finger/Nose N

Heel/shin N

Romberg's test N

Gait N

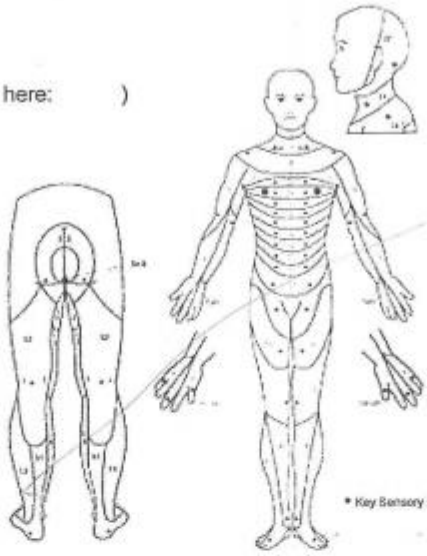
Dysdiadokoinesis N

Dysarthria N

6

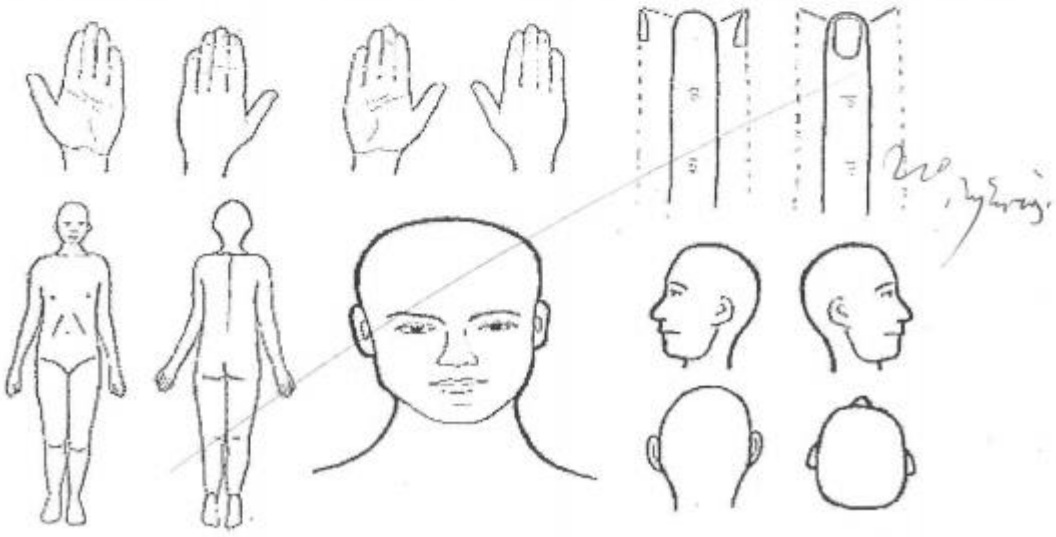
Hosp No.: 789987

Sensation
(Not Assessed - tick here:)



Anal sensation? Y N

Other examination findings / comments:



7

Hosp No.: 789987

Initial Impressions / Differential Diagnosis:

Gastroenteritis + Ascites
BG hx of ALDx.
Need to exclude SBP

Investigations:

Radiology: ☑CXR ☐AXR ☐CT Head ☐Other.....

Results:

Bloods: ☐FBC ☑Coag / INR ☐ESR
☐U&Es ☐LFTs ☑Bone ☐CRP
☐Other .....

Results:

Hb		MCV		Na		Bill		AST		Chol	
WCC		B12		K		Alk P		GGT		HDL	
Neut		Folate		Ur		ALT		Amylase		TG	
Plt		PT		Creat		Alb		CK		LDL	
ESR		APTT		Glucose		PO4		Trop (1)		TSH	
		INR		CRP		Cor Ca		Trop (2)		FT4	

Others:

☑ECG ☐Urine ☐ βHCG ☐ABG ☐ Other .....

Results:

Hosp No.: 789987

Management Plan:

① Gentle IV fluid.

② IV Paracetamol 1g + 2 tds x 3/7.

Discharge? Y / N
Refer? Speciality .....
Admit CDU? (consider VTE prophylaxis)
Decision time .....

VTE Risk? Please assess on separate risk assessment sheet
Have you started VTE prophylaxis? Y N
If not - reasons:

MRSA Status: **C. Diff status:**

Met Calls Y N **For CPR?** Y N
Orange sticker? Y N

Senior Review: Name: Dr. Jones Designation: SHO

Time ..... Date ..... Signature .....

9

Frimley Park Hospital NHS
NHS Foundation Trust

First Name(s): Sam Surname: Smith Hospital Number: NHS Number: Date of Birth: 44 years old	Ward F9 Consultant	Date chart started Doctor bleep number	Chart number 1 of 1 Date of admission

Date weighed	Weight (kg)	Height (M)	Surface area (M^2)	Ideal Body Weight (IBW)	Body Mass Index (BMI)	Diet

Allergies (write 'none known' and sign if none known)

Drug/substance	Details of reaction
Ptmicillin	

This patient also has the following additional charts (complete and tick relevant box (es))

IV heparin infusion chart		Chemotherapy chart		Medicines reconciliation	
PCA		Epidural			

Communication for doctors

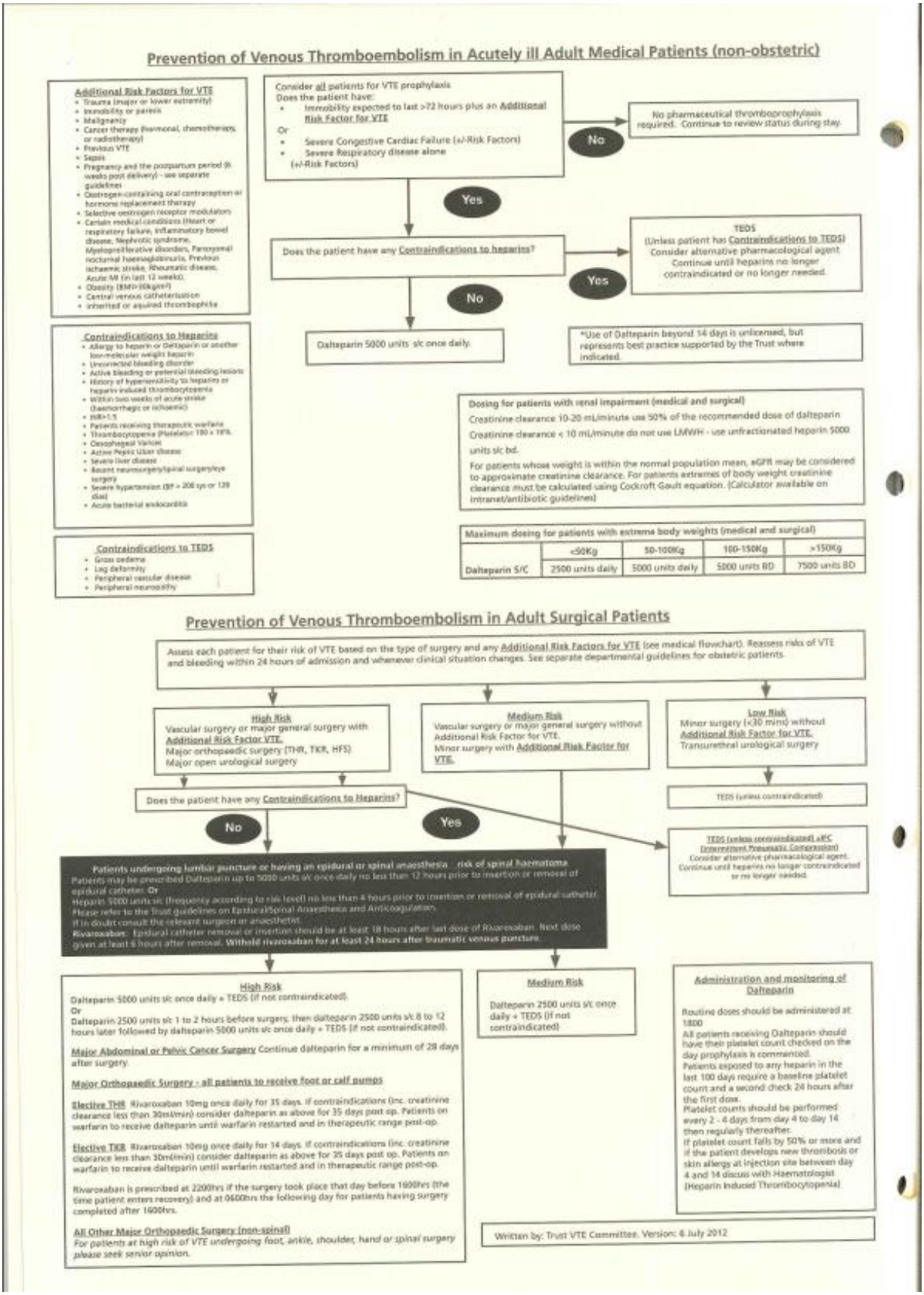
Date		Sign and Bleep No.	Actioned sign and date

Does this patient smoke: Yes / No

Date of referral to smoking cessation nurse:

SIMULATION DRUG CHART
Please use a pencil NOT a pen to prescribe

FPH40 CSP 03/11


Prevention of Venous Thromboembolism in Acutely ill Adult Medical Patients (non-obstetric)
Additional Risk Factors for VTE
Trauma (major or lower extremity)
Immobility or paresis
Malignancy
Cancer therapy (hormonal, chemotherapy, or radiotherapy)
Previous VTE
Sepsis
Pregnancy and the postpartum period (6 weeks post delivery) - see separate guidelines
Oestrogen-containing oral contraception or hormone replacement therapy
Selective oestrogen receptor modulators
Certain medical conditions (Heart or respiratory failure, Inflammatory bowel disease, Nephrotic syndrome, Myeloproliferative disorders, Paroxysmal nocturnal haemoglobinuria, Previous ischaemic stroke, Rheumatic disease, Acute MI (in last 12 weeks))
Obesity (BMI>30kg/m²)
Central venous catheterisation
Inherited or aquired thrombophilia
Consider all patients for VTE prophylaxis
Does the patient have:
Immobility expected to last >72 hours plus an Additional Risk Factor for VTE
Or
Severe Congestive Cardiac Failure (+/-Risk Factors)
Severe Respiratory disease alone (+/-Risk Factors)
No
No pharmaceutical thromboprophylaxis required. Continue to review status during stay.
Yes
Does the patient have any Contraindications to heparins?
Yes
TEDS
(Unless patient has Contraindications to TEDS)
Consider alternative pharmacological agent
Continue until heparins no longer contraindicated or no longer needed.
No
Dalteparin 5000 units s/c once daily.
*Use of Dalteparin beyond 14 days is unlicensed, but represents best practice supported by the Trust where indicated.
Contraindications to Heparins
Allergy to heparin or Dalteparin or another low-molecular weight heparin
Uncorrected bleeding disorder
Active bleeding or potential bleeding lesions
History of hypersensitivity to heparin or heparin-induced thrombocytopenia
Within two weeks of acute stroke (haemorrhagic or ischaemic)
INR>1.5
Patients receiving therapeutic warfarin
Thrombocytopenia (Platelets< 100 x 10⁹/L
Oesophageal Varices
Active Peptic Ulcer disease
Severe liver disease
Recent neurosurgery/spinal surgery/eye surgery
Severe hypertension (BP > 200 sys or 120 dias)
Acute bacterial endocarditis
Contraindications to TEDS
Gross oedema
Leg deformity
Peripheral vascular disease
Peripheral neuropathy
Dosing for patients with renal impairment (medical and surgical)
Creatinine clearance 10-20 mL/minute use 50% of the recommended dose of dalteparin
Creatinine clearance < 10 mL/minute do not use LMWH - use unfractionated heparin 5000 units s/c bd.
For patients whose weight is within the normal population mean, eGFR may be considered to approximate creatinine clearance. For patients extremes of body weight creatinine clearance must be calculated using Cockroft Gault equation. (Calculator available on intranet/antibiotic guidelines)
Maximum dosing for patients with extreme body weights (medical and surgical)
<50Kg
50-100Kg
100-150Kg
>150Kg
Dalteparin S/C
2500 units daily
5000 units daily
5000 units BD
7500 units BD
Prevention of Venous Thromboembolism in Adult Surgical Patients
Assess each patient for their risk of VTE based on the type of surgery and any Additional Risk Factors for VTE (see medical flowchart). Reassess risks of VTE and bleeding within 24 hours of admission and whenever clinical situation changes. See separate departmental guidelines for obstetric patients
High Risk
Vascular surgery or major general surgery with Additional Risk Factor VTE.
Major orthopaedic surgery (THR, TKR, HFS)
Major open urological surgery
Medium Risk
Vascular surgery or major general surgery without Additional Risk Factor for VTE.
Minor surgery with Additional Risk Factor for VTE.
Low Risk
Minor surgery (<30 mins) without Additional Risk Factor for VTE.
Transurethral urological surgery
TEDS (unless contraindicated)
Does the patient have any Contraindications to Heparins?
No
Yes
TEDS (unless contraindicated) +IPC (Intermittent Pneumatic Compression)
Consider alternative pharmacological agent.
Continue until heparins no longer contraindicated or no longer needed.
Patients undergoing lumbar puncture or having an epidural or spinal anaesthesia - risk of spinal haematoma
Patients may be prescribed Dalteparin up to 5000 units s/c once daily no less than 12 hours prior to insertion or removal of epidural catheter. Or
Heparin 5000 units s/c (frequency according to risk level) no less than 4 hours prior to insertion or removal of epidural catheter.
Please refer to the Trust guidelines on Epidural/Spinal Anaesthesia and Anticoagulation.
If in doubt consult the relevant surgeon or anaesthetist.
Rivaroxaban: Epidural catheter removal or insertion should be at least 18 hours after last dose of Rivaroxaban. Next dose given at least 6 hours after removal. Withold rivaroxaban for at least 24 hours after traumatic venous puncture.
High Risk
Dalteparin 5000 units s/c once daily + TEDS (if not contraindicated).
Or
Dalteparin 2500 units s/c 1 to 2 hours before surgery, then dalteparin 2500 units s/c 8 to 12 hours later followed by dalteparin 5000 units s/c once daily + TEDS (if not contraindicated).
Major Abdominal or Pelvic Cancer Surgery Continue dalteparin for a minimum of 28 days after surgery.
Major Orthopaedic Surgery - all patients to receive foot or calf pumps
Elective THR Rivaroxaban 10mg once daily for 35 days. If contraindications (inc. creatinine clearance less than 30ml/min) consider dalteparin as above for 35 days post op. Patients on warfarin to receive dalteparin until warfarin restarted and in therapeutic range post-op.
Elective TKR Rivaroxaban 10mg once daily for 14 days. If contraindications (inc. creatinine clearance less than 30ml/min) consider dalteparin as above for 35 days post op. Patients on warfarin to receive dalteparin until warfarin restarted and in therapeutic range post-op.
Rivaroxaban is prescribed at 2200hrs if the surgery took place that day before 1600hrs (the time patient enters recovery) and at 0600hrs the following day for patients having surgery completed after 1600hrs.
All Other Major Orthopaedic Surgery (non-spinal)
For patients at high risk of VTE undergoing foot, ankle, shoulder, hand or spinal surgery please seek senior opinion.
Medium Risk
Dalteparin 2500 units s/c once daily + TEDS (if not contraindicated)
Administration and monitoring of Dalteparin
Routine doses should be administered at 1800
All patients receiving Dalteparin should have their platelet count checked on the day prophylaxis is commenced.
Patients exposed to any heparin in the last 100 days require a baseline platelet count and a second check 24 hours after the first dose.
Platelet counts should be performed every 2 - 4 days from day 4 to day 14 then regularly thereafter.
If platelet count falls by 50% or more and if the patient develops new thrombosis or skin allergy at injection site between day 4 and 14 discuss with Haematologist (Heparin Induced Thrombocytopenia)
Written by: Trust VTE Committee. Version: 6 July 2012

RISK ASSESSMENT RECORD SHEET FOR VENOUS THROMBOEMBOLISM (VTE)

- Please use in conjunction with Trust guidelines overleaf
- Please see separate Trust guidelines for obstetric patients

Thrombosis Risk	Patient Related	Procedure Related	Initial Assessment __/__/__	Assessment at 24 hours __/__/__	Assessment on __/__/__	Assessment on __/__/__
High	Previous VTE					
	Immobility expected to last >72 hours					
	Malignancy					
	Acute or chronic lung disease					
	Acute or chronic inflammatory disease					
	Chronic heart failure					
	Lower limb paralysis (excluding acute stroke)					
	Acute infectious disease, e.g. pneumonia					
	BMI >30kg/m2					
	Inherited or acquired thrombophilia					
	Pregnancy or less than 6 weeks post partum					
		Hip or Knee replacement				
		Hip fracture				
		Other major orthopaedic surgery				
		Surgical procedure lasting >30mins with additional VTE risk factor(s)				
Medium	Oestrogen containing oral contraception or HRT					
	Selective oestrogen receptor modulators					
	Age > 60					
	Dehydration					
	Varicose veins with phlebitis					
		Minor surgical procedure with additional VTE risk factor(s)				
		Surgical procedure lasting >30mins with no additional VTE risk factors				
		Plaster cast immobilisation of lower limb				
Low	None of above	None of above				
Bleeding Risk/ Contraindications	**Patient Related**	**Procedure Related**				
	Haemophilia or other known bleeding disorder					
	Thrombocytopenia (Platelets < 100 x 10^9/L)					
	Within two weeks of acute stroke (haemorrhagic or ischaemic)					
	Severe hypertension (BP > 200 systolic or 120 diastolic)					
	Severe liver disease					
	Oesophageal Varices					
	Active Peptic Ulcer disease					
	Active bleeding or potential bleeding lesions					
	Major bleeding risk, existing anticoagulant therapy					
	Severe renal disease					
		Neurosurgery, spinal surgery or eye surgery				
		Other procedure with high bleeding risk				
		Lumbar puncture/spinal/epidural in previous 4 hours or anticipated in next 12 hours				
Risk assessment performed by						
Signature						
Copy of Patient Information Leaflet given to patient			Yes / No			

ONCE ONLY DRUGS AND PREMEDICATION.

Date	Time	Drug	Dose	Route	Prescriber Sig. GMC no.	Batch number (vaccines only)	Time given	Sig.	Pharm.

DRUGS ADMINISTERED UNDER MIDWIFERY EXEMPTION AND PATIENT GROUP DIRECTIONS.

Date	Time	Drug	Dose	Route	Batch number (vaccines and blood products only)	Print name	Sig.

REASONS FOR DRUGS NOT ADMINISTERED AND ACTIONS TAKEN.

Date	Time	Drug (s)	Nurses signature	Reason(s) for non administration and action(s) taken

FOR DRUGS NOT ADMINISTERED ENTER THE APPROPRIATE CODE IN THE ADMINISTRATION BOX AND SIGN

1 NIL BY MOUTH
2 REFUSED
3 UNABLE

REGULAR PRESCRIPTIONS

MONTH/YEAR ⇒
⇓ DATE

⇓ TIMES
0800
1200
1800
2200
Device
For device types refer to laminate card

OXYGEN

Circle target saturation
Adjust flow rate to maintain specified oxygen saturation

Target oxygen saturation
88 to 92% 94 to 98%

PRESCRIBERS SIGNATURE | DATE
Home Oxygen Indicated: YES / NO
Referral to Respiratory Nurse for HOOF Date:
Other:

Nurse to initial against time to confirm oxygen is being administered and meeting specified target. Flow rate is to be documented to the left of the column, i.e.

2L | Sign

PHARMACOLOGICAL VTE PROPHYLAXIS | DOSE | ROUTE

PRESCRIBERS SIGNATURE | GMC No. | START | REVIEW | STOP

INDICATION AND SPECIAL INSTRUCTIONS | Please tick appropriate status ☐ NEW ☐ PRE AD ☐ CHANGE

PHARMACY POD H POD W | TO CONTINUE ON DISCHARGE ☐

MECHANICAL VTE PROPHYLAXIS: TEDS | DOSE | ROUTE: TAP.

PRESCRIBERS SIGNATURE | GMC No. 4303996 | START 23/3/15 | REVIEW | STOP

INDICATION AND SPECIAL INSTRUCTIONS | Please tick appropriate status ☐ NEW ☐ PRE AD ☐ CHANGE

PHARMACY POD H POD W | TO CONTINUE ON DISCHARGE ☐

DRUG (Approved Name): THIAMINE | DOSE: 100mg | ROUTE: PO | 6

PRESCRIBERS SIGNATURE | GMC No. 4303991 | START 23/3/15 | REVIEW | STOP

INDICATION AND SPECIAL INSTRUCTIONS | Please tick appropriate status ☐ NEW ☐ PRE AD ☐ CHANGE | 18

PHARMACY POD H POD W | TO CONTINUE ON DISCHARGE ☐

DRUG (Approved Name): Fit B Co Strong | DOSE: 1 | ROUTE: PO | 8

PRESCRIBERS SIGNATURE | GMC No. 4303996 | START 23/3/15 | REVIEW | STOP

INDICATION AND SPECIAL INSTRUCTIONS | Please tick appropriate status ☐ NEW ☐ PRE AD ☐ CHANGE

PHARMACY POD H POD W | TO CONTINUE ON DISCHARGE ☐

DRUG (Approved Name): PANTOXYPHYLINE | DOSE: 400mg | ROUTE: PO | 6

PRESCRIBERS SIGNATURE | GMC No. 4303996 | START 23/3/15 | REVIEW | STOP

INDICATION AND SPECIAL INSTRUCTIONS | Please tick appropriate status ☐ NEW ☐ PRE AD ☐ CHANGE | 14

PHARMACY POD H POD W | TO CONTINUE ON DISCHARGE ☐ | 20

DRUG (Approved Name): RANITIDINE | DOSE: 150mg | ROUTE: PO | 8

PRESCRIBERS SIGNATURE | GMC No. 4303996 | START 23/3/15 | REVIEW | STOP

INDICATION AND SPECIAL INSTRUCTIONS | Please tick appropriate status ☐ NEW ☐ PRE AD ☐ CHANGE | 18

PHARMACY POD H POD W | TO CONTINUE ON DISCHARGE ☐

DRUG (Approved Name) | DOSE | ROUTE

PRESCRIBERS SIGNATURE | GMC No. | START | REVIEW | STOP

INDICATION AND SPECIAL INSTRUCTIONS | Please tick appropriate status ☐ NEW ☐ PRE AD ☐ CHANGE

PHARMACY POD H POD W | TO CONTINUE ON DISCHARGE ☐

Reminder: Prescribe on regular prescription and state "see variable prescription"

Insulins - variable dosing

DRUG (Approved name)		ROUTE S/C		MONTH/YEAR ⇨ DATE	
PRESCRIBERS SIGNATURE	GMC No.	START	STOP	SIG ⇨	Units / Sig
DEVICE	Please tick appropriate status ☐ NEW ☐ PRE AD			⇩ TIMES	
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE ☐ YES ☐ NO			Breakfast	
				Lunch	
				Dinner	
				Night	
DRUG (Approved name)		ROUTE S/C			
PRESCRIBERS SIGNATURE	GMC No.	START	STOP	Breakfast	
DEVICE	Please tick appropriate status ☐ NEW ☐ PRE AD			Lunch	
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE ☐ YES ☐ NO			Dinner	
				Night	
DRUG (Approved name)		ROUTE S/C			
PRESCRIBERS SIGNATURE	GMC No.	START	STOP	Breakfast	
DEVICE	Please tick appropriate status ☐ NEW ☐ PRE AD			Lunch	
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE ☐ YES ☐ NO			Dinner	
				Night	

WHEN REQUIRED INSULINS

DRUG (Approved name)				Date							
DOSE (UNITS)	ROUTE S/C	FREQUENCY		Time							
PRESCRIBERS SIGNATURE	GMC No.		DATE	DOSE (in Units)							
INDICATION AND SPECIAL INSTRUCTIONS				Route							
PHARMACY				Given by							
DRUG (Approved name)				Date							
DOSE (UNITS)	ROUTE S/C	FREQUENCY		Time							
PRESCRIBERS SIGNATURE	GMC No.		DATE	DOSE (in Units)							
INDICATION AND SPECIAL INSTRUCTIONS				Route							
PHARMACY				Given by							
DRUG (Approved name)				Date							
DOSE (UNITS)	ROUTE S/C	FREQUENCY		Time							
PRESCRIBERS SIGNATURE	GMC No.		DATE	DOSE (in Units)							
INDICATION AND SPECIAL INSTRUCTIONS				Route							
PHARMACY				Given by							

Units	Sig	Units	Sig	Units	Sig	Units	Sig	Units	Sig	Units	Sig	Units	Sig	Units	Sig	Units	Sig	Units	Sig	Units	Sig	Units	Sig

INSULIN SLIDING SCALE

Human soluble insulin (Actrapid)

50 UNITS in 50mL sodium chloride 0.9% IV INFUSION

Date															
Time															
Given by															
Checked by															

BLOOD GLUCOSE RESULT	INSULIN DOSE TO BE GIVEN (UNITS/HOUR)
PRESCRIBERS SIGNATURE GMC No.	DATE

BLOOD GLUCOSE RESULT	INSULIN DOSE TO BE GIVEN (UNITS/HOUR)
PRESCRIBERS SIGNATURE GMC No.	DATE

BLOOD GLUCOSE RESULT	INSULIN DOSE TO BE GIVEN (UNITS/HOUR)
PRESCRIBERS SIGNATURE GMC No.	DATE

ANTIMICROBIAL PRESCRIPTIONS ONLY

DRUG (Approved name)		DOSE		ROUTE
PRESCRIBER'S SIGNATURE	GMC No.	INDICATION (MANDATORY)		
START	48 HOUR REVIEW	2ND REVIEW DATE / TIME	3RD REVIEW DATE / TIME	STOP
REVIEWED BY ⇒				
PHARMACY POD H POD W				

DATE ⇒ TIMES

DRUG (Approved name)		DOSE		ROUTE
PRESCRIBER'S SIGNATURE	GMC No.	INDICATION (MANDATORY)		
START	48 HOUR REVIEW	2ND REVIEW DATE / TIME	3RD REVIEW DATE / TIME	STOP
REVIEWED BY ⇒				
PHARMACY POD H POD W				

DATE ⇒ TIMES

DRUG (Approved name)		DOSE		ROUTE
PRESCRIBER'S SIGNATURE	GMC No.	INDICATION (MANDATORY)		
START	48 HOUR REVIEW	2ND REVIEW DATE / TIME	3RD REVIEW DATE / TIME	STOP
REVIEWED BY ⇒				
PHARMACY POD H POD W				

DATE ⇒ TIMES

DRUG (Approved name)		DOSE		ROUTE
PRESCRIBER'S SIGNATURE	GMC No.	INDICATION (MANDATORY)		
START	48 HOUR REVIEW	2ND REVIEW DATE / TIME	3RD REVIEW DATE / TIME	STOP
REVIEWED BY ⇒				
PHARMACY POD H POD W				

DATE ⇒ TIMES

DRUG (Approved name)		DOSE		ROUTE
PRESCRIBER'S SIGNATURE	GMC No.	INDICATION (MANDATORY)		
START	48 HOUR REVIEW	2ND REVIEW DATE / TIME	3RD REVIEW DATE / TIME	STOP
REVIEWED BY ⇒				
PHARMACY POD H POD W				

DATE ⇒ TIMES

DRUG (Approved name)		DOSE		ROUTE
PRESCRIBER'S SIGNATURE	GMC No.	INDICATION (MANDATORY)		
START	48 HOUR REVIEW	2ND REVIEW DATE / TIME	3RD REVIEW DATE / TIME	STOP
REVIEWED BY ⇒				
PHARMACY POD H POD W				

MRSA Status	New	Previous Admission

C. Diff Status	New	Previous Admission

ONCE DAILY GENTAMICIN PRESCRIPTION
Use gentamicin calculator or intranet to calculate dose.
Level must be taken 6 to 14 hours after the first dose has been given.

Specify Dosing Regime 5mg/kg 3mg/kg Other

Indication:_____

Date to be given	Time to be given	Dose (mg)	Prescribers signature GMC No.	Date of sig.	Start time of infusion	Given by: (sign)	Date and Time blood level taken	sign:	Gentamicin Levels mg/l

General Guidance

- All antimicrobial prescriptions MUST follow the Trust's Antimicrobial Policies or MUST have been agreed by Microbiology. See full up to date policy on intranet.
- **INDICATION, STOP AND REVIEW DATES MUST BE RECORDED ON THE CHART.**
- CURB 65 score **MUST** be recorded for all community acquired pneumonia.
- Check previous relevant microbiology results before prescribing antibiotics and check new microbiology results daily. If a patient is not responding to treatment seek advice from a consultant microbiologist.
- Doses need to be adjusted to suit patient's age, size and renal function. To calculate creatinine clearance use calculator on intranet and see dose adjustments for antibiotics.
- All IV regimes MUST be reviewed at 48 hours and switched to oral if appropriate.

IV SWITCH GUIDELINES

If YES to all, consider change to ORAL	If YES to any, remain on IV
Patient able to swallow and tolerate oral fluids?	Oral route compromised?
Temperature settling and < 38°C for at least 48hrs?	Continuing serious sepsis?
Heart rate <100bpm for last 12hrs? (no unexplained tachycardia)	Febrile with neutropenia?
WCC between 4-12x10^9/L?	Specific indication / deep seated infection. (Meningitis, endocarditis, encephalitis, osteomylitis, neutropenia, cystic fibrosis, septicaemia, haematology/ immunocompromised pts, continuing sepsis, other severe infections as discussed with microbiology.) Seek microbiology advice if unsure.
Oral formulation available?	
Others markers: BP stable Respiratory rate <20 breaths/min CRP returning to normal and less than 100 (adult)	
Absence of mental confusion (when representing symptoms of infection)	No oral formulation available (seek microbiology advice on alternative)

NOTE: DRUGS MUST NOT BE ADDED TO BLOOD PRODUCTS

Does the patient require CMV negative blood? (Indicate as appropriate) **Yes / No?**
Does the patient need irradiated blood? (Indicate as appropriate) **Yes / No?**

Name: _____
Hospital Number: _____
NHS Number: _____
Date of Birth: _____

BLOOD PRODUCTS TO BE ADMINISTERED (INCLUDING INTRAVENOUS IMMUNOGLOBULINS)

Date and Time to be administered	Blood product	Total volume	Route	Drugs required to cover infusion (must be prescribed on once only section of chart)	Duration / rate of infusion	Signature GMC No.	Batch number/Unit number (Attach sticker)	Start time / stop time	Given by/ checked by		Did patient experience adverse reaction? (Yes/No) ◄
											Yes / No
											Yes / No
											Yes / No
											Yes / No
											Yes / No
											Yes / No
											Yes / No
											Yes / No
											Yes / No
											Yes / No

Complete label attached to blood product. Detach and return bottom portion via the pink wallet (if available, if not please post to Blood bank)/

◄IF THE PATIENT EXPERIENCES TRANSFUSION RELATED PROBLEMS THESE MUST BE CONTEMPORANEOUSLY RECORDED IN THE PATIENT'S MEDICAL NOTES, AND A TRANSFUSION REACTION FORM AND INCIDENT FORM COMPLETED.

DRUGS TO BE ADMINISTERED BY INTRAVENOUS / SUBCUTANEOUS INFUSION

Date	Time	Infusion solution	Drugs to be added	Total volume	Route	Complete either or		Signature GMC No.	Start time/stop time	Given by/ checked by	Pharm.
						Rate	Duration of infusion				

Glasgow-Blatchford score

Parameter	Score
Urea (mmol/L)	
6.5-7.9	2
8.0-9.9	3
10.0-25.0	4
>25.0	6
Haemoglobin (g/dL)	
12.0-12.9 (M)/10-11.9 (F)	1
10.0-11.9 (M)	3
<10.0 (M & F)	6
Systolic BP (mmHg)	
100-109	1
90-99	2
<90	3
Pulse (bpm)	
>100	1
Other factors	
Melaena	1
Syncopal episode	2
Evidence of liver disease	2
History of heart failure	2

Rockall score

Variable	**Score 0**	**Score 1**	**Score 2**	**Score 3**
Pre-endoscopy				
Age	<60	60-79	>80	-
Shock	No shock	Pulse > 100 BP > 100 systolic	Systolic BP < 100	-
Co-morbidity	Nil major	-	Heart failure, IHD, other major morbidity	Renal failure, liver failure, metastatic cancer
Post-endoscopy				
Diagnosis	Mallory-Weiss tear	Other	Cancer	-
Bleeding seen?	none	-	Blood seen, adherent clot seen, spurting vessel seen	

Risk of death and re-bleeding according to post-endoscopy Rockall score

Post-endoscopy score	Death (%)	Re-bleeding (%)
>8	40	37
7	23	37
6	12	27
5	11	25
4	8	15
3	1.9	12
0-2	0	5.9