

<b>Title</b>	Acute Pulmonary Embolism	<b>Version</b>	1.3
<b>Target Audience</b>	FY doctors & student nurses	<b>Run time</b>	10 -15 mins
<b>Authors</b>	N Feely, U Naidoo, P Wilder, M Loughrey	<b>Last review</b>	4/7/18
<b>Faculty comments</b>	Normal faculty requirements	<b>Necessity</b>	n/a

## Brief Summary

A 69 year old patient develops shortness of breath since the previous evening which has become worse. They were admitted 4 days ago with left ventricular failure. The focus of this scenario is the recognition of the development of a PE followed by timely investigation and treatment.

## Educational Rationale

A high proportion of patients die in the UK every year from preventable hospital acquired venous thromboembolism (VTE). Prompt diagnosis and treatment can significantly reduce mortality. Diagnosis can be challenging as the symptoms and signs are often non-specific, so healthcare professionals must have a high index of suspicion in at-risk patients. FY trainees should be able recognise at-risk patient groups as well as the symptoms and signs of VTE and acute pulmonary embolism (PE). FY trainees should be able to work within and lead a team to safely assess and treat patients in a timely manner.

## Learning Objectives: Nurse

- ABCDE assessment and initial management of deteriorating patient
- Early recognition of patients at risk of PE
- Call for help and SBAR handover

## Learning Objectives: Doctor

- ABCDE assessment and initial management of deteriorating patient
- Early recognition of patients at risk of PE
- Early and appropriate investigations and suggestions for initial management of PE
- 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: Medical ward

You are looking after Ms Karen Williams, a 69 year old patient who was admitted 4 days ago with left ventricular failure on a background of hypertension and angina. The admission notes, observations and drug chart are available.

Please assess the patient, and call for senior assistance if necessary.

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# Candidate Briefing: Doctor

Setting: Medical ward

You are on call for medicine. Please wait as directed until you are called to the Medical Ward by the nurses who are undertaking a patient assessment, and then act as you would do in real life including receiving an SBAR handover from them.

# Candidate Briefing: Doctor (without nurse)

You are on call for medicine and have been called to the medical ward by a nurse (who has now gone on her break) to review Ms Karen Williams, a 69 year old patient who was admitted 4 days ago with left ventricular failure on a background of hypertension and angina. The nurse was worried about her breathing as it seems to have become more rapid and labored since yesterday.

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# 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 looking after Ms Karen Williams, a 69 year old patient who was admitted 4 days ago with left ventricular failure on a background of hypertension and angina. The admission notes, observations and drug chart are available.

You have called the FY doctor to review the patient because you are worried about her breathing. It seems to have become more rapid and labored since you saw her yesterday. Please assist the FY doctor who comes to assess the patient.

## 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.

# Technical set-up

Setting	Ward		
Simulator	High fidelity manikin / actor		
Gender	Female	Age	69

## Initial monitor parameters

RR	O2 sats	Pulse (HR)	BP	ECG rhythm
24	92% on air	120	130/90	Sinus tachycardia
Cap Refill Time	Blood glucose	Temp.		
3 sec	5.9	37.3		

## Initial patient set-up

Airway	Obstruction	Airway adjunct
	No	No

Breathing	Chest sounds	O2 supply
	Bibasal creps, left-sided pleural rub	air

Circulation	Heart sounds	Cannula	BP cuff	Peripheries / pulses
	Normal	In place	In place	cool

Disability	Eyelids	Pupils	AVPU/GCS
	Open	PEARL	15

Exposure	Posture	Moulage	Bowel sounds
	Sitting at 45 degrees	None	Normal

## Specific equipment / prop requirements

- Oxygen and selection of masks inc. non-rebreathe mask
- Monitoring equipment (ECG leads, BP cuff, sats probe)
- Syringe, flushes, IV fluids and giving sets
- Blood bottles, culture bottles, request forms
- Observation chart, medical notes, drug chart
- Simulated drugs
- ABG syringe and reports

# Facilitator Briefing

## 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



# Patient Briefing

Setting	Ward
Name	Karen Williams
Age	69
Gender	Female

## What has happened to you?

- You were admitted to hospital 4 days ago with “chest pain and fluid overload”.

## How you should role-play

- Your breathing has been getting more difficult since yesterday evening. You are now very short of breath and speak in short sentences. If prompted by the faculty you will deteriorate and become exhausted.

## Your background

### PAST MEDICAL HISTORY

- Angina
- Hypertension

### MEDICATION

- GTN
- Amlodipine
- NKDA

### SOCIAL HISTORY

- Ex-smoker
- No birds and pets
- Ex-clerical staff

### FAMILY HISTORY

- unknown

# Scenario flowchart

## EXPECTED ACTIONS

- ABCDE assessment
- O2 facemask
- ECG & NIBP monitoring
- Consider DDx - inc LVF?, HAP?, PE?
- Ix: ABG, bloods, ECG, CXR
- Consider blood cultures, abx as per local guidelines if suspect HAP
- Consider diuresis +/- GTN +/- CPAP if suspect LVF
- Review medical notes and drug chart

## INITIAL SETTINGS

- A: Clear, speaking in short sentences
- B: RR 24, SpO2 92% on air, bibasal creps, left-sided pleural rub
- C: HR 120, BP 130/90, CRT 3 sec, cool peripheries
- D: E4V5M6, PEARL 3mm, BM 5.9
- E: No rash, temp 37.3, sweaty

## RESULTS

### INITIAL ABG

pH 7.29  
pO2 6.0  
pCO2 5.8  
BE -3  
Lact 1.4

CXR: RLZ consolidation

ECG: Sinus tachycardia

### ABG (after further deterioration)

pH 7.26  
pO2 7.0  
pCO2 7.0  
BE -4  
Lact 2.8

### BLOODS:

WBC 10, others also normal

## DETERIORATION

- A: Clear, speaking in single words
- B: RR45, SpO2 88% 15L O2, bibasal creps, left pleural rub
- C: HR 140, BP 100/60, CRT 3 sec
- D: E3V4M5, PEARL 3mm
- E: Unchanged

## EXPECTED ACTIONS

- No improvement if treated for LVF or HAP
- Consider other diagnoses incl PE
- Contact seniors re investigation and thrombolysis v. anticoagulation

## FURTHER DETERIORATION

- A: Clear, speaking in single words
- B: RR 48, SpO2 85% on 15L O2, bibasal creps, left pleural rub
- C: HR 148, BP 90/50, CRT 4 sec
- D: Unchanged
- E: Unchanged

## EXPECTED OUTCOME

- Recognition of deterioration consistent with PE: consider Ix & Rx
- Contact seniors for support

## LOW DIFFICULTY

- Medical Registrar arrives early, commences assessment for thrombolysis v anticoagulation and ensures investigations booked
- Patient stabilises

## NORMAL DIFFICULTY

- Seniors not present initially, but advise to chart anticoagulation.
- CTPA requested
- Patient asks what's happening - explanation given

## HIGH DIFFICULTY

- Deterioration due to PEA cardiac arrest
- ITU team review history and get thrombolysis prescribed
- Discussions/decisions re: duration of CPR

## RESOLUTION

Appropriate treatment prescribed, investigations ordered, events discussed with patient, contemporaneous notes, decisions re: ongoing care

## RESOLUTION

Airway secure, CPR ongoing, thrombolysis prescribed, timescale for continuing CPR agreed

# References

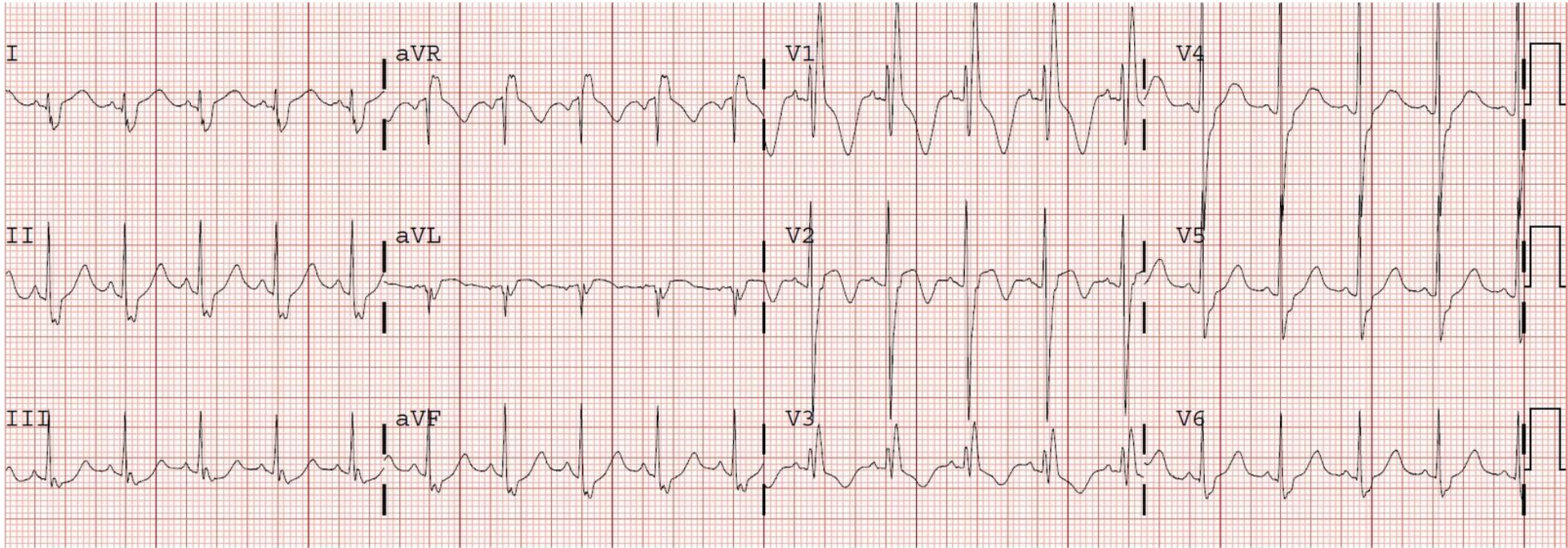
- Local VTE treatment guidelines
- NICE guidelines for VTE available at: <https://www.nice.org.uk/guidance/qs29>
- Well's score calculator: <https://www.mdcalc.com/wells-criteria-pulmonary-embolism>

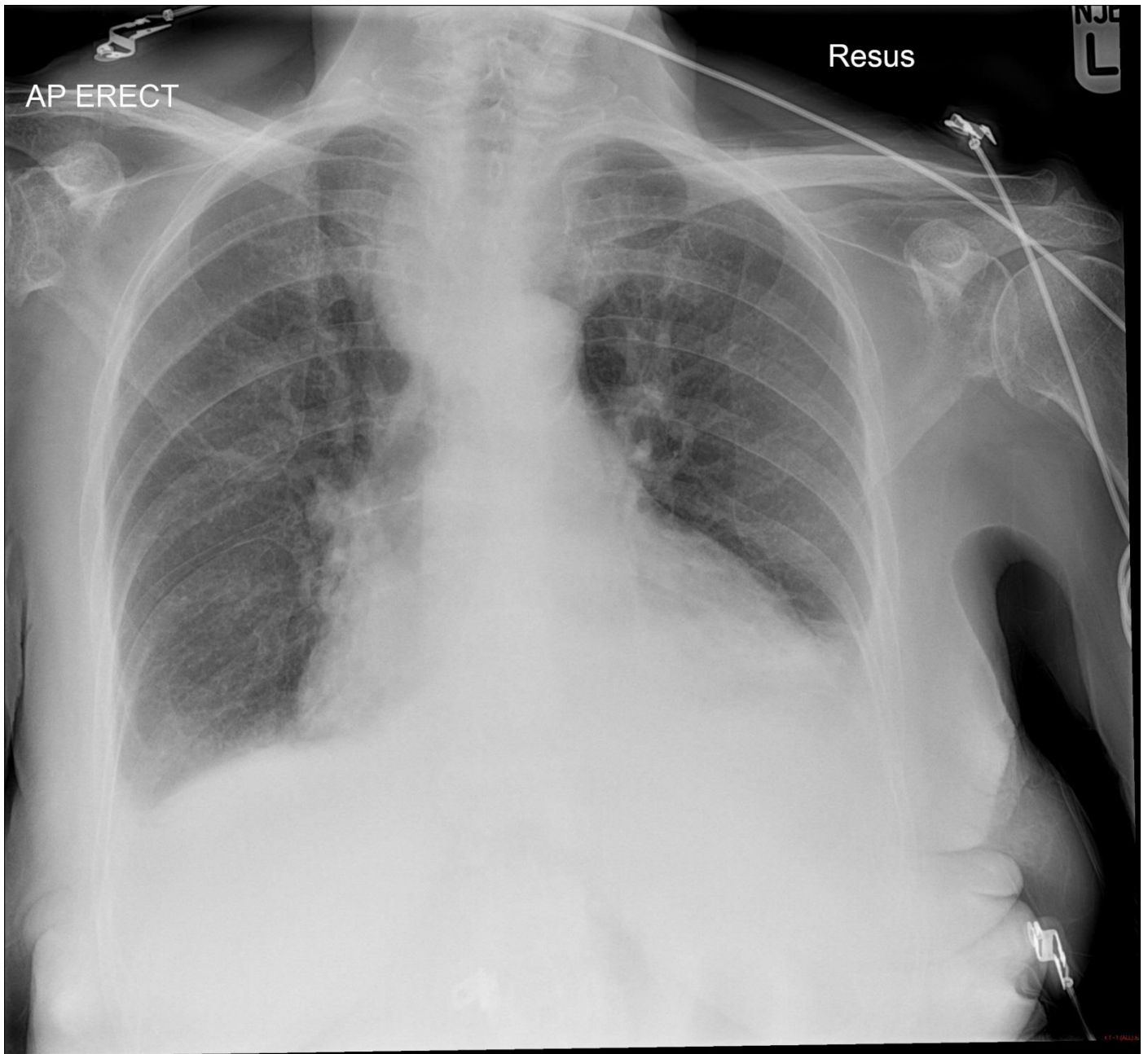
# Clinical props

RADIOMETER ABL800 FLEX			
Identifications			
Patient ID	789987		
Patient Last Name	<b>WILLIAMS</b>		
Patient First Name	<b>Karen</b>		
Sex	<b>female</b>		
Date of birth			
FO <sub>2</sub> (I)	21.0	%	
T	35.5	°C	
Sample type	<b>Venous</b>		
Operator	LEMP FPH 1		
Blood Gas Values			
↓ pH	7.290		[ 7.350 - 7.450 ]
pCO <sub>2</sub>	5.80	kPa	[ 4.70 - 6.00 ]
↓ pO <sub>2</sub>	7.0	kPa	[ 11.1 - 14.4 ]
Hct <sub>c</sub>	0.45	%	
Oximetry Values			
ctHb	12.8	g/L	
FO <sub>2</sub> Hb	92.0	%	[ 94.0 - 98.0 ]
sO <sub>2</sub>	93.0	%	
FCOHb	1.4	%	[ 0.5 - 1.5 ]
FHHb	4.0	%	[ 0.0 - 5.0 ]
FMeiHb	0.1	%	[ 0.0 - 1.5 ]
Calculated Values			
cBase(Ecf) <sub>c</sub>	-4.0	mmol/L	
cHCO <sub>3</sub> <sup>-</sup> (P) <sub>c</sub>	21.0	mmol/L	
Electrolyte Values			
cNa <sup>+</sup>	137	mmol/L	[ 136 - 146 ]
cK <sup>+</sup>	4.2	mmol/L	[ 3.4 - 4.5 ]
cCl <sup>-</sup>	106	mmol/L	[ 98 - 106 ]
cCa <sup>2+</sup>	2.20	mmol/L	[ 2.2 - 2.45 ]
Anion Gap <sub>c</sub>		mmol/L	
Metabolite Values			
cGlu	4.7	mmol/L	[ 3.9 - 5.8 ]
cLac	1.4	mmol/L	[ 0.5 - 1.6 ]
cCreat	89	µmol/L	[ 44 - 97 ]
Notes			
↑	Value(s) above reference range		
↓	Value(s) below reference range		
c	Calculated value(s)		

# RADIOMETER ABL800 FLEX

Identifications				
Patient ID	789987			
Patient Last Name	<b>Williams</b>			
Patient First Name	<b>Karen</b>			
Sex	<b>female</b>			
Date of birth				
FO <sub>2</sub> (I)	<b>21.0</b>	%		
T	<b>37.3</b>	°C		
Sample type	<b>Arterial</b>			
Operator	TEMP FHH 1			
Blood Gas Values				
↓ pH	<b>7.260</b>		[ 7.350 - 7.450 ]	
↑ pCO <sub>2</sub>	<b>7.00</b>	kPa	[ 4.70 - 6.00 ]	
↓ pO <sub>2</sub>	<b>7.0</b>	kPa	[ 11.1 - 14.4 ]	
Hct <sub>c</sub>		%		
Oximetry Values				
ctHb	<b>12.8</b>	g/L		
FO <sub>2</sub> Hb	<b>91.0</b>	%	[ 94.0 - 98.0 ]	
sO <sub>2</sub>	<b>92.0</b>	%		
FCO <sub>2</sub> Hb	<b>1.4</b>	%	[ 0.5 - 1.5 ]	
FHHb	<b>4.0</b>	%	[ 0.0 - 5.0 ]	
FMeiHb	<b>0.1</b>	%	[ 0.0 - 1.5 ]	
Calculated Values				
cBase(Ecf) <sub>c</sub>	<b>-4.0</b>	mmol/L		
cHCO <sub>3</sub> <sup>-</sup> (P) <sub>c</sub>	<b>20.0</b>	mmol/L		
Electrolyte Values				
cNa <sup>+</sup>	<b>137</b>	mmol/L	[ 136 - 146 ]	
cK <sup>+</sup>	<b>4.2</b>	mmol/L	[ 3.4 - 4.5 ]	
cCl <sup>-</sup>	<b>106</b>	mmol/L	[ 98 - 106 ]	
cCa <sup>2+</sup>	<b>2.20</b>	mmol/L	[ 2.2 - 2.45 ]	
Anion Gap <sub>c</sub>		mmol/L		
Metabolite Values				
cGlu	<b>4.7</b>	mmol/L	[ 3.9 - 5.8 ]	
↑ cLac	<b>2.8</b>	mmol/L	[ 0.5 - 1.6 ]	
cCrea	<b>90</b>	μmol/L	[ 44 - 97 ]	
Notes				
↑	Value(s) above reference range			
↓	Value(s) below reference range			
c	Calculated value(s)			





# NEWS - OBSERVATION CHART



Frimley Health  
NHS Foundation Trust

Surname: Williams First name: Karen  
 Hospital number: 12345 D.O.B: 1.1.1950 Date of admission: 4 Days ago

	DATE									DATE
	TIME									TIME
<b>A+B</b> Respirations Breaths/min	≥25	24								3
	21-24									2
	18-20									
	15-17									
	12-14									
	9-11									1
≤8										3
<b>A+B</b> SpO2 Scale 1 Oxygen saturation (%)	≥96									1
	94-95									2
	92-93	92								3
	≤91									
<b>SpO2 Scale 2!</b> 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 <sub>2</sub>									3
	95-96 on O <sub>2</sub>									2
	93-94 on O <sub>2</sub>									1
	≥93 on air									
	88-92									
	86-87									1
	84-85									2
	≤83%									
Air or oxygen?	A=Air	✓								
	O2 L/min									2
	Device									
<b>C</b> Blood pressure mmHg Score uses systolic BP only	≥220									
	201-219									
	181-200									
	161-180									
	141-160									
	121-140	130								
	111-120									
	101-110									1
	91-100									2
	81-90	90								
	71-80									
	61-70									3
	51-60									
≤50										
<b>C</b> Pulse Beats/min	≥131									3
	121-130	120								2
	111-120									
	101-110									1
	91-100									
	81-90									
	71-80									
	61-70									
	51-60									
	41-50									1
31-40										
≤30										3
<b>D</b> Consciousness Score for NEWS onset of confusion (no score if chronic)	Alert	A								
	Confusion									
	V									3
	P									
U										
<b>E</b> Temperature °C	≥39.1°									2
	38.1-39.0°									1
	37.1-38.0°	37.3								
	36.1-37.0°									
	35.1-36.0°									1
	≤35.0°									
NEWS TOTAL		4								
Monitoring frequency										
Pain score										
Initials										


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

Version: 201807\_004

Product Code:





Hospital Number: 789987					
NHS Number:					
Title: MISS      Sex: FEMALE DoB:                      Age: 69 Yrs Surname: WILLIAMS First name: KAREN Address: [Redacted]		NOK: SH [Redacted] Address: [Redacted]			
Postco: [Redacted] Tel (H): [Redacted] Tel (M): [Redacted]		Relationship: [Redacted] X Tel (H): [Redacted] Tel (M): [Redacted]			
Empl: [Redacted] Religion: [Redacted] Language: [Redacted]		NOK: [Redacted] Address: [Redacted]			
Source of Referral: [Redacted]		GP: [Redacted] Address: [Redacted]			
Date of Arrival: 4 DAYS AGO Time of Arrival: [Redacted] Mode of arrival: AMBULANCE No of Attendances in past year: 3 Previous Attendance Number: 10		Tel No: [Redacted] Fax No: [Redacted]			
To be seen in:					
Speciality Expected:	Time referred to speciality:	Duty/On-Call Emergency Department Consultant:			
Speciality:	Time seen:				
Presenting Complaint: SOB					
Triage Nurse: K JONES		Time of Triage			
Presenting Complaint: breathlessness		Triage (ESI)			
History of Presenting Complaint: leg swelling		Pain Score			
On Assessment:		Allergies			
Previous Medical History: LVF, MI, Angina		Tetanus Status			
Social History: independent		Triage Treatment			
		Triage Notes			
Temperature	37.3	Blood Pressure	130/90	Nurse Concern	
Pulse	120	SP O <sub>2</sub> (Air)	88	GCS	15/15 EVM = 115
Respiratory rate	28	Pupils (Left)	PEARL	Pupils (Right)	PEARL
Peak Flow	(Pre/Post)	Blood sugar	5.1	Weight	75 kg
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:

SOS

HISTORY: (Please continue on continuation sheets if necessary)

<p>(69) + Known LHF worsening SOS for H/A leg swelling, R/L ↑ -no pain Sleeping upright No cough Known to HF team in the community. Not taken meds for last 1/2 E + D ↓ → too breathless</p>	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 >80	
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: <u>N/A</u>	Pregnant? Y / N	



Past Medical History

LRF  
MI  
Angina  
T2 DM

Diabetes   
  AF   
  Hx Dementia   
  Hypertension   
  IHD/Angina  
 COPD   
  Arthritis   
  Epilepsy   
  Asthma   
  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

Metformin  
 Ramipril  
 Bisoprolol  
 Furosemide  
 Simvastatin

Allergies NKDA

Drug	Reaction	Date



Systematic Enquiry:

N/A

Family History

N/A

Social History

Alcohol: .....0.....units/week      Smoking: 40 pack yr

Occupation: Retired nurse      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      Services:  MOW      Carer/s:  None  
 Stick       Bathing services       Spouse  
 Frame       District Nurse       Other family  
 Wheelchair       Day Centre       Friend/ Neighbour  
 Day Hospital       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 .....18...../10

If Score 7 or below commence dementia CQUIN  Yes  No

Hosp No.: 78987



EXAMINATION

Jaundiced    Anaemic    Cyanosed    Clubbed    Lymphadenopathy

Temp ..... 37.4

Cap Blood Glucose ..... 10.2

General Impression: Tachypnoeic

Cardiovascular

HR ..... 101 (reg) / irreg

BP sitting ..... 140/96

BP lying.....

BP Standing.....

(Remember >2 mins for Postural BPs)

HS..... I+II+III

Murmur? Y (N)

Carotid Bruit? Y (N)

JVP ..... ↑

Oedema ..... ++

Respiratory

RR ..... 24

Sats on Air ..... 88%

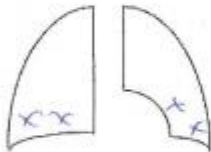
Sats on .....% O<sub>2</sub>.....

Current PEFR.....

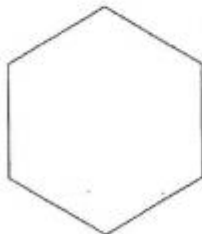
Best PEFR.....

Predicted PEFR.....

Percussion / Auscultation



Abdominal



Ascites? Y/N	(N)
PR	N/A
PV	N/A



Neurological

GCS: E 4 V 5 M 6 15 /15

Pupils: PELL

Cranial Nerves: (Not Assessed - tick here: ) N/A

Abnormalities:

Significant peripheral oedem  
mid shins

Peripheral Nerves: (Not Assessed - tick here: ) N/A

		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 (c5,7,8)			Supinator (c6)				
	ext (c7,8)							
Hips	flex (l1,2,3)							
	ext (l5,s1,2)							
	abd (l4,5,s1)							
	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 ..... Gait .....

Finger/Nose ..... Dysdiadochokinesis .....

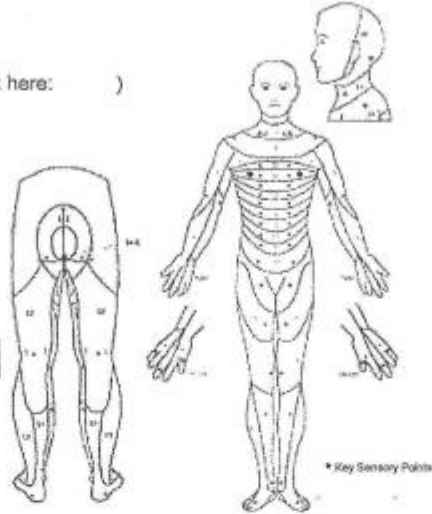
Heel/shin ..... Dysarthria .....

Romberg's test .....



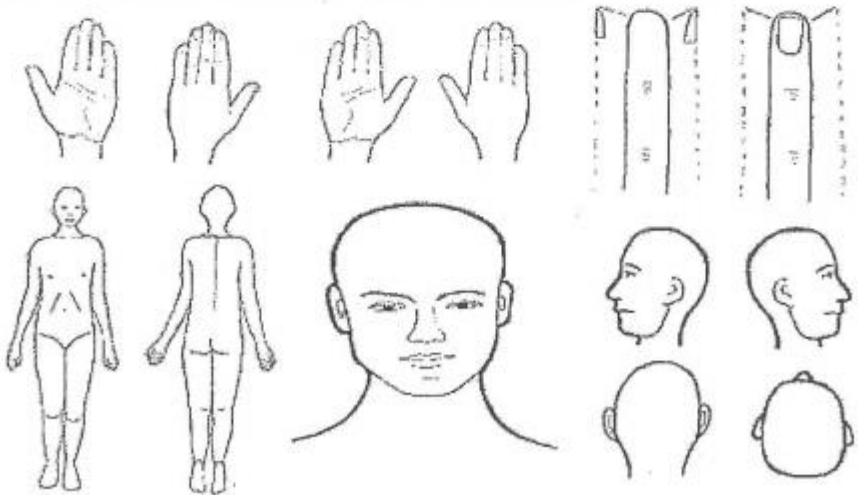
**Sensation**  
(Not Assessed - tick here: )

Anal sensation? Y N



Other examination findings / comments:

*N/A*







**Initial Impressions / Differential Diagnosis:**

*Decomp crtt*

**Investigations:**

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

Results:

Bloods:  FBC     Coag / INR     ESR  
 U&Es     LFTs     Bone     CRP  
 Other..... *BNP*

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      $\beta$ HCG     ABG     Other .....

Results:

Hosp No.: 789987



Management Plan:

Admit O <sub>2</sub> : via SpO <sub>2</sub> ≥ 92% Fluid restrict 1.5L Monitor UO ≥ 0.5ml/kg Echo IV Kmsomid @mg/24 Daily CEFs, HF IV		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? <input checked="" type="radio"/> Y <input type="radio"/> N If not - reasons:		
MRSA Status: No	C. Diff status: No	
Met Calls Y N	For CPR? Y N Orange sticker? Y N	

Senior Review: Name: Medical Designation: CT2

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

**Frimley Park Hospital**

First Name(s): <u>Karen</u>	Ward	Date chart started	Chart number of
Surname: <u>Williams</u>			
Hospital Number: <u>789987</u>	Consultant	Doctor bleep number	Date of admission
NHS Number: _____			
Date of Birth: _____			

Date weighed	Weight (kg)	Date weighed	Weight (kg)	Height (M)	Surface area (M <sup>2</sup> )	Ideal Body Weight (IBW)	Body Mass Index (BMI)	Diet

Allergies (write 'none known' and sign if none known). This section must be completed before medication is given.

Drug/substance	Details of reaction

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

IV heparin infusion chart	<input type="checkbox"/>	Chemotherapy chart	<input type="checkbox"/>	MRSA Suppression	<input type="checkbox"/>
PCA	<input type="checkbox"/>	Epidural	<input type="checkbox"/>	Medicines reconciliation	<input type="checkbox"/>

Reminder: Prescriptions must be rewritten not amended  
Unclear prescriptions will be challenged  
Care with opioids if elderly, frail and/or renal impairment

Date	Communication for doctors. Messages must be actioned within 24 hours.	Sign and Bleep No.	Actioned sign and date

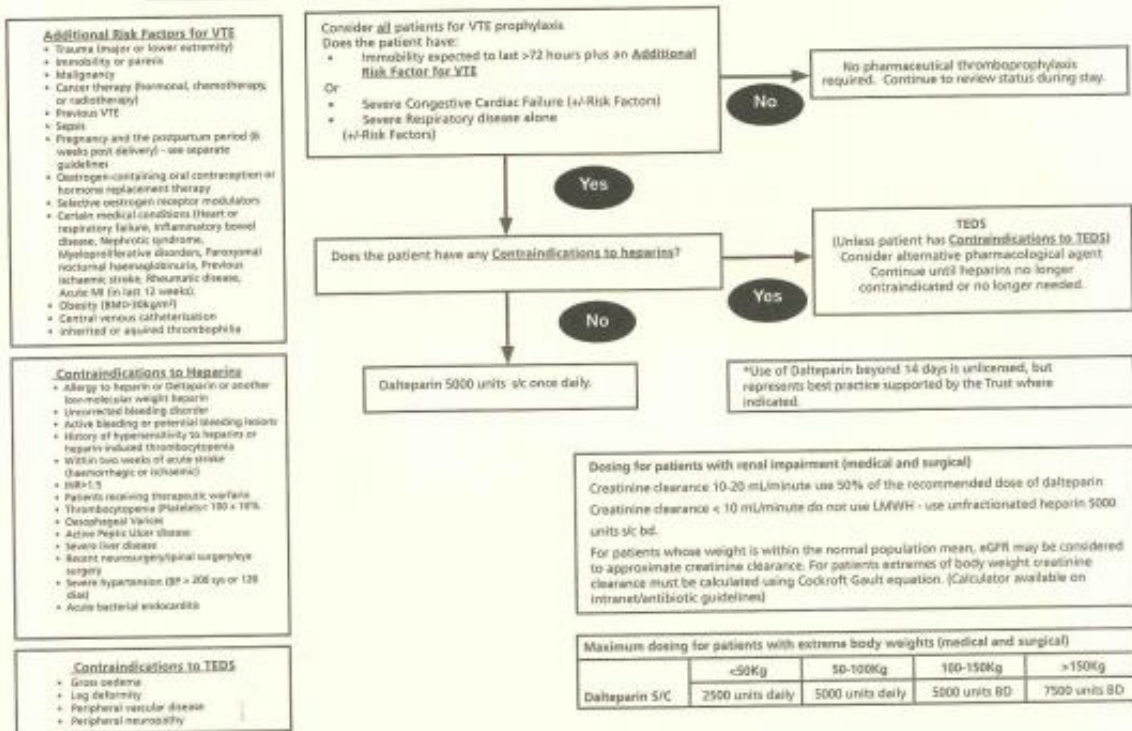
Smoking		Alcohol	
Is the patient a smoker	Yes / No	Audit C score	
Is NRT currently in use	Yes / No	Full Audit score (if undertaken)	
		Withdrawal medication required	

Date chart rewritten    /    /   

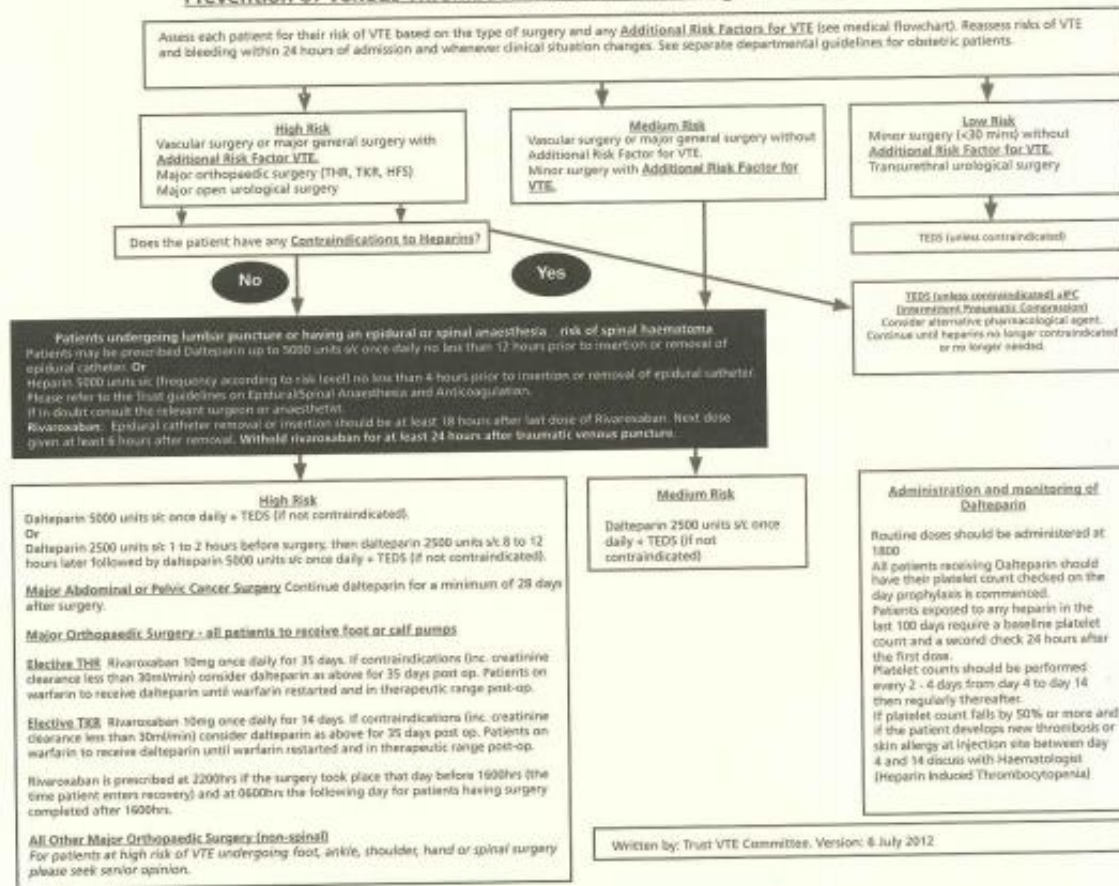
Needs: Large print  PMR card

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

## Prevention of Venous Thromboembolism in Acutely ill Adult Medical Patients (non-obstetric)



## Prevention of Venous Thromboembolism in Adult Surgical Patients



**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 at _ / _ / _	Assessment at _ / _ / _
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/m <sup>2</sup>					
	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				
<b>Bleeding Risk/ Contraindications</b>	<b>Patient Related</b>	<b>Procedure Related</b>				
	Haemophilia or other known bleeding disorder					
	Thrombocytopenia (Platelets < 100 x 10 <sup>9</sup> /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, awaiting 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		



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
						0 TIMES	
<b>OXYGEN</b>		Circle target saturation Adjust flow rate to maintain specified oxygen saturation		Target oxygen saturation <b>88 to 92%</b> <b>94 to 98%</b>		0800	
PRESCRIBERS SIGNATURE		DATE		Other: _____		1200	
Home Oxygen Indicated: YES / NO Refer to Respiratory Nurse for HDOF Date:						1800	
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.						2200	
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 <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD <input type="checkbox"/> CHANGE			
PHARMACY POD H   POD W				TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO			
MECHANICAL VTE PROPHYLAXIS				DOSE	ROUTE		
PRESCRIBERS SIGNATURE		GMC No.		START	REVIEW	STOP	
INDICATION AND SPECIAL INSTRUCTIONS				Please tick appropriate status <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD <input type="checkbox"/> CHANGE			
PHARMACY POD H   POD W				TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO			
WARFARIN AND OTHER COUMARIN ANTICOAGULANTS						TIME	INR
PRESCRIBERS SIGNATURE		GMC No.		DATE STARTED		DOSE (mg)	
INDICATION	DURATION	TARGET INR	PLEASE TICK APPROPRIATE STATUS <input type="checkbox"/> NEW <input type="checkbox"/> PREADMISSION		PRESCRIBERS SIGNATURE		
PHARMACY POD H   POD W		BOOK PROVIDED ON: BY:	DATE COUNSELLED: BY:	TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO		GIVEN BY:	
DRUG (Approved Name)				DOSE	ROUTE		
PRESCRIBERS SIGNATURE		GMC No.		START	REVIEW	STOP	
INDICATION AND SPECIAL INSTRUCTIONS				Please tick appropriate status <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD <input type="checkbox"/> CHANGE			
PHARMACY POD H   POD W				TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO			
DRUG (Approved Name)				DOSE	ROUTE		
PRESCRIBERS SIGNATURE		GMC No.		START	REVIEW	STOP	
INDICATION AND SPECIAL INSTRUCTIONS				Please tick appropriate status <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD <input type="checkbox"/> CHANGE			
PHARMACY POD H   POD W				TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO			
DRUG (Approved Name)				DOSE	ROUTE		
PRESCRIBERS SIGNATURE		GMC No.		START	REVIEW	STOP	
INDICATION AND SPECIAL INSTRUCTIONS				Please tick appropriate status <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD <input type="checkbox"/> CHANGE			
PHARMACY POD H   POD W				TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO			
DRUG (Approved Name)				DOSE	ROUTE		
PRESCRIBERS SIGNATURE		GMC No.		START	REVIEW	STOP	
INDICATION AND SPECIAL INSTRUCTIONS				Please tick appropriate status <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD <input type="checkbox"/> CHANGE			
PHARMACY POD H   POD W				TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO			

**WHEN REQUIRED MEDICATION**

**OXYGEN**

CIRCLE TARGET OXYGEN SATURATION  
 88-92% 94-98% Other

DEVICE \_\_\_\_\_ MAX FLOW RATE (L/min) \_\_\_\_\_

PRESCRIBER SIGNATURE \_\_\_\_\_ GMC No. \_\_\_\_\_ DATE \_\_\_\_\_

DRUG (Approved name) \_\_\_\_\_

DOSE \_\_\_\_\_ ROUTE \_\_\_\_\_ FREQUENCY \_\_\_\_\_

PRESCRIBER SIGNATURE \_\_\_\_\_ GMC No. \_\_\_\_\_ DATE \_\_\_\_\_

INDICATION AND SPECIAL INSTRUCTIONS \_\_\_\_\_  NEW  PRE AD

PHARMACY \_\_\_\_\_ TO CONTINUE ON DISCHARGE  YES  NO

DRUG (Approved name) \_\_\_\_\_

DOSE \_\_\_\_\_ ROUTE \_\_\_\_\_ FREQUENCY \_\_\_\_\_

PRESCRIBER SIGNATURE \_\_\_\_\_ GMC No. \_\_\_\_\_ DATE \_\_\_\_\_

INDICATION AND SPECIAL INSTRUCTIONS \_\_\_\_\_  NEW  PRE AD

PHARMACY \_\_\_\_\_ TO CONTINUE ON DISCHARGE  YES  NO

DRUG (Approved name) \_\_\_\_\_

DOSE \_\_\_\_\_ ROUTE \_\_\_\_\_ FREQUENCY \_\_\_\_\_

PRESCRIBER SIGNATURE \_\_\_\_\_ GMC No. \_\_\_\_\_ DATE \_\_\_\_\_

INDICATION AND SPECIAL INSTRUCTIONS \_\_\_\_\_  NEW  PRE AD

PHARMACY \_\_\_\_\_ TO CONTINUE ON DISCHARGE  YES  NO

DRUG (Approved name) \_\_\_\_\_

DOSE \_\_\_\_\_ ROUTE \_\_\_\_\_ FREQUENCY \_\_\_\_\_

PRESCRIBER SIGNATURE \_\_\_\_\_ GMC No. \_\_\_\_\_ DATE \_\_\_\_\_

INDICATION AND SPECIAL INSTRUCTIONS \_\_\_\_\_  NEW  PRE AD

PHARMACY \_\_\_\_\_ TO CONTINUE ON DISCHARGE  YES  NO

DRUG (Approved name) \_\_\_\_\_

DOSE \_\_\_\_\_ ROUTE \_\_\_\_\_ FREQUENCY \_\_\_\_\_

PRESCRIBER SIGNATURE \_\_\_\_\_ GMC No. \_\_\_\_\_ DATE \_\_\_\_\_

INDICATION AND SPECIAL INSTRUCTIONS \_\_\_\_\_  NEW  PRE AD

PHARMACY \_\_\_\_\_ TO CONTINUE ON DISCHARGE  YES  NO

DRUG (Approved name) \_\_\_\_\_

DOSE \_\_\_\_\_ ROUTE \_\_\_\_\_ FREQUENCY \_\_\_\_\_

PRESCRIBER SIGNATURE \_\_\_\_\_ GMC No. \_\_\_\_\_ DATE \_\_\_\_\_

INDICATION AND SPECIAL INSTRUCTIONS \_\_\_\_\_  NEW  PRE AD

PHARMACY \_\_\_\_\_ TO CONTINUE ON DISCHARGE  YES  NO

DRUG (Approved name) \_\_\_\_\_



**WHEN REQUIRED MEDICATION**

DRUG (Approved name)			Date																
DOSE	ROUTE	FREQUENCY	Time																
PRESCRIBER'S SIGNATURE		GMC No.	DATE	Dose															
INDICATION AND SPECIAL INSTRUCTIONS		<input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		Route															
PHARMACY		TO CONTINUE ON DISCHARGE		<input type="checkbox"/> YES <input type="checkbox"/> NO	Given by														
POD H POD W																			
DRUG (Approved name)			Date																
DOSE	ROUTE	FREQUENCY	Time																
PRESCRIBER'S SIGNATURE		GMC No.	DATE	Dose															
INDICATION AND SPECIAL INSTRUCTIONS		<input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		Route															
PHARMACY		TO CONTINUE ON DISCHARGE		<input type="checkbox"/> YES <input type="checkbox"/> NO	Given by														
POD H POD W																			
DRUG (Approved name)			Date																
DOSE	ROUTE	FREQUENCY	Time																
PRESCRIBER'S SIGNATURE		GMC No.	DATE	Dose															
INDICATION AND SPECIAL INSTRUCTIONS		<input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		Route															
PHARMACY		TO CONTINUE ON DISCHARGE		<input type="checkbox"/> YES <input type="checkbox"/> NO	Given by														
POD H POD W																			
DRUG (Approved name)			Date																
DOSE	ROUTE	FREQUENCY	Time																
PRESCRIBER'S SIGNATURE		GMC No.	DATE	Dose															
INDICATION AND SPECIAL INSTRUCTIONS		<input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		Route															
PHARMACY		TO CONTINUE ON DISCHARGE		<input type="checkbox"/> YES <input type="checkbox"/> NO	Given by														
POD H POD W																			
DRUG (Approved name)			Date																
DOSE	ROUTE	FREQUENCY	Time																
PRESCRIBER'S SIGNATURE		GMC No.	DATE	Dose															
INDICATION AND SPECIAL INSTRUCTIONS		<input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		Route															
PHARMACY		TO CONTINUE ON DISCHARGE		<input type="checkbox"/> YES <input type="checkbox"/> NO	Given by														
POD H POD W																			
DRUG (Approved name)			Date																
DOSE	ROUTE	FREQUENCY	Time																
PRESCRIBER'S SIGNATURE		GMC No.	DATE	Dose															
INDICATION AND SPECIAL INSTRUCTIONS		<input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		Route															
PHARMACY		TO CONTINUE ON DISCHARGE		<input type="checkbox"/> YES <input type="checkbox"/> NO	Given by														
POD H POD W																			

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

MONTH/YEAR →  
DATE

### Insulins - variable dosing

DRUG (Approved name)		ROUTE	SIG →	TIME
PRESCRIBERS SIGNATURE		GMC No.	START	STOP
DEVICE		Please tick appropriate status <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		
PHARMACY		TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO		
DRUG (Approved name)		ROUTE	SIG →	TIME
PRESCRIBERS SIGNATURE		GMC No.	START	STOP
DEVICE		Please tick appropriate status <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		
PHARMACY		TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO		
DRUG (Approved name)		ROUTE	SIG →	TIME
PRESCRIBERS SIGNATURE		GMC No.	START	STOP
DEVICE		Please tick appropriate status <input type="checkbox"/> NEW <input type="checkbox"/> PRE AD		
PHARMACY		TO CONTINUE ON DISCHARGE <input type="checkbox"/> YES <input type="checkbox"/> NO		

### WHEN REQUIRED INSULINS

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





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	Time 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 <sup>9</sup> /L?	Specific indication / deep seated infection. (Meningitis, endocarditis, encephalitis, osteomyelitis, 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)



