Simulation Scenario

Title	Chest sepsis	**Version**	1.95
Target Audience	FY doctors & student nurses	**Run time**	10 -15 mins
Authors	Udesh Naidoo, Charlie Watts, Nicola Morgan, Paul Wilder, Mark Loughrey	**Last review**	4/7/18
Faculty comments	Actor to play patient relative	**Necessity**	ESSENTIAL

Brief Summary

A 70 year old woman with a two day history of shortness of breath and fatigue presents to A&E. She has chest sepsis. The candidate is expected to perform initial assessment and management before calling ITU.

Educational Rationale

Chest sepsis is a commonly encountered condition in the emergency department. Foundation doctors are expected to be able to assess and provide initial management for patients presenting with chest sepsis, and this scenario will provide the opportunity to practise many skills and competencies included in the foundation doctor curriculum.

Learning Objectives: Nurse

- ABCDE assessment
- Communication and SBAR handover between nurses and doctor

Learning Objectives: Doctor

- ABCDE assessment and initial management of deteriorating patient
- Early recognition of patients with chest sepsis
- Early and appropriate investigations and suggestions for initial management of chest sepsis
- Appropriate call for help and concise transfer of information

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: Emergency Department – Resus area

You are in triage in Resus. A patient has come in from home via ambulance complaining of shortness of breath and feeling hot and cold. She has a two day history of feeling unwell, having started a course of antibiotics prescribed by the GP. She has migraines and is taking Propranolol.

Please do basic observations and enter these on the cas card.

If you wish to speak to anyone or call for assistance then use the grey telephone sited on the back wall. Just pick it up and press the button and you will be connected to the 'operator'. Ask to speak to whoever you wish.

You should interact with everyone else in the room as you would in real life. For example, if you strongly disagree with a colleague's management then feel free to question them, stating your reasons.

NOTES

• Due to technical limitations, certain information cannot be ascertained by examining the mannequin (e.g. temperature and skin colour). This will be relayed to you via the wall speaker as long as you role-play and make clear what action you are undertaking, otherwise assume everything is as you observe it.

• Use the relevant props and role-play for cannulation, injecting drugs and applying oxygen from the wall port.

Candidate Briefing: Doctor

You are on call for medicine. Please wait as directed, until you receive a call from Resus for an SBAR handover and then act as you would do in real life.

Technical set-up

Setting	Emergency Department – Resus area		
Simulator	High fidelity manikin		
Gender	Female	Age	73

Initial monitor parameters

RR	O2 sats	Pulse (HR)	BP	ECG rhythm
38	96% on air	85	90/68	Sinus rhythm
Cap Refill Time	**Blood glucose**	**Temp.**		
3s	5.6	38.9		

Initial patient set-up

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

Breathing	**Chest sounds**	**O2 supply**
	Bilateral basal crackles	Air

Circulation	**Heart sounds**	**Cannula**	**BP cuff**	**Peripheries / pulses**
	Normal	None	No	Warm and sweaty

Disability	**Eyelids**	**Pupils**	**AVPU/GCS**
	Open	Equal & reactive	A / 15

Exposure	**Posture**	**Moulage**	**Bowel sounds**
	Supine	None	Normal

Specific equipment / prop requirements

- Simulated ABG/VBG results
- ECG
- IV fluids
- Non-invasive BP cuff
- ABG/VBG/large bore cannula
- Thermometer
- Catheter
- Urine dip
- Blood results
- BNF
- Blank drug chart

Facilitator Briefing

Telephone Advice as: Registrar/Critical Care Outreach

- Receive SBAR
- "What have you done so far?"
- "Have you done an arterial blood gas? CXR? ECG?"
- Suggest further investigations & that they inform ITU

Telephone Advice as: ITU

- Receive SBAR
- "We're busy intubating a patient so will be down in five minutes"

Telephone Advice as: Relative

Mr Fred Bloggs - Christine's husband

You came home to find Christine, your wife, not present but have assumed she just popped out to visit a neighbour.

- Act concerned
- "Is she gonna die?"
- "Do I need to come in?"
- "I don't drive so err.. I'll ..ohh.. err..I'll ask a neighbour so can't get in for about an hour – is that an issue?"

Telephone advice

- 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

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 in triage in Resus. A patient has come in from home via ambulance complaining of shortness of breath and feeling hot and cold. She has a two day history of feeling unwell, having started a course of antibiotics prescribed by the GP. She has migraines and is taking Propranolol.

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	Emergency Department – Resus area
Name	Christine Bloggs
Age	73
Gender	Female

What has happened to you?

PRESENTING COMPLAINT – Shortness of breath

- Whilst your husband was out, you had to call an ambulance, complaining of shortness of breath and feeling hot and cold.
- You have a two day history of feeling unwell, having started a course of antibiotics prescribed by the GP, but you don't know what they are called.

OTHER SYMPTOMS

- Generally feel unwell
- Anxious

How you should role-play

- You are short of breath, hot and sweaty
- Generally feel unwell
- Anxious
- Want your husband present (your telephone number was recorded on the CAS card)

Your background

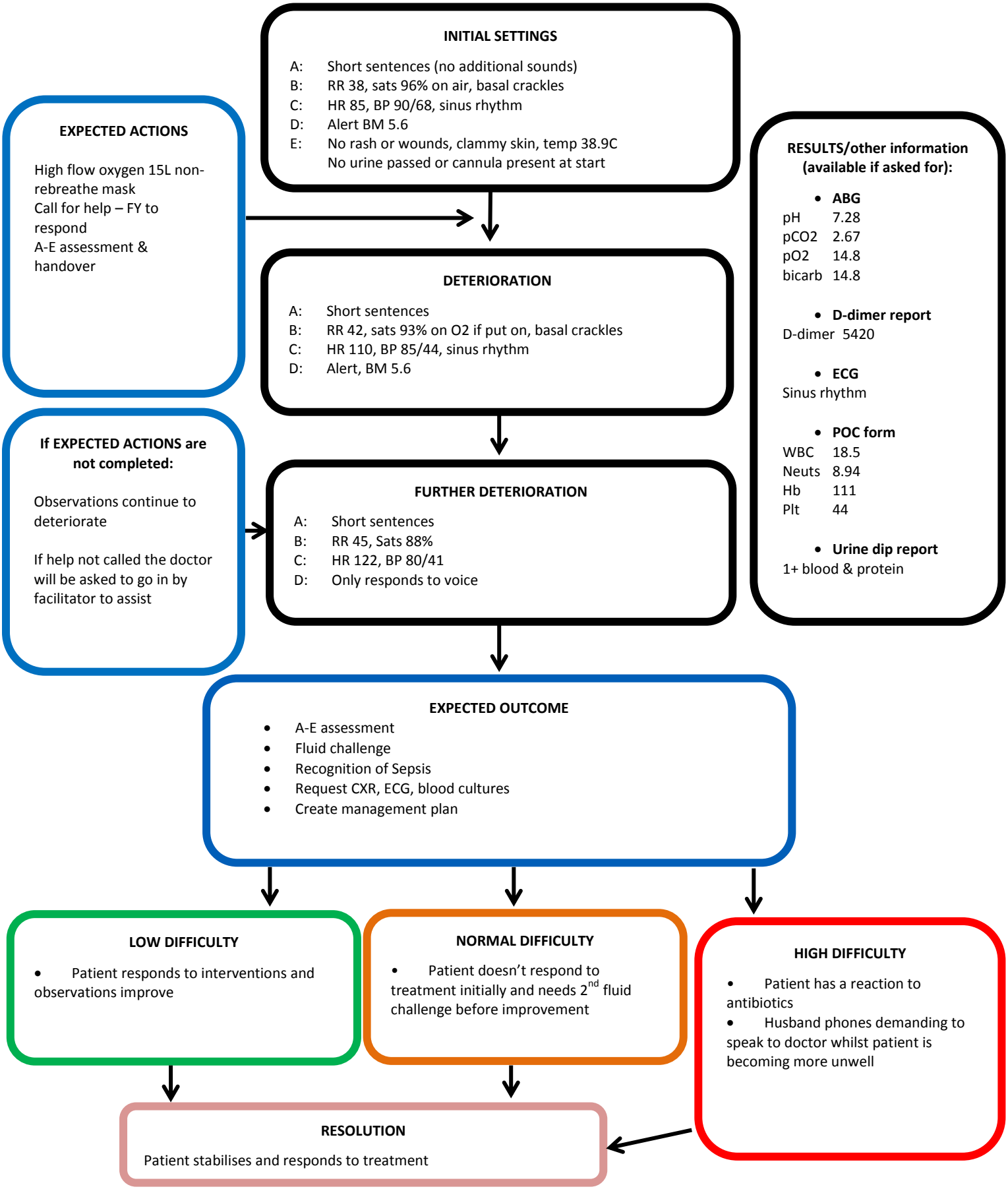
PAST MEDICAL HISTORY

- Migraine
- Constipation
- No known drug allergies

SOCIAL HISTORY

- Married, lives with husband Fred Bloggs (68 years old)
- Independent
- Non-smoker
- Occasional drinker

Scenario flowchart



References

- Local Chest Sepsis guidelines and guidelines app
- NICE Clinical Guideline NG51: Sepsis: recognition, diagnosis and early management https://www.nice.org.uk/guidance/ng51

Clinical props

RADIO **ABL800 FLEX**

ABL827 FRIMLEY PARK A/E
PATIENT REPORT Syringe - S 250uL Sample # 186310

Identifications

Patient ID	789987
Patient Last Name	Bloggs
Patient First Name	Christine
Sex	Female
Date of birth	[redacted]
$FO_2(I)$	95.0 %
T	38.9 °C
Sample type	Arterial
Operator	P.Smith

Blood Gas Values			
↕ pH	7.28		[-]
↓ pCO_2	2.67	kPa	[4.30 - 6.00]
↑ pO_2	14.8	kPa	[11.1 - 14.4]
Hct_c	22.6	%	
Oximetry Values			
$ctHb$	112	g/L	
FO_2Hb	97.2	%	[94.0 - 98.0]
sO_2	99.3	%	
$FCOHb$	0.5	%	[0.5 - 1.5]
$FHHb$	0.7	%	[0.0 - 5.0]
↑ $FMetHb$	1.6	%	[0.0 - 1.5]
Calculated Values			
$cBase(Ecf)_c$	-9	mmol/L	
$cHCO_3^-(P)_c$	14.8	mmol/L	
Electrolyte Values			
cNa^+	138	mmol/L	[136 - 146]
↑ cK^+	4.9	mmol/L	[3.4 - 4.5]
cCl^-	101	mmol/L	[98 - 106]
cCa^{2+}	1.18	mmol/L	[1.15 - 1.29]
$Anion\ Gap_c$	22.2	mmol/L	
Metabolite Values			
↑ $cGlu$	6.7	mmol/L	[3.9 - 5.8]
↑ $cLac$	3.2	mmol/L	[0.5 - 1.6]
$cCrea$	96	µmol/L	[44 - 97]

Notes

↑	Value(s) above reference range
↓	Value(s) below reference range
↕	Value(s) above the critical limits
c	Calculated value(s)

RADIOMETER AQT90 FLEX

AQT90 FLEX FPH AQT90
Patient report Sample no. 1215

Identifications

Patient ID	**789987**
Patient last name	**Bloggs**
Patient first name	**Christine**
Wells score	0
Operator	**P.Smith**

↑ D-dimer	**5420**	µg/L	[	- 500]

Notes
↑ Value(s) above reference range

Printed

Sien s
Clir

Patient Name: **Bloggs Christine**
Patient ID: **789987**

Multistix® 8 SG
Test date
Time
Operator **P.Smith**
Test number 4120
Color Yellow
Clarity Clear

GLU Negative
KET Negative
SG >=1.030
BLD Trace-lysed
pH 5.5
*PRO 1.0 g L *
NIT Negative
LEU Negative

Female

ABL827 FRIMLEY PARK A/E
PATIENT REPORT Syringe - S 250uL Sample # 186302

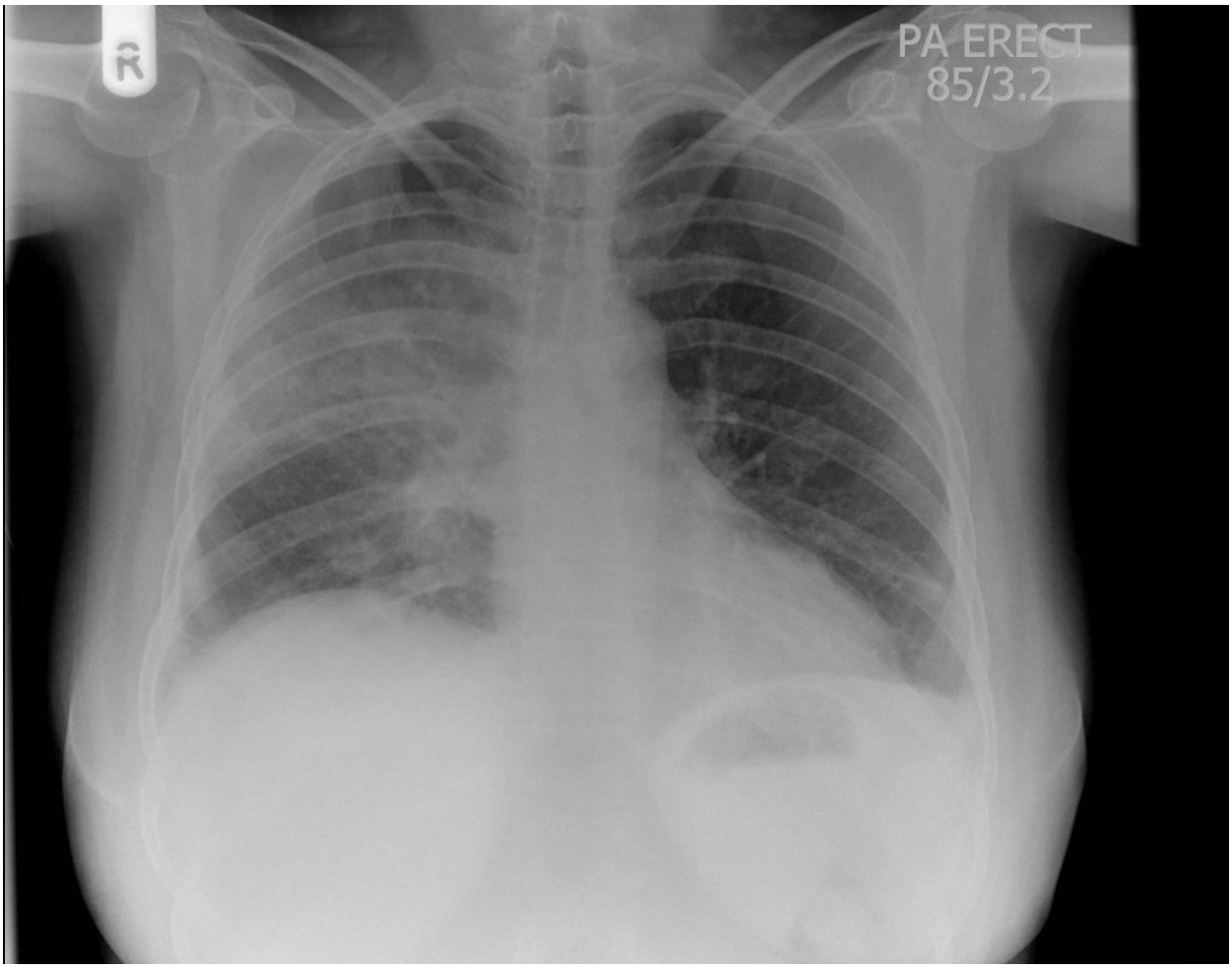
Identifications

Patient ID	789987
Patient Last Name	Bloggs
Patient First Name	Christine
Sex	Female
Date of birth	[redacted]
$FO_2(I)$	21.0 %
T	38.9 °C
Sample type	Venous
Operator	P.Smith

Blood Gas Values				
pH	7.285		[-]	
pCO_2	5.63	kPa	[-]	
pO_2	3.21	kPa	[-]	
Hct_C	35.6	%		
Oximetry Values				
*c*tHb	115	g/L		
FO_2Hb	29.5	%	[-]	
sO_2	30.0	%		
*F*COHb	0.5	%	[-]	
*F*HHb	1	%	[-]	
*F*MetHb	1.2	%	[-]	
Calculated Values				
$cBase(Ecf)_C$	-6.1	mmol/L		
$cHCO_3^-(P)_C$	16	mmol/L		
Electrolyte Values				
↓ cNa^+	136	mmol/L	[136 - 146]	
↑ cK^+	5.0	mmol/L	[3.4 - 4.5]	
↓ cCl^-	93	mmol/L	[98 - 106]	
↓ cCa^{2+}	1.08	mmol/L	[1.15 - 1.29]	
Anion Gap_C	13.3	mmol/L		
Metabolite Values				
↑ cGlu	6.8	mmol/L	[3.9 - 5.8]	
↑ cLac	8.2	mmol/L	[0.5 - 1.6]	
↑ cCrea	101	µmol/L	[44 - 97]	

Notes

↑	Value(s) above reference range
↓	Value(s) below reference range
c	Calculated value(s)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85/3.2

Frimley Park Hospital

Accident and Emergency

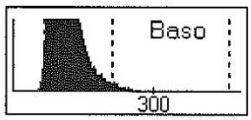
Patient Name : Christine Bloggs **Collect Date :**

Patient Number : 789987 **Operator :** ABX **Department :**

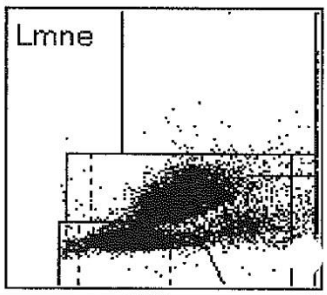
Seq.# : 80 **Sample ID :** 13Z921223E **Physician :**

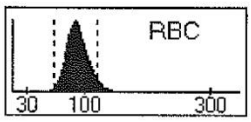
Birthdate : [redacted] **Age :** 70 **Gender :** U **Running Date :** **Blood Type :** Standard

Comment :

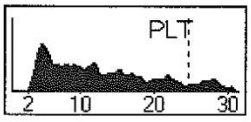


				Range
WBC	18.5	h	$10^3/mm^3$	4.0 ... 11.0
	%		#	
NEU	48.4	!	8.94 h	0.0 ... 99.0 1.00 ... 7.50
LYM	38.9	!	7.19 H	0.0 ... 99.0 1.50 ... 4.00
MON	10.0	!	1.85 h	0.0 ... 99.0 0.20 ... 1.50
EOS	0.5	!	0.09 !	0.0 ... 99.0 0.04 ... 0.40
BAS	2.2		0.41 h	0.0 ... 99.0 0.00 ... 0.10





				Range
RBC	3.82		$10^6/mm^3$	3.80 ... 6.50
HGB	11.1	l	g/dl	11.5 ... 18.0
HCT	34.4	l	%	37.0 ... 54.0
MCV	90		μm^3	76 ... 96
MCH	29.2		pg	27.0 ... 32.0
MCHC	32.4		g/dl	32.0 ... 36.0
RDW	12.4		%	11.0 ... 15.0



PLT	44	L	$10^3/mm^3$	150 ... 500
MPV	11.8	H	μm^3	7.5 ... 9.0

Suspected Pathology

LEUKO : lymphocytosis, large immature cell, nrbcs
THROMBO : thrombopenia, macroplatelets

Morphology Flags

Leuko : LL, NL, ALY, LIC

Analyzer Alarms

Microscopic Examination

	+	++	+++
Anisocytosis	☐	☐	☐
Hypochromia	☐	☐	☐
Polychromasia	☐	☐	☐
Poikilocytosis	☐	☐	☐
Microcytosis	☐	☐	☐
Macrocytosis	☐	☐	☐
Plts Aggregates	☐	☐	☐

Neutrophils	_____	Metamyelocytes	_____
Band Cells	_____	Myelocytes	_____
Lymphocytes	_____	Promyelocytes	_____
Monocytes	_____	Blasts	_____
Eosinophils	_____	Atypical	_____
Basophils	_____	NRBC's	_____

Comment :

> < H/L Limits XX.X > < h/l Limits XX.X Reject XX.X F: Female, M: Male, U: Unknow

. Sinus rhythm.....normal P axis, V-rate 50- 99

PR	115
QRSD	105
QT	456
QTc	460

. Borderline short PR interval.....PR int <120mS

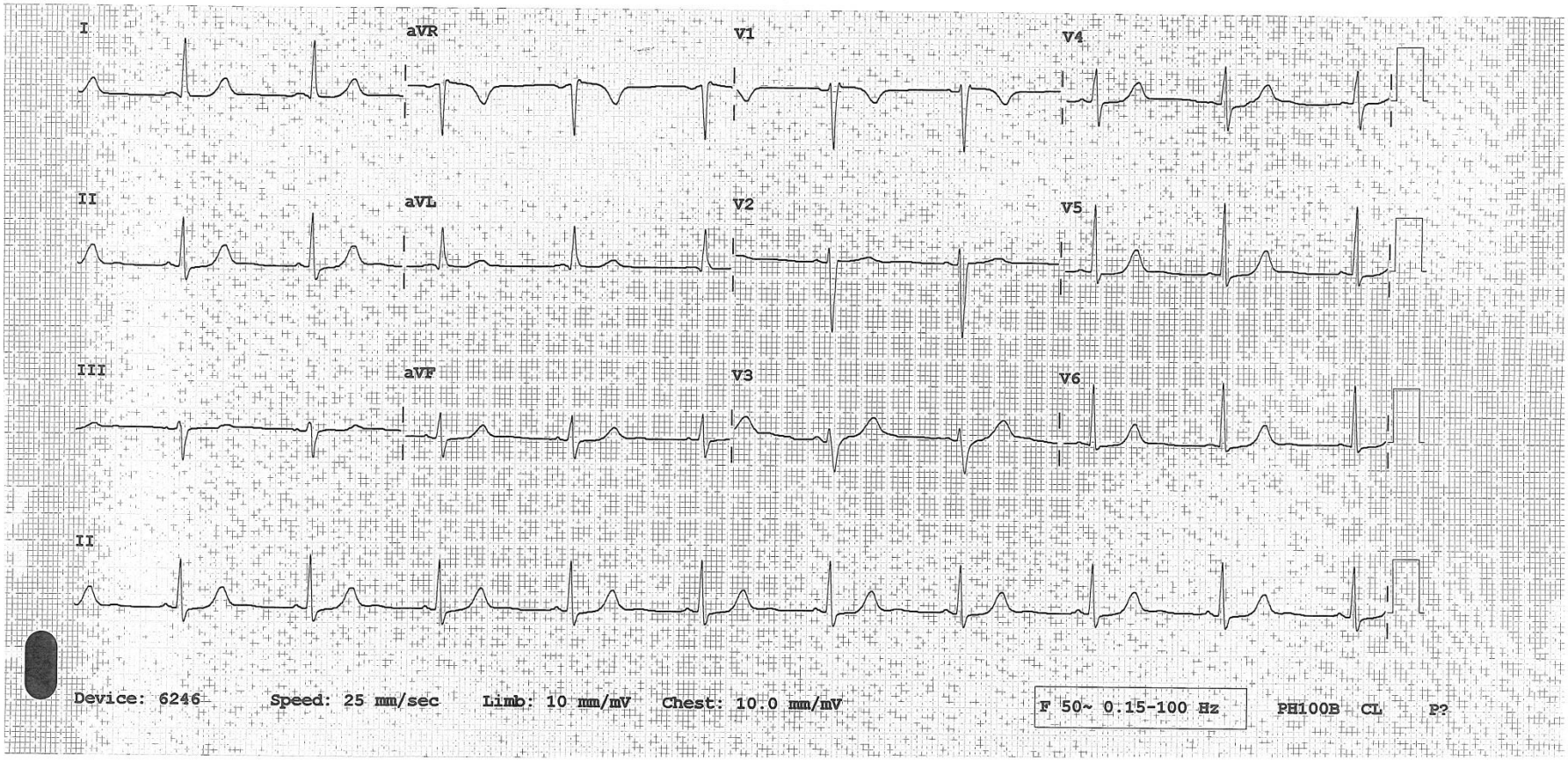
--AXIS--

P	15
QRS	6
T	40

12 Lead; Standard Placement

- OTHERWISE NORMAL ECG -

Unconfirmed Diagnosis



NEWS - OBSERVATION CHART

NHS
Frimley Health
NHS Foundation Trust

Surname: Bloggs		First name: Christine	
Hospital number: 12345	D.O.B: 1.1.1949	Date of admission: Today	

		DATE																	DATE
		TIME																	TIME
A+B Respirations Breaths/min	≥25	38																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 SpO2 Scale 1 Oxygen saturation (%)	≥96	96																	≥96
	94–95																	1	94–95
	92–93																	2	92–93
	≤91																	3	≤91
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	≥97 on O^2
	95–96 on O_2																	2	95–96 on O_2
	93–94 on O_2																	1	93–94 on O_2
	≥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?	A=Air	A																	A=Air
	O2 L/min																	2	O2 L/min
	Device																		Device
C Blood pressure mmHg Score uses systolic BP only	≥220																		≥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	90																2	91–100
	81–90	↑																	81–90
	71–80	↓																	71–80
	61–70	68																3	61–70
	51–60																		51–60
	≤50																		≤50
C Pulse Beats/min	≥131																	3	≥131
	121–130																	2	121–130
	111–120																		111–120
	101–110																	1	101–110
	91–100	85																	91–100
	81–90	•																	81–90
	71–80																		71–80
	61–70																		61–70
	51–60																		51–60
	41–50																	1	41–50
	31–40																	3	31–40
	≤30																		≤30
D Consciousness Score for NEW onset of confusion (no score if chronic)	Alert	A																	Alert
	Confusion																		Confusion
	V																	3	V
	P																		P
	U																		U
E Temperature °C	≥39.1°																	2	≥39.1°
	38.1–39.0°	38.9																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		6																	TOTAL
Monitoring frequency																			Monitoring
Pain score																			Pain score
Initials																			Initials

Version: 201807_004 Product Code:

Frimley Park Hospital NHS
NHS Foundation Trust

Hospital Number: 769987 NHS Number:	
Title: Mrs Sex: Female DoB: Age: 70 Yrs Surname: BIGGS First name: Christine Address: Postcod Tel (H): Tel (M): Employer / Educ. Est: Religion: Language:	NOK: Address: Relationship: Tel (H): Tel (M): NOK: Fred Biggs Address: Relationship: Husband Tel (H): Tel (M):
Source of Referral: Ambulance Date of Arrival: Time of Arrival: TODAY Mode of arrival: No of Attendances in past year: 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: SOB	

Triage Nurse:	Time of Triage
Presenting Complaint:	Triage (ESI)
History of Presenting Complaint:	Pain Score
On Assessment:	Allergies
Previous Medical History:	Tetanus Status
Social History:	Triage Treatment
	Triage Notes

Temperature	39.0	Blood Pressure	90/68	Nurse Concern	
Pulse	85	SP O² (Air)	92	GCS	E V M = /15
Respiratory rate	30	Pupils (Left)		Pupils (Right)	
Peak Flow	(Pre/Post)	Blood sugar		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: Cough feeling unwell.

HISTORY: (Please continue on continuation sheets if necessary)

70 ♀. Cough unwell

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

Frimley Park Hospital NHS
NHS Foundation Trust

First Name(s): Christine Surname: BLOGGS Hospital Number: 789987 NHS Number: Date of Birth:	Ward	Date chart started	Chart number of
	Consultant	Doctor bleep number	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
NKDA	

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
Is patient self medicating: Yes / No
Date of referral to smoking cessation nurse:

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 → **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.**

Yes → TEDS (unless contraindicated) +/or Intermittent Pneumatic Compression. Consider alternative pharmacological agent. Continue until heparins no longer contraindicated or no longer needed.

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 (NEEDS

REGULAR PRESCRIPTIONS

MONTH/YEAR
DATE

OXYGEN	Circle target saturation Adjust flow rate to maintain specified oxygen saturation	Target oxygen saturation 88 to 92% 94 to 98%	TIMES
PRESCRIBERS SIGNATURE	DATE		0800
Home Oxygen Indicated: YES / NO Referral to Respiratory Nurse for HOOP Date:		Other: ____________	1200 1800 2200
Nurse to intial 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	Device

PHARMACOLOGICAL VTE PROPHYLAXIS/TREATMENT INCLUDING NOACS	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 ☐ YES ☐ NO	

MECHANICAL 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 ☐ YES ☐ NO	

WARFARIN AND OTHER COUMARIN ANTICOAGULANTS			TIME	INR
PRESCRIBERS SIGNATURE GMC No.			DATE STARTED	DOSE (mg)
INDICATION	DURATION	TARGET INR	PLEASE TICK APPROPRIATE STATUS ☐ NEW ☐ PREADMISSION	PRESCRIBERS SIGNATURE
PHARMACY POD H POD W	BOOK PROVIDED ON: BY:	DATE COUNSELLED: BY:	TO CONTINUE ON DISCHARGE ☐ YES ☐ NO	GIVEN BY

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 ☐ YES ☐ NO	

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 ☐ YES ☐ NO	

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 ☐ YES ☐ NO	

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 ☐ YES ☐ NO	

WHEN REQUIRED MEDICATION

OXYGEN			Date								
CIRCLE TARGET OXYGEN SATURATION 88–92% 94–98% Other			Time Started								
			Flow rate								
DEVICE	MAX FLOW RATE (Litres/min)		Device								
PRESCRIBERS SIGNATURE	GMC No.	DATE	Given by								
DRUG (Approved name)			Date								
DOSE	ROUTE	FREQUENCY	Time								
PRESCRIBERS SIGNATURE	GMC No.	DATE	Dose								
INDICATION AND SPECIAL INSTRUCTIONS	☐ NEW ☐ PRE AD		Route								
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE	☐ YES ☐ NO	Given by								
DRUG (Approved name)			Date								
DOSE	ROUTE	FREQUENCY	Time								
PRESCRIBERS SIGNATURE	GMC No.	DATE	Dose								
INDICATION AND SPECIAL INSTRUCTIONS	☐ NEW ☐ PRE AD		Route								
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE	☐ YES ☐ NO	Given by								
DRUG (Approved name)			Date								
DOSE	ROUTE	FREQUENCY	Time								
PRESCRIBERS SIGNATURE	GMC No.	DATE	Dose								
INDICATION AND SPECIAL INSTRUCTIONS	☐ NEW ☐ PRE AD		Route								
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE	☐ YES ☐ NO	Given by								
DRUG (Approved name)			Date								
DOSE	ROUTE	FREQUENCY	Time								
PRESCRIBERS SIGNATURE	GMC No.	DATE	Dose								
INDICATION AND SPECIAL INSTRUCTIONS	☐ NEW ☐ PRE AD		Route								
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE	☐ YES ☐ NO	Given by								
DRUG (Approved name)			Date								
DOSE	ROUTE	FREQUENCY	Time								
PRESCRIBERS SIGNATURE	GMC No.	DATE	Dose								
INDICATION AND SPECIAL INSTRUCTIONS	☐ NEW ☐ PRE AD		Route								
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE	☐ YES ☐ NO	Given by								
DRUG (Approved name)			Date								
DOSE	ROUTE	FREQUENCY	Time								
PRESCRIBERS SIGNATURE	GMC No.	DATE	Dose								
INDICATION AND SPECIAL INSTRUCTIONS	☐ NEW ☐ PRE AD		Route								
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE	☐ YES ☐ NO	Given by								

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

Insulins - variable dosing

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

DRUG (Approved name)	ROUTE S/C	Breakfast
PRESCRIBERS SIGNATURE — GMC No.	START / STOP	Lunch
DEVICE	Please tick appropriate status ☐ NEW ☐ PRE AD	Dinner
PHARMACY POD H POD W	TO CONTINUE ON DISCHARGE ☐ YES ☐ NO	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							

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				

DATE ⇨
↓ TIMES

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)

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				