Medical Workbook

Self-directed learning package

To be read in conjunction with:
HMO/Intern position description
Medical Unit orientation information

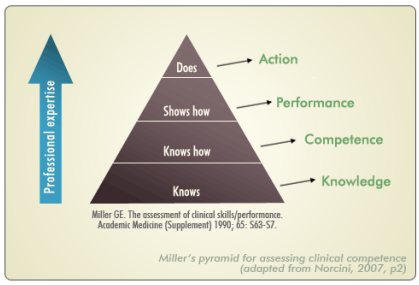
NAME: _____

Self-directed workbook - Medicine

This self-directed workbook is a guide for you to assess your knowledge and identify your learning needs by completing the workbook.

It is not mandatory, but we would like to continue to use it as it assists with performance appraisals (which is essentially performance coaching), and to provide some more structure and real learning outcomes.

The following diagram highlights the key objectives, with our aim to see more of "does" and "shows how"



BHS Medicine Expected Learning Outcomes

1. To be able to manage patients with medical presentations on the ward and referred by the Emergency Department.
2. Understand and plan the management required for medical conditions on the ward.

Medicine Clinical Domains

The education series covers the following topics:

1. Clinical Skills – History & exam
2. Patient care and therapeutics
3. Management of acute medical problems
4. Management of patients with undifferentiated presentations
5. Management of patients with disorders of organ systems
6. Management of patients with defined disease processes
7. Procedural skills

The learning resources in this self-directed workbook cover these topics. The learner should complete the self-directed workbook to enhance their own understanding of their learning needs. Every section does not need to be completed. Use it to reinforce areas where your knowledge is strong, or to identify areas that need some work. In many cases this will mean on the job learning, rather than finding information in books.

We suggest that completing this workbook in preparation your medical term.

Formal educational activities occur throughout the week (Medical terms)

There are weekly education sessions for JMOs as well as opportunities to attend and present at several Journal clubs.
It is not possible for doctors to attend all sessions due to shift work, duration of rotations and leave etc. therefore we endeavor to publish for each topic the PowerPoint presentations and associated resources for people to read on the BHS education resource website:
http://educationresource.bhs.org.au/home

Case 1: A 28 year old man presents to the ED with a headache. He has been feeling hot and cold, has a dry cough, mildly sore throat, and has a headache and photophobia. He has a stiff neck, and generalised muscle aches. He feels terrible generally, with some nausea. He has had no vomiting or diarrhoea, and no urinary symptoms.

1. **What is your differential diagnosis for this patient (list 3)**

2. **What specific examination findings will you look for?**

From the end of the bed,

Blood pressure: 120/80
Heart Rate: 110
Respiratory Rate: 20
Temperature: 37.9

3. **What tests or investigations will you order and why?**

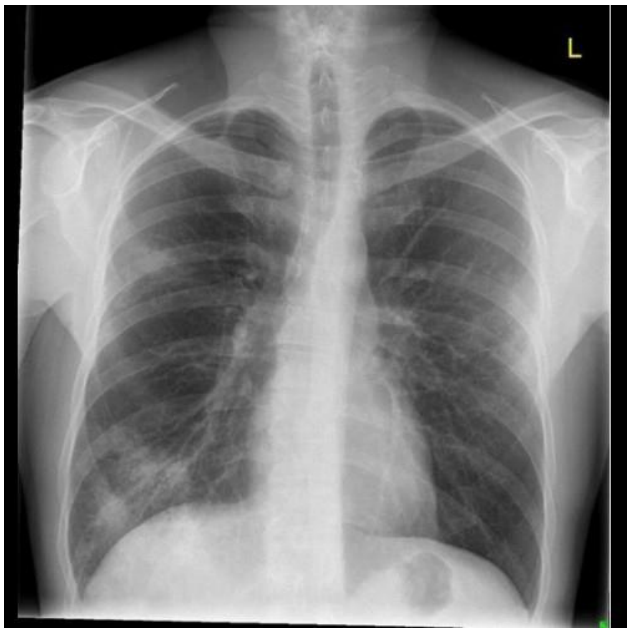
You examine the patient.
No anaemia, jaundice or rash Ears normal. Mild pharyngitis. He can get his chin to his chest, prefers the lights off. His chest sounds clear, abdomen non tender.

Test results available
Wcc 13.9
CRP 130
U&E and LFT both normal
Urine clear

You are asked to consent the patient for a lumbar puncture.
List the complications that you will mention when you consent the patient.

Reference.
http://educationresource.bhs.org.au/hmo_2_3skills

You about to proceed with the procedure, and your very helpful medical student informs you that the CXR is available.
Describe this CXR



Outline your diagnosis. Will this change your management plan?

Case 2. You are called to admit a patient in the Emergency Department who has presented with hyponatraemia.
She is currently in the following medications.
Atenolol 50mg daily Ranitidine 300mg daily
Amiloride Hydrochlorthiazide. Esomeprazole.
Past history of breast cancer. Hypertension Gastroesophageal reflux.

U&E	Three years ago	Yesterday	Today
Sodium	127	118	116
Potassium	3.8	4.1	3.6
Chloride	98	88	87
HCO3	25	23	22
Urea	2.8	6.3	4.1
Creatinine	49	52	55

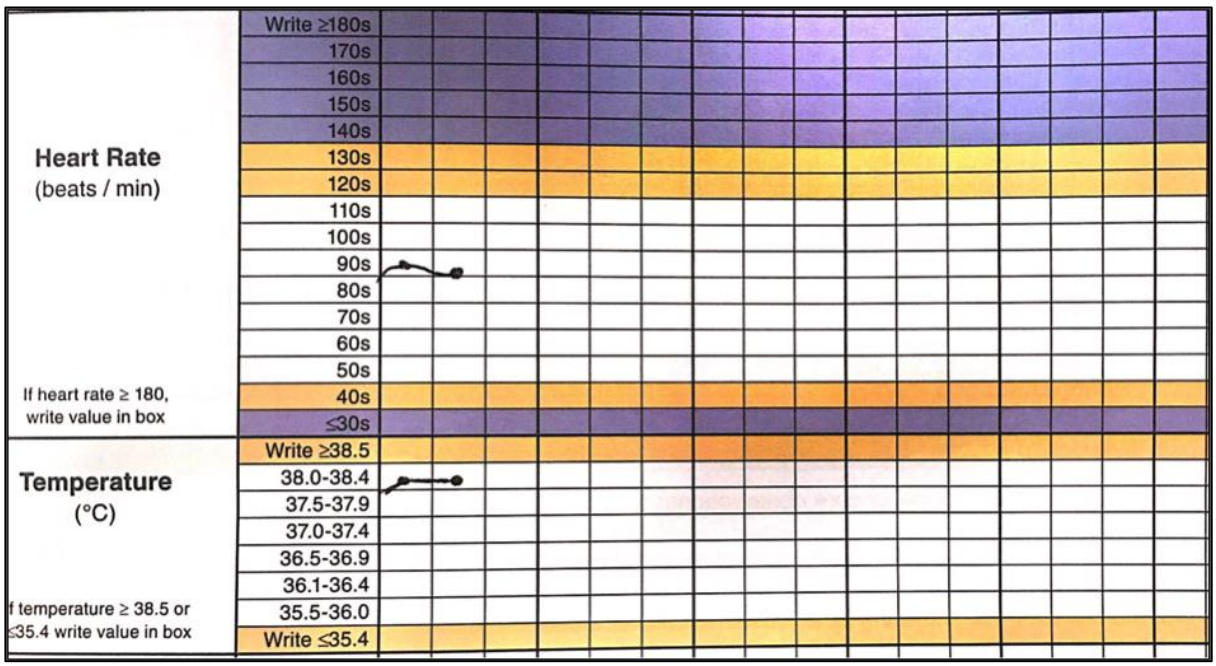
1. **Working with the diagnosis of hyponatraemia, what will be your management for this patient**

   a) **Possible causes of the hyponatraemia in this patient**

   b) **Immediate management in ED**

   c) **Definitive Management**

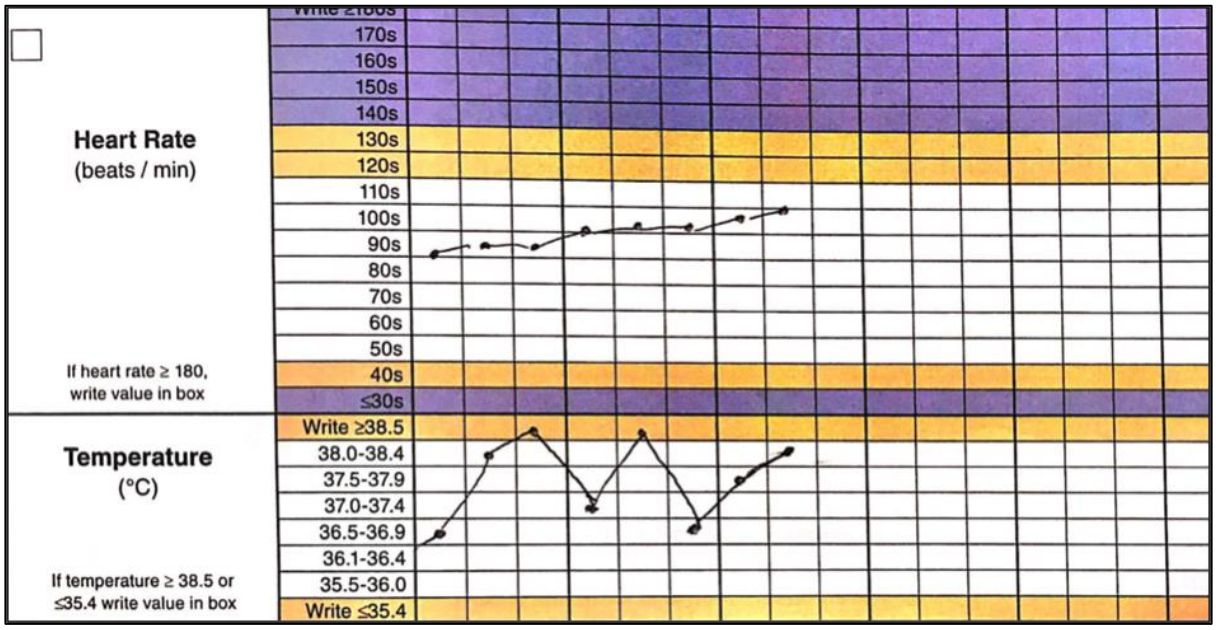
Case 3
You are on the ward round and approach Mr. He states that he is feeling "a little bit off."
You review the observation chart. Diagnosis early sepsis



It is likely that the patient is developing an infection

It is worthwhile considering a list of possible causes of sepsis, however we would like you to consider the following
How will you determine if the patient has severe sepsis bases on clinical and other factors

Case 4
You review the next patient on the ward round. A young man with a provisional diagnosis. IDVU admitted with an infected arm.



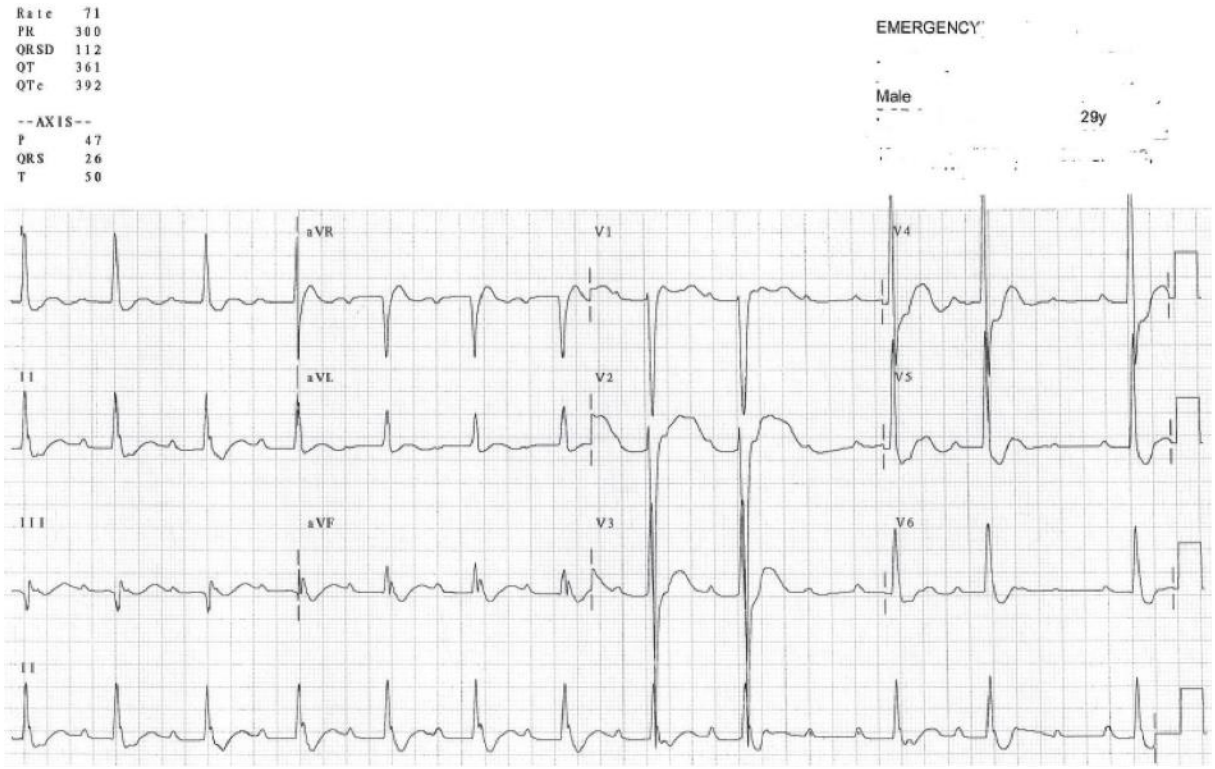
This patient has the vital signs above

List your differential diagnosis

What is your plan of management?

What factors will you need to take into account if the patient wants to discharge at own risk?

Case 5
You are about to go to the next ward and the nursing staff ask you to have a quick look at this ECG before you leave. The consultant appears to be in a hurry to get to clinic.



The consultant and registrar have moved ahead and you need to ring them and describe the ECG to them.

How would you describe this ECG?

Is there anything in particular that you would do?

We will add the pathology results in the appendix

Case 6

80 year old man with a history of mild dementia presents with worsening confusion over the last 2 days. He lives in a high level supported residential care and has recently been treated with antibiotics for a urinary tract infection. You have very little information available when she presents to the ED, and ring the residential care and obtain an excellent handover from the staff on duty. A referral letter was faxed to ED and has been misplaced
However, he has been healthy otherwise and is on no other medication. His temperature is 38.1° C, pulse 90, respiratory rate 18, and blood pressure 118/60 mm Hg. He is disoriented and lethargic. Examination of the heart, lungs, and abdomen is unremarkable.

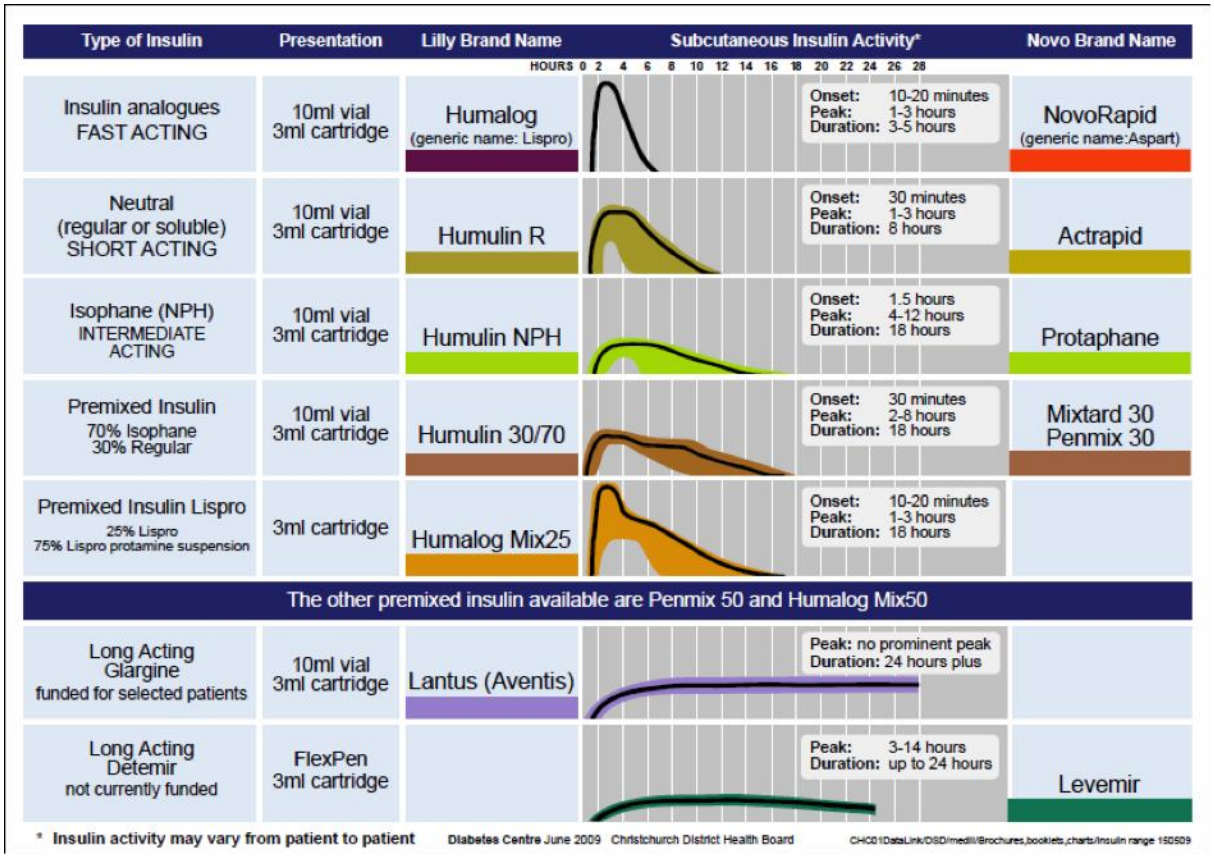
Add U&E result for 710204

Na 160

List causes

Case 7

You have been asked to review Miss Axley, a 50 year old 70kg male who has presented to the ED and was admitted with cellulititis unstable diabetes. Fortunately your very helpful medical student had a reference to assist insulin dosing



The patient's BSL are consistenly over 10. What plan of action will you implement?

2. **What additional novorapid**
3. **What long acting insulin would you prescribe?**

4. **Have you visited** www.ballaratdiabetes.com **?**

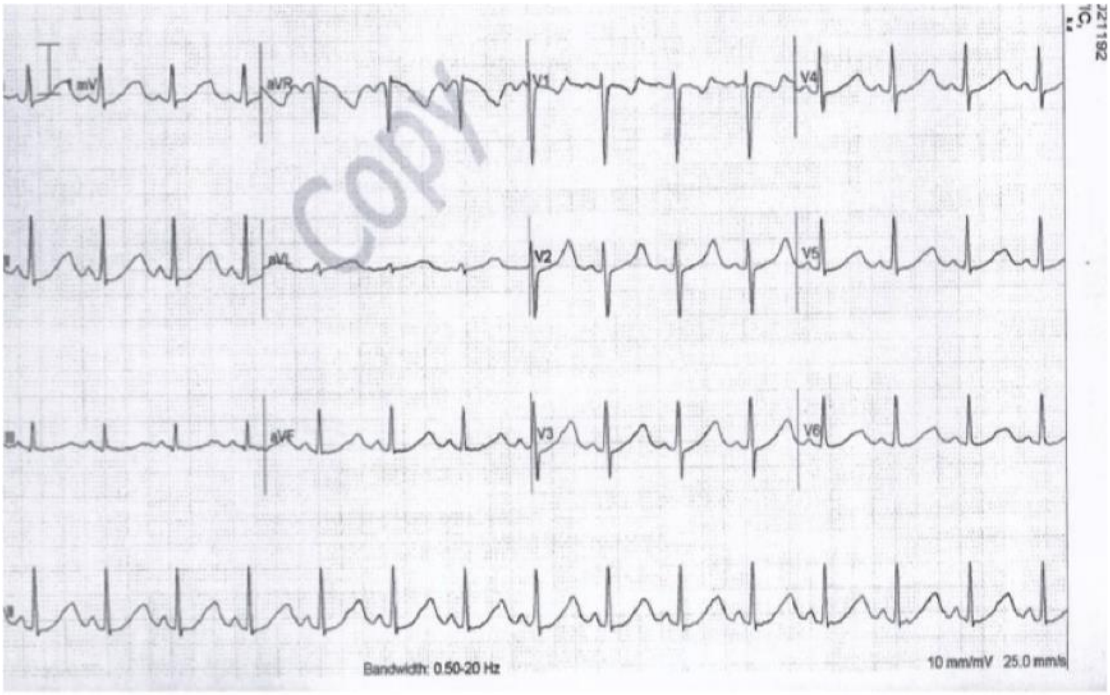
Dr David Song, our general physician/endocrinologist, has published some useful resources there

Case 8

Young woman with severe vomiting.
She collapses and has a generalised seizure. Post seizure she is noted to be febrile 39, peripherally shutdown, RR 50 BP 110/50
You are covering a HMO2 position and you are asked to review this patient, while the medical and ICU registrars are managing a MET call on the ward.
Venous blood gas is performed

Ph	7.82	mmHg
pCO2	21	mmHg
pO2	27	mmHg
BE	17	
HCO3	35	
Lactate	15.7	
Na	116	
K	2.0	
Cl	65	
Urea	10	
Cr	196 umol/L	
Hct	45%	
Hb	15.5 g/dL	

Rate	89 b/mi
PR	144 ms
QRSD	82 ms
QT	518 ms
QTc	631 ms
Axis	
P	78 deg
QRS	50 deg
T	32 deg



Your next task is to contact the Medical Registrar. Fill out the different sections of the ISBAR handover tool to cover what you will say in the conversation.

I*ntroduction*:

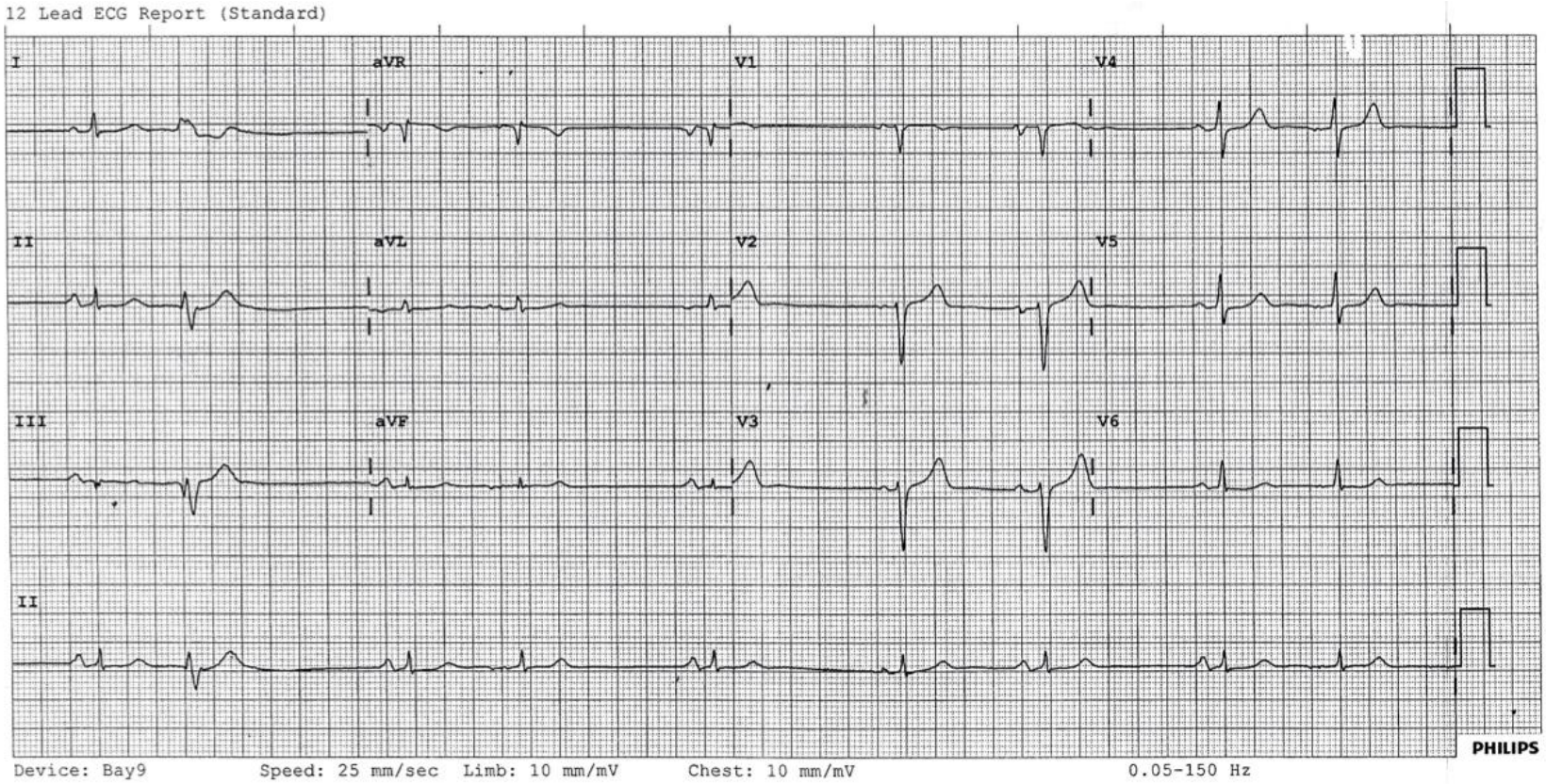
S*ituation*:

B*ackground*:

A*ssessment*:

R*ecommendation / Request*:

Case 9 what does this ECG show?



The patient is 30 and has had a syncopal episode likely due to the hot weather. As been feeling unwell for a few days
What tests would you do?

The results of the test performed on this actual patient are in the appendix

Case 10
Past medical history. Rheumatoid arthritis. Hypertension. GORD.
Medications. Prednisolone 20mg daily. Methotrexate weekly. Pantoprazole 40mg nocte. Prazosin nocte.
Physical signs HR 120 RR 30 BP 110/70

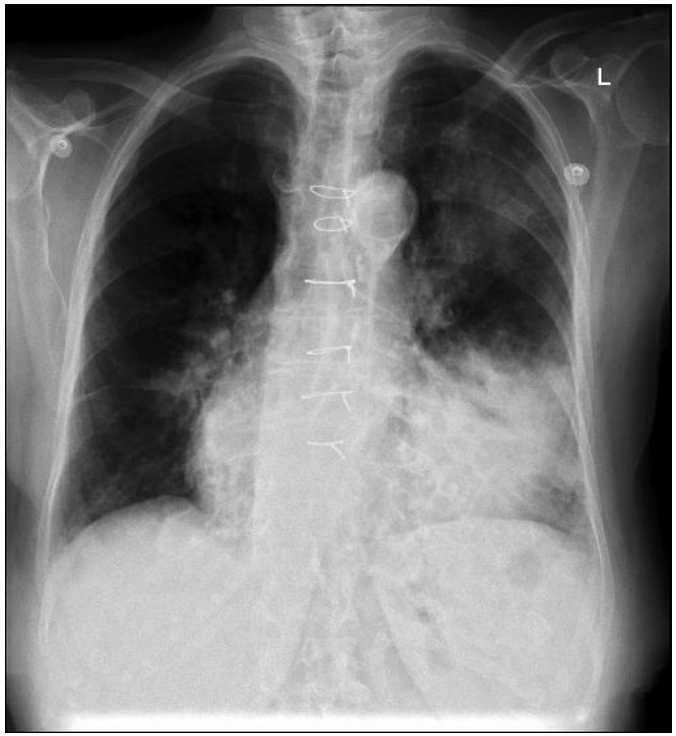
Blood gas is performed on room air

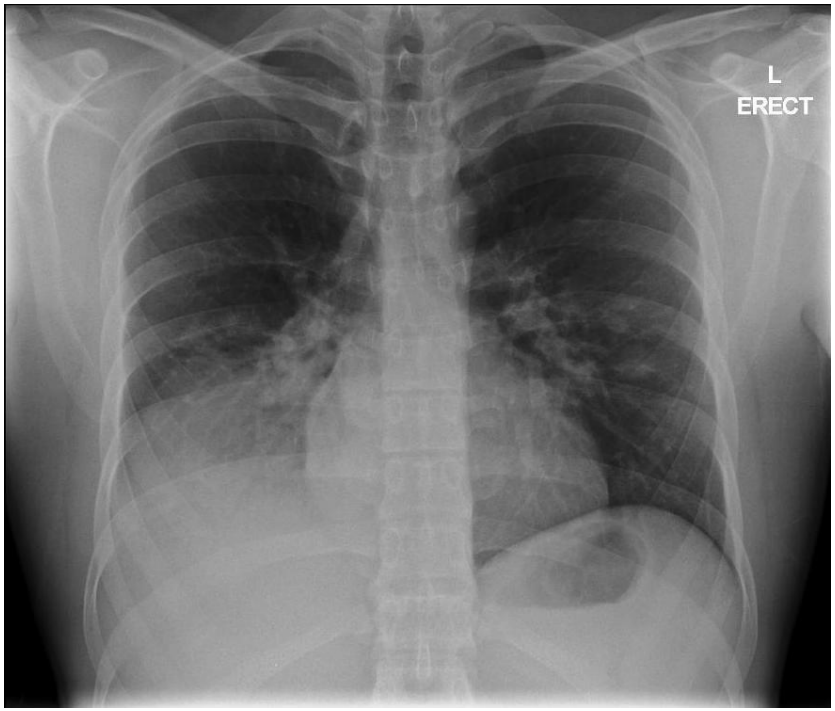
Ph	7.16	mmHg
pCO2	28	mmHg
pO2	100	mmHg
BE	-8	
HCO3	14	
Lactate	1.2	
Na	120	
K	7.6	
Cl	100	
Glucose	4	

Describe the acid base disturbance and put it into the clinical context – outline the key management priorities.

Case 11

You are covering medical patients on an extremely busy evening. A nurse shows you two CXR results of patients recently admitted by the medical registrar and admitting HMO from the Emergency Department. Both patients had fever, cough, dyspnea, and had some green sputum. They both had blood tests and CXRs and were commenced on antibiotics, and arrived on the ward at about the same time, and have just received their first dose of antibiotics.

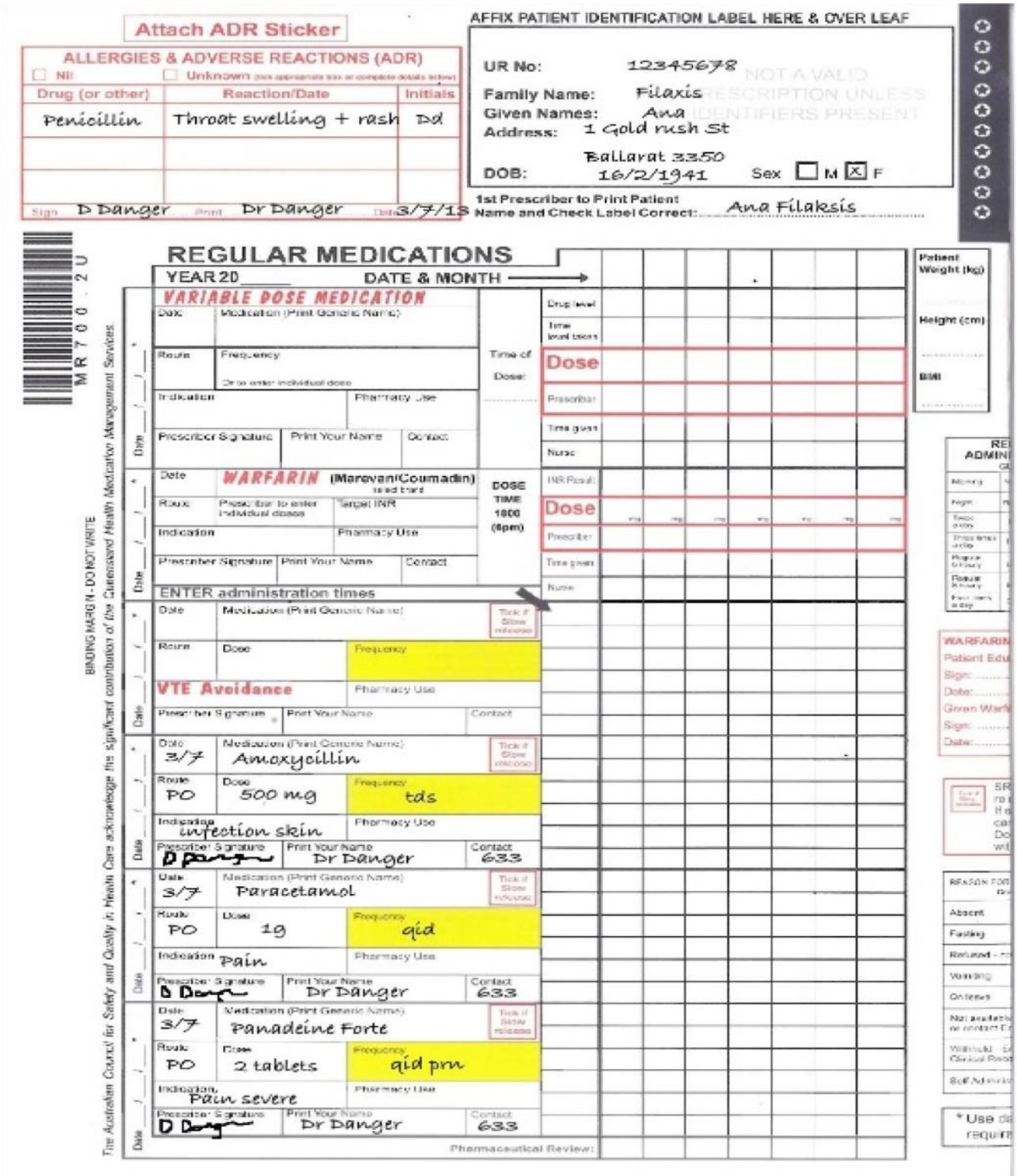




1. Describe the CXRs. What is the diagnosis or differential diagnosis for each

2. What tools are available to determine the severity of the clinical condition demonstrated on these CXRs, and how do they influence the management of the patient (bullet point answer is expected rather than detail)

Both patients are admitted to the wards. The nurse on duty tells you "I am not happy of the drug chart for the patient, can you please sort this out"



Attach ADR Sticker

ALLERGIES & ADVERSE REACTIONS (ADR)

Drug (or other)	Reaction/Date	Initials
Penicillin	Throat swelling + rash	DD

Sign: D Danger Print: Dr Danger Date: 3/7/13

AFFIX PATIENT IDENTIFICATION LABEL HERE & OVER LEAF

UR No: 12345678
Family Name: Filaxis
Given Names: Ana
Address: 1 Gold rush St
Ballarat 3350
DOB: 16/2/1941 Sex ☐ M ☒ F

1st Prescriber to Print Patient Name and Check Label Correct: Ana Filaksis

MR700.2U

BINDING MARGIN - DO NOT WRITE

The Australian Council for Safety and Quality in Health Care acknowledges the significant contribution of the Queensland Health Medication Management Services

REGULAR MEDICATIONS

YEAR 20____ DATE & MONTH →

VARIABLE DOSE MEDICATION

Date | Medication (Print Generic Name) | Route | Frequency | Indication | Pharmacy Use | Prescriber Signature | Print Your Name | Contact

Time of Dose | Dose | Prescriber | Time given | Nurse

WARFARIN (Marevan/Coumadin)

Date | Route | Prescriber to enter individual doses | Target INR | Indication | Pharmacy Use | Prescriber Signature | Print Your Name | Contact

DOSE TIME 1800 (6pm) | INR Result | Dose | Prescriber | Time given | Nurse

ENTER administration times

VTE Avoidance

Date	Medication (Print Generic Name)	Route	Dose	Frequency	Indication	Prescriber Signature	Print Your Name	Contact	Pharmacy Use
3/7	Amoxycillin	PO	500 mg	tds	infection skin	D Danger	Dr Danger	633	
3/7	Paracetamol	PO	1g	qid	Pain	D Danger	Dr Danger	633	
3/7	Panadeine Forte	PO	2 tablets	qid prn	Pain severe	D Danger	Dr Danger	633	

Pharmaceutical Review:

Patient Weight (kg) | Height (cm) | BMI

RE ADMIN

WARFARIN Patient Edu Sign: Date: Given Warf Sign: Date:

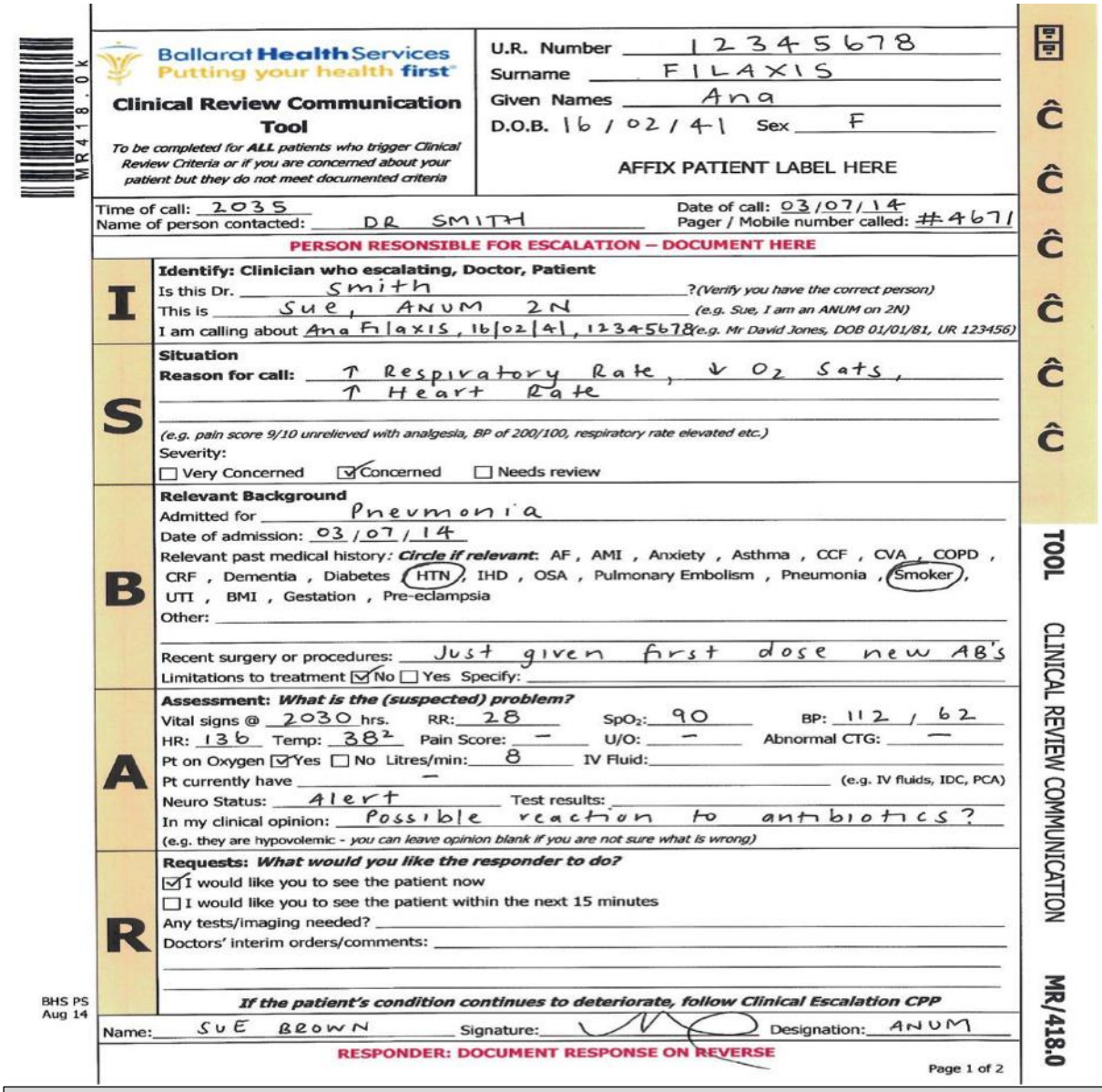
REASON FOR Absent Fasting Refused Vomiting On leave Not available or contact Clinical Review Self Administ

* Use

3. **What are the appropriate steps here for management of this situation(hint start with national standard 5)**

4. **It appears a medical error has occurred, what action will you take about this, and what action might you expect others to take?**

Case 11 cont.
Both patients are still in emergency with fever, cough, dyspnea, and had some green sputum. They both had blood tests and CXRs (see page 17) and were commenced on antibiotics (see medication cart page 18), and arrived on the ward at about the same time, both have recently received their first dose of oral antibiotics.
The nurse looking after one of the patients is worried. At 2030 they ring you and handover their concerns using the following tool



Ballarat Health Services
Putting your health first

Clinical Review Communication Tool

*To be completed for **ALL** patients who trigger Clinical Review Criteria or if you are concerned about your patient but they do not meet documented criteria*

U.R. Number 12345678
Surname FILAXIS
Given Names Ana
D.O.B. 16/02/41 Sex F

AFFIX PATIENT LABEL HERE

Time of call: 2035
Name of person contacted: DR SMITH
Date of call: 03/07/14
Pager / Mobile number called: #4671

PERSON RESONSIBLE FOR ESCALATION – DOCUMENT HERE

I
Identify: Clinician who escalating, Doctor, Patient
Is this Dr. Smith ?*(Verify you have the correct person)*
This is Sue, ANUM 2N *(e.g. Sue, I am an ANUM on 2N)*
I am calling about Ana Filaxis, 16/02/41, 12345678 *(e.g. Mr David Jones, DOB 01/01/81, UR 123456)*

S
Situation
Reason for call: ↑ Respiratory Rate, ↓ O_2 Sats, ↑ Heart Rate
(e.g. pain score 9/10 unrelieved with analgesia, BP of 200/100, respiratory rate elevated etc.)
Severity:
☐ Very Concerned ☑ Concerned ☐ Needs review

B
Relevant Background
Admitted for Pneumonia
Date of admission: 03/07/14
Relevant past medical history: ***Circle if relevant***: AF , AMI , Anxiety , Asthma , CCF , CVA , COPD , CRF , Dementia , Diabetes , (HTN) , IHD , OSA , Pulmonary Embolism , Pneumonia , (Smoker) , UTI , BMI , Gestation , Pre-eclampsia
Other:
Recent surgery or procedures: Just given first dose new AB's
Limitations to treatment ☑ No ☐ Yes Specify:

A
Assessment: *What is the (suspected) problem?*
Vital signs @ 2030 hrs. RR: 28 SpO_2: 90 BP: 112/62
HR: 136 Temp: 38.2 Pain Score: – U/O: – Abnormal CTG: –
Pt on Oxygen ☑ Yes ☐ No Litres/min: 8 IV Fluid:
Pt currently have – *(e.g. IV fluids, IDC, PCA)*
Neuro Status: Alert Test results:
In my clinical opinion: Possible reaction to antibiotics?
(e.g. they are hypovolemic - you can leave opinion blank if you are not sure what is wrong)

R
Requests: *What would you like the responder to do?*
☑ I would like you to see the patient now
☐ I would like you to see the patient within the next 15 minutes
Any tests/imaging needed?
Doctors' interim orders/comments:

If the patient's condition continues to deteriorate, follow Clinical Escalation CPP

Name: SUE BROWN Signature: Designation: ANUM

RESPONDER: DOCUMENT RESPONSE ON REVERSE

Page 1 of 2

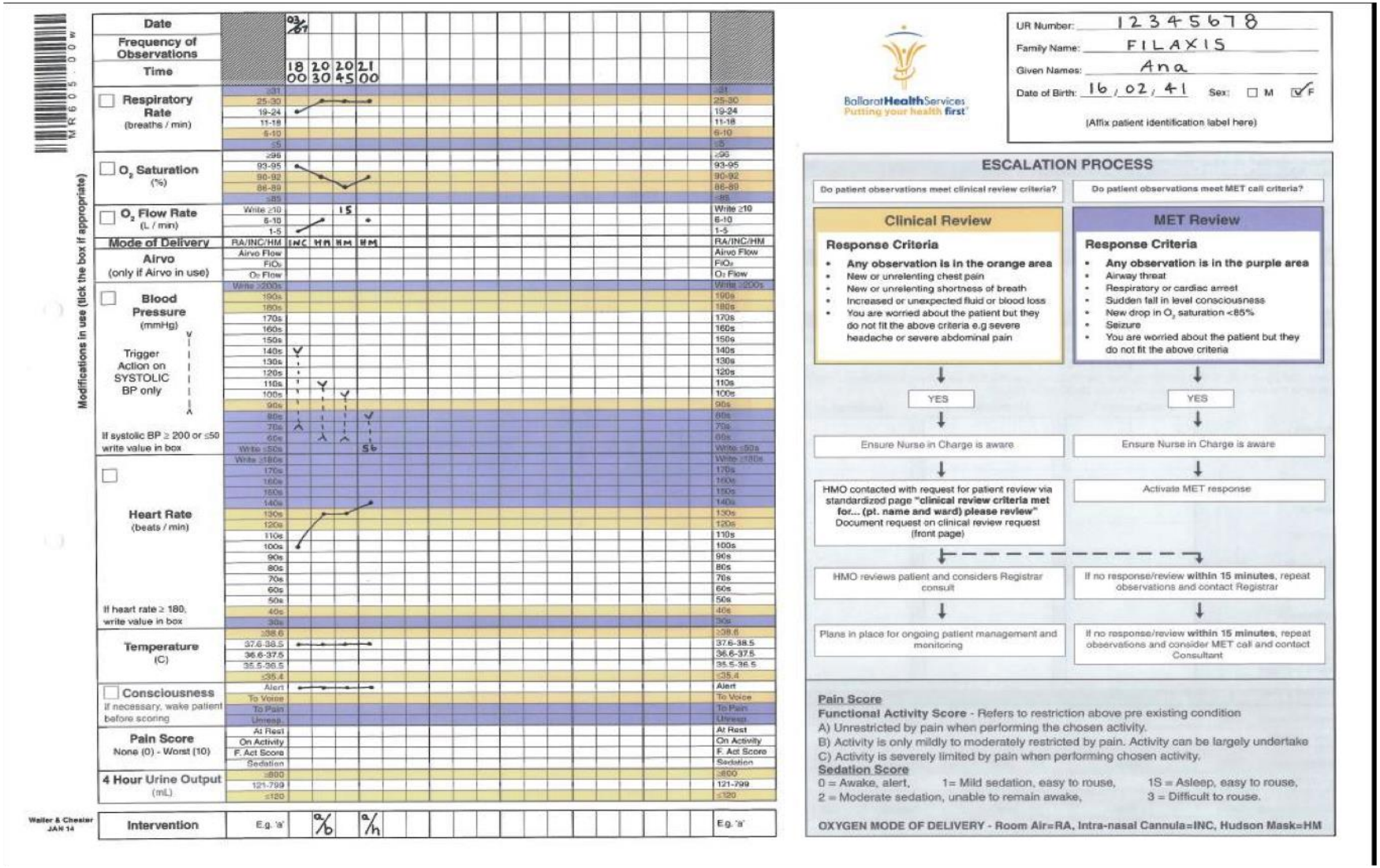
BHS PS Aug 14

MR418.0 CLINICAL REVIEW COMMUNICATION TOOL MR/418.0

You have been asked to go and see this patient. Your registrar asks you to just finish one more task in ED and then to go and see the patient.

5. **What will you do in this situations? If you are not sure, perhaps list what options are available and consider them.**

Its 2100 and the MET response is paged overhead. As you and your Registrar head up stairs, you hope it is not the same patient that they asked you to review 5 minutes ago, or was it 10 minutes ago…
On arrival to the war you are handed the patients chart.



6. **What is the likely diagnosis and what action will you team take?**

7. **List any medications likely to be prescribed, their dose and administrations**

Medicine - Skills and Procedures Checklist

The lists below are sourced from the RACP guidelines and it is worth noting that the PMCV also provide a list of procedures for prevocational trainees. It will be no surprise that these are slightly different. At BHS we will provide this workbook to Physician trainees, to Doctors in training PGY 1 and 2, and will also make it available for medical students on rotation or on electives. Therefore the list needs to be tailored to your own learning needs, and your particular rotation.

For example:
Neurology rotation – LP is essential
Gastroenterology rotation – Ascitic tap is essential
Respiratory rotation – Pleuritic tap or aspirate is very important.
Cardiology rotation – DCR is essential

PGY 1 & 2

Element	Procedure/skill	Competent
Airway	Airway assessment and management; Jaw thrust, chin lift and insertions of an oral airway	
	Intubation in straightforward situations	
	Bag and mask ventilation of un-intubated patients	
Breathing	Spirometry and peak expiratory flow rate determination	
	Application of oxygen administration devices	
Circulation	Setting up a complete drip set and burette	
	Ankle – brachial BP index determination	
	IV Infusion of blood and blood products	
Invasive	Venepuncture, cannulation	
	Blood cultures from peripheral and central site	
	Arterial blood sampling	
	Injections – subcutaneous, intradermal, intramuscular and intravenous	
	Capillary blood glucose	
	Throat/pus/wound swab	
	Cervical smear and swab	
	Minor suturing and debridement of wounds	
	Nasogastric tube insertion	
	Urethral catheterisation – male and female	
Non-invasive	ECG recording	
	Dipstick urinalysis	
	Bladder scanning to determine post void residual	

It would be fair to say that online learning portfolios are increasingly common.

It is highly recommended that our doctors in training trial the online learning procedure logbook at OSLER.
There is a 30 day free trial offer (correct at time of publication)
https://www.osler.community/subscribe/free-30-day-trial

Basic Trainees (PGY3+)

In addition to the PGY2 skills, the trainee should be competent and confident to perform:

Element	Procedure/skill	Competent
Invasive	DC cardioversion – emergency and elective	
	Intercostal drain insertion and management	
	Knee joint aspiration	
	Lumbar puncture	
	Pleural and ascetic fluid aspiration	
	Nasal support ventilation (CPAP, BiPaP)	
	Tracheostomy care and immediate complication management	
	Pressure measurement and care of central venous lines	

Other procedures that may be performed but will require further experience under supervision during advanced specialist training:

Element	Procedure/skill	Competent
Invasive	Use of a temporary pacing box and external pacing machine	
	Insert arterial line	
	Aspiration of shoulder joint, and other joints	
	Bone marrow biopsy	
	Insertion of catheters directly into central veins	
	Sigmoidoscopy	
	Skin biopsy	
	Rectal biopsy	
	Gastroscopy	
	Colonoscopy	
	Pleural biopsy	
	Catheter aspiration of pneumothorax	
	Liver biopsy	
Non - invasive	Supervision of exercise ECG testing	
	Echocardiography	

Referenced from the *Basic Training Adult Internal Medicine Curricula*

Medicine - Mini-CEX

Introduction:
A mini—Clinical Evaluation Exercise (mini-CEX) evaluates a Junior doctor's encounter in a real life setting and assesses aspects of clinical performance, including medical interviewing, physical examination, professional qualities, counselling skills, clinical judgement, organization and efficiency. Also provides an opportunity for structured feedback and is a valuable teaching opportunity.

During core rotations DiTs are expected to complete ***a minimum of 2 mini-CEX assessments*** from the skills and procedure list.

Date: ____ / _____ / _____

Assessor: _____

Setting: ☐ In-patient ☐ Out-patient ☐ Emergency ☐ Other (please specify) _____

Patients problem/Dx(s): _____

Patient age:____ **Patient gender**: ☐ Male ☐ Female **Case complexity:** ☐ Low ☐ Medium ☐ High

Please rate the Junior Doctor against what you would expect for their level of training	**Unsatisfactory**			**Satisfactory**			**Superior**			**Not Observed**
1. Medical interviewing skills	1	2	3	4	5	6	7	8	9	☐
2. Physical examination skills	1	2	3	4	5	6	7	8	9	☐
3. Professional qualities/communication	1	2	3	4	5	6	7	8	9	☐
4. Counselling skills	1	2	3	4	5	6	7	8	9	☐
5. Clinical judgement	1	2	3	4	5	6	7	8	9	☐
6. Organisation/efficiency	1	2	3	4	5	6	7	8	9	☐
Overall clinical performance	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
Time taken for observations				Time taken for feedback						
Assessors signature:				Trainee's signature:						

Mini – CEX Rating form

Date: ____ / _____ / _____

Assessor: _____

Setting: ☐ In-patient ☐ Out-patient ☐ Emergency ☐ Other (please specify) _____

Patients problem/Dx(s): _____

Patient age:____ **Patient gender**: ☐ Male ☐ Female **Case complexity:** ☐ Low ☐ Medium ☐ High

Please rate the Junior Doctor against what you would expect for their level of training	**Unsatisfactory**			**Satisfactory**			**Superior**			**Not Observed**
7. Medical interviewing skills	1	2	3	4	5	6	7	8	9	☐
8. Physical examination skills	1	2	3	4	5	6	7	8	9	☐
9. Professional qualities/communication	1	2	3	4	5	6	7	8	9	☐
10. Counselling skills	1	2	3	4	5	6	7	8	9	☐
11. Clinical judgement	1	2	3	4	5	6	7	8	9	☐
12. Organisation/efficiency	1	2	3	4	5	6	7	8	9	☐
Overall clinical performance	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	
Time taken for observations				Time taken for feedback						
Assessors signature:				Trainee's signature:						

Additional Comments:

Case Based Presentation 1

Introduction:

During core rotations DiTs are requested to record **at least one case** that provided a valuable learning opportunity. The purpose of this assessment is to assist staff, allowing them to reflect upon clinical practice and develop insight into recognising limitations. At the end of term rotation assessment, DiTs are encouraged to seek feedback on these journals. ***(De identify all cases -NO PATIENT ID PLEASE)***

Department:	
Case/Presentation	
Description: Overview of what has happened.	
Feelings: What were you thinking and/or feeling throughout?	
Evaluation: What was positive and/or negative about the experience?	
Analysis: What was the underlying cause/issue of the situation?	
Conclusion: What else could have been done?	
Action plan: If this case was presented again would you do anything differently?	

Case Based Presentation 2

Introduction:

During core rotations DiTs are requested to record **at least one case** that provided a valuable learning opportunity. The purpose of this assessment is to assist staff, allowing them to reflect upon clinical practice and develop insight into recognising limitations. At the end of term rotation assessment, DiTs are encouraged to seek feedback on these journals. ***(De identify all cases -NO PATIENT ID PLEASE)***

Department:	
Case/Presentation	
Description: Overview of what has happened.	
Feelings: What were you thinking and/or feeling throughout?	
Evaluation: What was positive and/or negative about the experience?	
Analysis: What was the underlying cause/issue of the situation?	
Conclusion: What else could have been done?	
Action plan: If this case was presented again would you do anything differently?	

Appendix - Case index

1. **Pneumonia versus meningitis**
2. **Hyponatraemia for work up**
3. **Sepsis case**
4. **Sepsis case 2 – consider endocarditis…**
5. **Hypokalaemia**
    a. **The potassium was 1.6**
6. **Hypernatraemia**
7. **Diabetes**
8. **Metabolic alkalosis and hypokalaemia and…**
9. **ECG was suspicious for hyperkalaemia**
    a. **the urgent VBG demonstrated ph 7.07 HCO3 9 CO2 34 Na 132 gluc 5 lactate 1.2 and K 7.1.**
10. **Metabolic acidosis**
11. **Case in the Spotlight 7 and 8 a full explanation is available on our website at**
    a. **http://educationresource.bhs.org.au/hmo/supervisors**
    b. **this section contains our ECG and case in the spotlight database and can be used for teaching sessions**