MSC CLINICAL PHARMACY PHARMACEUTICAL CARE PLAN

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A. PATIENT BACKGROUND AND MEDICATION LIST

Reason for selecting this patient
Having studied cardiology through the clinical diploma, I wanted to broaden my knowledge and focus more closely on treatment of Acute Coronary Syndromes (ACS). This case study explores the treatments of Non-ST Segment Elevation Myocardial Infarction (NSTEMI).

Patient Details		
Initials: Mrs. ML	Age: 85 years	Male ☐ Female ☒
Weight: 57 kg	Height: 1.57 meters	BMI: 23kg/m^2 or BSA (Paediatrics): m^2

Patient History
Presenting Complaint: Presented to A&E with a history of 3 or 4 days of left arm and leg heaviness/numbness. No chest pain currently but had previous chest pain about a month ago which the patient attributed to reflux. Patient states she has 'not been right' for two weeks. Dizzy on standing. No loss of consciousness and no collapse.
Past Medical/Surgical/Mental Health History: Hypertension. Hypercholesterolemia. Oesophagitis and hiatus hernia causing reflux like symptoms.

Patient History
Has a family history of IHD (sister had myocardial infarction)
Social History: Previous smoker; stopped smoking approximately 7 years ago. Lives at home with husband. Fully independent. Alcohol at special occasions.
Impression/Diagnosis: 1) NSTEMI 2)Likely postural hypotension
Plan: 1) ACS treatment 2) Troponin T test 3) Urea and Electrolytes 4) Chest X-Ray 5) Echocardiogram (ECHO) 6) Telemetry 7) Lying and standing blood pressure (BP) 8) Cardiology review

Medication History	
Medication List	Indication and Evidence
Ramipril 5mg ON	Hypertension – Angiotensin Converting Enzyme (ACE) inhibitor in line with NICE Clinical Guidance 127: Hypertension in adults – Diagnosis and Management.[1] (However, see clinical problems)
Omeprazole 20mg OD	Hiatus Hernia/Gastro-Oesophageal Reflux Disease – Proton Pump Inhibitor (PPI) prescribed in line with NICE Clinical Guidance 184: Gastro-Oesophageal Reflux Disease and Dyspepsia in adults[2].

Medication History	
Medication List	Indication and Evidence
Simvastatin 40mg ON	Hypercholesterolemia – Statin prescribed in line with NICE guidance 181 Lipid Modifications for the Primary and Secondary Prevention of Cardiovascular Disease[3].
Amitriptyline 25mg BD	No indication documented in past medical history (see clinical problems)
Nil OTC/Inhalers/Creams/Herbals/Injections	
Allergies/Sensitivities	Bezafibrate, Ciprafibrate

Progress Notes	
Date	Notes
02/12/16	Presented to A&E with left arm and leg heaviness for the past 3 to 4 days. No complaints of chest pain but does recall severe chest pain month previous which the patient attributed to indigestion. BP – 144/82mmHg Respiratory Rate – 19 bpm Temperature – 37.3°C Pulse – 83 bpm O_2 saturations – 97% ECG – T-wave inversion V_3 – V_6; Apical, lateral and inferior regional wall motion abnormalities; Decreased contractility; Some Q waves As new changes in ECG since 2014 and increased Trop T – Treat as NSTEMI Trop T = 86ng/L (02/12/16 - 10:14am) , 84ng/L (02/12/16 - 16:39)
04/12/16	Continue ACS treatment Grace Score – 5% in hospital mortality risk
05/12/16	ECHO – Ejection Fraction 45% - 55%; Mild Left Ventricular Dysfunction
06/12/16	Continue ACS treatment

Progress Notes	
Date	Notes
	Cardiac Rehab Nurse Input – Information given. Explained angiogram and potential outcomes. EWS = 0 BP – 129/62mmHg HR – 60bpm Temperature – 36.5°C SpO_2 – 98% RR – 17bpm Heart Sounds – I + II + 0 No peripheral oedema. Chest X-Ray clear, normal heart size Patient complaints of chest pain Possible angina/late presentation NSTEMI. Mild AKI stage 1. Angiogram if no more chest pain. No need for diuretics.
07/12/16	BP 116/59mmHg

Progress Notes	
Date	Notes
	HR – 60bpm For transfer to Blackpool Victoria Hospital for angiogram (Regional Cardiac Specialist Centre) Diarrhoea
08/12/16	Transferred to Blackpool Victoria Hospital
12/12/16	Returned from Blackpool Victoria Hospital after angiogram. Showed tight distal lesion and calcification in right coronary artery. Due to tortuousness and patient being pain free, decided only for medical treatment.
13/12/16	Discharged.

Medication Changes						
Medication List	Dose	Frequency	Route	Indication	Start/Continued Date	Stop Date
Aspirin	300mg	STAT	Oral	Aspirin is an irreversible COX-1 inhibitor. Inhibition of COX-1 suppresses thromboxane A2 production. This prevents platelet aggregation. The initiation of aspirin reduces risk of future coronary events by 46%[4].	02/12/16	02/12/16

Medication Changes						
Medication List	Dose	Frequency	Route	Indication	Start/Continued Date	Stop Date
Clopidogrel	300mg	STAT	Oral	Clopidogrel is a P2Y12 receptor inhibitor. Like aspirin, clopidogrel prevents platelet adhesion, activation, and aggregation. All patients should be given dual antiplatelet therapy.	02/12/16	02/12/16
Fondaparinux	2.5mg	OD	S/C	Fondaparinux prevents thrombus formation.	02/12/16	06/12/16
Glyceryl Trinitrate (GTN)	400microgram	PRN	S/L	Pain relief is indicated in the initial management of all patients. Sublingual GTN reduces myocardial oxygen demand and improves myocardial oxygen delivery. Initially prescribed as precautionary measure (no chest pain on admission), but then necessary as patient developed chest pain whilst an inpatient.	02/12/16	Continued on discharge
Paracetamol	1gram	QDS	Oral	Pain relief in line with the WHO pain ladder[5].	02/12/16	Continued on discharge
Aspirin	75mg	OD	Oral	See aspirin above	03/12/16	Continued on discharge

Medication Changes						
Medication List	Dose	Frequency	Route	Indication	Start/Continued Date	Stop Date
Clopidogrel	75mg	OD	Oral	See clopidogrel above	03/12/16	05/12/16
Ticagrelor	90mg	BD	Oral	Prevention of atherosclerotic events in patients with ACS (in combination with aspirin).	05/12/16	Continued on discharge (for 1 year)
Bisoprolol	1.25mg	OD	Oral	Beta-blockers are recommended post-NSTEMI in all patients as they reduce infarct size, reduce oxygen demand and reduce mortality. Contraindications include low heart rate, low BP, second- or third-degree heart block, asthma and severe COPD.	02/12/16	Continued on discharge
Simvastatin	40mg	ON	Oral	High cholesterol - See clinical problem	On admission	02/12/16
Atorvastatin	80mg	ON	Oral	NSTEMI patients should be started on a high-intensity statin for long term reduction in cardiovascular risk	03/12/16	Continued on discharge
Amitriptyline	25mg	BD	Oral	No indication stated during admission and medical notes from patients history. Patient states she has been on amitriptyline for 'a long time' and recalls having sleeping problems which may have been attributed to depression. See clinical	On admission	03/12/16

Medication Changes						
Medication List	Dose	Frequency	Route	Indication	Start/Continued Date	Stop Date
				problem		
Omeprazole	20mg	OD	Oral	GORD - See clinical problem	On admission	03/12/16
Lansoprazole	30mg	OM	Oral	GORD (Omeprazole switched to lansoprazole)	03/12/16	07/12/16
Isosorbide Mononitrate MR	30mg	OD	Oral	Chest pain – anginal chest pain	06/12/16	Continued on discharge
Dalteparin	5,000units	OD	SC	VTE prophylaxis	07/12/16	09/12/16
Ranitidine	150mg	BD	Oral	GORD in line with NICE clinical guidance 184[2]. See clinical problem	07/12/16	Continued on discharge

Monitoring Plan			
Parameter	Justification	Frequency	Result(s) and Action Plan
Global Registry of Acute Coronary Events (GRACE) score[6]	'NICE Clinical Guidance 94: Unstable angina and NSTEMI: early management'[7] suggests the individual risk of future cardiovascular events should be calculated. In this instance the GRACE score was calculated. The GRACE score is a way of measuring the ischaemic risk and it enables healthcare professionals to calculate the risk on admission and provides a direct estimation of mortality while in hospital, at 6 months, at 1 year and at 3 years. The GRACE score is calculated from: Age, systolic blood pressure, pulse rate, serum creatinine, Killip class at presentation (measure of heart failure), cardiac arrest at admission, elevated cardiac biomarkers and ST deviation.	Once only	GRACE risk score for this patient is calculated to be 5%. This equates to a high risk of in-hospital mortality. Calculating the GRACE score directs and influences treatment options. In this case, as the patient is high risk, an angiogram should be offered as soon as possible. The patient was transferred to Blackpool Victoria Hospital for the angiogram.
12 lead ECG	The resting 12-lead ECG is the first-line diagnostic tool in the assessment of patients with suspected ACS. Characteristic abnormalities include ST depression, transient ST elevation and T-wave changes[8].	On admission and as clinically indicated during stay depending on cardiac symptoms and monitoring parameters.	ECG – T-wave inversion V_3 – V_6; Apical, lateral and inferior regional wall motion abnormalities; Decreased contractility; Some Q waves Some Q waves indicative of previous MI. ACS treatment initiated.

Monitoring Plan			
Parameter	Justification	Frequency	Result(s) and Action Plan
Troponin	Cardiac troponins are more sensitive and specific markers of cardiomyocyte damage High-sensitivity cardiac troponin T has greater prognostic accuracy. The higher the high-sensitivity troponin levels at presentation, the greater the risk of death[9].	On admission and then 6 hours after.	Raised Trop T – indicative of cardiac cell damage. 6 hour Trop T did not give a significantly different result from that recorded on admission. Combined with presence of Q waves on ECG, 12 hour Trop T was not needed (as decided by consultant) as he stated most likely to be a 'missed NSTEMI' given previous chest pain.
Urea and electrolytes	Side effect profile of medications can affect electrolytes. It is necessary to monitor appropriateness of therapy and ensure that changes to urea and electrolytes are picked up at the first available opportunity.	On admission and regularly throughout admission.	Patient developed acute kidney injury (AKI) stage 1 during admission. Rise in creatinine from 89umol/L to 119umol/L. Equates to Creatinine Clearance decrease from 36ml/min to 27ml/min. As a result, I suggested withholding nephrotoxic medications (Ramipril) until AKI resolved.
Full blood count	Necessary to check full blood count on admission to see if presenting symptoms could be caused by infection i.e. check inflammatory markers. Full blood count also provides an indicator of side effects from medications. In particular it is necessary to monitor platelets when commencing dalteparin therapy due to heparin induced thrombocytopenia.	On admission and regularly throughout admission.	No abnormalities detected in full blood count. No action needed.

Monitoring Plan			
Parameter	Justification	Frequency	Result(s) and Action Plan
Left Ventricular Dysfunction	Assessment of left ventricular (LV) systolic function is recommended by NICE Clinical guidance 94[7] for all patients who have had a myocardial infarction. It allows an estimation of prognosis, identifies abnormalities associated with ischaemia and the level of heart failure.	ECHO on admission	ECHO determined LVSD to be 45-55%. Aldosterone antagonist therapy is recommended in patients with LV dysfunction (LVEF ≤40%) and heart failure or diabetes after NSTEMI. No action needed.
Chest X-Ray	Chest X-ray is recommended in all patients in whom NSTEMI is considered as it is enables the clinicians to rule out other differential diagnoses; pneumonia, pneumothorax, rib fractures or other thoracic disorders.	On admission	Chest X-Ray clear, no consolidation – no signs of chest infection. Normal heart size
Lipid profile	NICE Clinical Guidance 181[3] on lipid modification states that when started on high intensity statins, lipid profile should be sought after 3 months to assess treatment.	When started on statin therapy and then 3 months later.	NICE guidance states to aim for a 40% reduction in non-HDL cholesterol. Information provided to the GP to follow up lipid profile. Current level of non-HDL cholesterol is 4.6mmol/L
Creatine Kinase	Creatine kinase is measured to assess suitability of statin treatment.	On admission	No action needed. Creatine kinase not significantly raised to warrant discontinuation of treatment.
Liver function tests	Patient has been started on high-intensity statin treatment and continues on Ramipril; important to assess LFTs to deduce appropriateness of therapy.	On admission	No abnormalities detected. No action needed

Analysis of Clinical Problems			
Clinical Problem	Assessment	Priority	Action Taken and Outcome
Ramipril for hypertension pre-admission	NICE clinical guidance 127[1] states that hypertension in patients over 55 years old should be offered a calcium channel blocker as first line agent.	High☐ Medium☐ Low☒	No need to clarify with GP why patient is not prescribed a calcium channel blocker as ACE-inhibitor needed as part of ACS treatment.
Clopidogrel versus Ticagrelor	Ticagrelor shown to have a faster onset of action and greater efficacy when compared to clopidogrel[10]. However, the risk of bleeding is also greater with ticagrelor[10].	High☒ Medium☐ Low☐	The patient was initially started on clopidogrel by the cardiology team. I discussed the choice of second antiplatelet (in addition to aspirin) and suggested that ticagrelor was shown to have a faster onset and greater efficacy as stated in the European Society of Cardiology Guidelines for NSTEMI. The team discussed this with the consultant and decided to switch clopidogrel to ticagrelor.
Atorvastatin dosing	ESC[10] and NICE guidelines[3] state that atorvastatin should be prescribed at a dose of 80mg; medical team prescribed atorvastatin 40mg.	High☒ Medium☐ Low☐	Dose increased as per guidelines.
Omeprazole and clopidogrel interaction	Interaction between omeprazole and clopidogrel. Omeprazole may reduce the antiplatelet effect of	High☒ Medium☐ Low☐	Whilst the team deliberated switching clopidogrel to ticagrelor (discuss with consultant), I recommended to switch omeprazole to lansoprazole, which does not

Analysis of Clinical Problems			
Clinical Problem	Assessment	Priority	Action Taken and Outcome
	clopidogrel[11].		interact with clopidogrel.
Amitriptyline post MI	Amitriptyline is contra-indicated in the immediate recovery phase after a myocardial infarction - amitriptyline is cardio-toxic.	High☒ Medium☐ Low☐	Suggested to doctors that amitriptyline should be discontinued. To monitor for signs of withdrawal; sweating, headache, nausea. I queried why the patient was on this medication and she said she has been on the medication 'for years' and thinks it was prescribed at the time for 'low mood'.
Diarrhoea	Patient complained of long standing bowel problems. She was noted to have type 6 stools whilst in hospital. This was attributed to the regular use PPIs.	High☐ Medium☒ Low☐	Recommended to switch the PPI to ranitidine in line with second line therapy for dyspepsia and GORD as per NICE guidelines[2].
VTE prophylaxis	All patients in hospital receive a VTE assessment. This includes risk factors for thrombosis risk and bleeding risk. Deduced patient at risk of thrombosis due to cardiac history.	High☒ Medium☐ Low☐	Fondaparinux initially prescribed as per ESC[10] and NICE guidance[7]. When the patient had completed 5 days, she was then switched to dalteparin 5,000units once daily in line with trust guidelines for ongoing VTE prophylaxis. FBC monitored for signs of heparin induced thrombocytopenia.
Chest pain	Not complaining of chest pain on admission, but did after a few days of	High☒ Medium☐ Low☐	Patient was started on Isosorbide mononitrate MR in line with ESC[10] recommendations for

Analysis of Clinical Problems			
Clinical Problem	Assessment	Priority	Action Taken and Outcome
	being in hospital.		anginal chest pain. She was also discharged with a GTN spray for PRN use.
Aldosterone antagonist	Aldosterone antagonists (e.g., eplerenone) should be used in all patients with left ventricular dysfunction (ejection fraction ≤40%), a history of diabetes mellitus, or evidence of congestive heart failure (S3 gallop, rales)[10].	High☐ Medium☒ Low☐	No current action warranted as discussed with the doctors. Patient will be followed up at a planned heart failure nurse appointment where this will be reviewed further.
Acute Kidney Injury (AKI)	Patient developed Stage 1 AKI (an increase in creatinine from 89umol/L to 119umol/L. I reviewed the patient's medications using the renaldrugdatbase[12].	High☒ Medium☐ Low☐	I suggested withholding Ramipril due to the associated nephrotoxicity. Ramipril was withheld for 2 days until renal function improved.

Follow Up Plan (including discharge requirements, future planning and ongoing assessments)	
Follow Up Requirement	Action Taken/Future Plan
Counselling patient on new medications	Counselled patient on all new medications, covering briefly, what they do, main side effects and benefit of taking medications. I also signposted the patient to their local pharmacy as they would be able to provide the New Medicines Service to further consolidate their knowledge on their new medications.
Lifestyle modifications[13]	Outlined non-modifiable and modifiable risk factors for cardiovascular disease (CVD). Increasing age and family history of CVD apply to Mrs. ML. In terms of modifiable risk factors, I discussed raised cholesterol, high blood pressure, physical activity and health eating (i.e. Mediterranean diet). This links to cardiac rehabilitation.
Cardiac rehabilitation[13]	Cardiac rehabilitation is a structured programme provided to patients who have suffered a heart attack. It provides patients with motivation and support to change their behaviour and increase their chance of survival. The aims of cardiac rehabilitation are to: Increase functional capacity Stop cigarette smoking Modify lipids and lipoproteins Decrease body weight and fat stores

Follow Up Plan (including discharge requirements, future planning and ongoing assessments)	
Follow Up Requirement	Action Taken/Future Plan
	Reduce BP Improve psychosocial well-being Prevent progression and promote plaque stability Restore and maintain optimal physical, psychological, emotional, social, and vocational functioning. Cardiac rehabilitation should be started on discharge. The programme should include aerobic and weight-bearing exercise 4 to 5 times a week for >30 minutes. The patient was referred to the cardiac rehabilitation nurses.
Titration of ACE and Beta Blocker	Doses of both medications to be titrated up to the maximum tolerated dose. I noted this on the discharge letter for the GP to review as appropriate.
Psychological and social support	Antidepressant medication stopped whilst inpatient. I documented this on the discharge letter and informed the GP to review antidepressant medication. Additionally, given patient has had a serious medical condition, as per NICE guidance[13], the patient should be offered psychological and social support.
GP to monitor renal function, blood pressure and electrolytes	Given that patient had AKI whilst in hospital, it would be necessary to monitor renal function. Additionally, titration of Ramipril would need renal function to be monitored by the GP.

Follow Up Plan (including discharge requirements, future planning and ongoing assessments)	
Follow Up Requirement	Action Taken/Future Plan
Dual antiplatelets for 12 months only	Note left on IHDI for GP.
To measure lipid profile as started high intensity statin	As per NICE guidance[3], follow up needed after 3 months to review lipid profile after initiating a high-intensity statin.
Cardiology clinic in 2 – 3 months	Patient will be reviewed in cardiology clinic.

G. CONTINUING PROFESSIONAL DEVELOPMENT

Learning Plan		
Learning Need Identified	Action Taken	Completion Date
To further identify and learn about the role of heart failure nurses and the input they can provide.	Arrange to shadow and spend time with heart failure nurses on the wards.	TBC
To understand and learn the follow up process when a patient comes back to the cardiology clinic.	Liaise with cardiology to attend clinic appointments.	TBC
To further develop knowledge of cardiac rehabilitation	Attended senior pharmacist presentation to staff on cardiac rehabilitation. I will also liaise with cardiac rehabilitation nurses to understand the support they provide both in hospital and out of hospital.	Presentation 13/12/16 TBC with cardio

Learning Plan		
Learning Need Identified	Action Taken	Completion Date
		rehab nurses

H. EVIDENCE AND REFERENCES

Reference List
[1] National Institute for Health and Care Excellence; Hypertension in adults: diagnosis and management; Clinical Guideline 127; London; NICE; August 2011;
[2] National Institute for Health and Care Excellence; Gastro-Oesophageal reflux disease and dyspepsia in adults: investigation and management; Clinical Guideline 184; London; NICE; September 2014
[3] National Institute for Health and Care Excellence; Cardiovascular Disease: risk assessment and reduction, including lipid modification; Clinical Guideline 181; London; NICE; July 2014
[4] Antithrombotic Trialists' Collaboration; Collaborative meta-analysis of randomised trials of antiplatelet therapy for prevention of death, myocardial infarction, and stroke in high risk patients. BMJ 2002;324:71 –86

Reference List
[5]World Health Organisation; WHO's Pain Relief Ladder; Available from: *http://www.who.int/cancer/palliative/painladder/en/* (Accessed December 2016)
[6] The Global Registry of Acute Coronary Events; Available from *www.gracescore.org*; (Accessed December 2016)
[7] National Institute for Health and Care Excellence; Unstable Angina and NSTEMI: Early Management; Clinical Guideline 94; London; NICE; March 2010
[8] Steg PG et al.; ESC guidelines for the management of acute myocardial infarction in patients presenting with ST-segment elevation. Eur Heart J 2012;33:2569 –2619.
[9] Rubini Gimenez M, et al.. Direct comparison of high-sensitivity-cardiac troponin I vs. T for the early diagnosis of acute myocardial infarction. Eur Heart J 2014;35:2303 –2311
[10] Roffi M et al.; 2015 ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation; European Heart Journal (2016) 37, 267–315
[11] Ivan H. Stockley; Stockley's Drug Interactions; Accessed from Medicinescomplete *https://www.medicinescomplete.com* (Accessed December 2016)
[12] UK Renal Pharmacy Group; The Renal Drug Database; Accessed from www.therenaldrugdatabase.com (Accessed December 2016)
[13] National Institute for Health and Care Excellence; Myocardial Infarction: cardiac rehabilitation and prevention of further cardiovascular diseases; Clinical Guideline 172; London; NICE; November 2013

I. PROFESSIONAL FRAMEWORK MAPPING

RPS Foundation Framework

Cluster 1 Patient and Pharmaceutical Care	Cluster 2 Professional Practice	Cluster 3 Personal Practice	Cluster 4 Management and Organisation
1.1 Patient Consultation ☒ 1.2 Need for Medicine ☒ 1.3 Provision of Medicine ☐ 1.4 Selection of Medicine ☒ 1.5 Medicine Specific Issues ☒ 1.6 Medicines Information and Patient Education ☒ 1.7 Monitoring Medicine Therapy ☒ 1.8 Evaluation of Outcomes ☐ 1.9 Transfer of Care ☒	2.1 Professionalism ☒ 2.2 Organisation ☐ 2.3 Effective Communication Skills ☐ 2.4 Team Work ☐ 2.5 Education and Training ☐	3.1 Gathering Information ☐ 3.2 Knowledge ☒ 3.3 Analysing Information ☐ 3.4 Providing Information ☒ 3.5 Follow Up ☐ 3.6 Research and Evaluation ☐	4.1 Clinical Governance ☐ 4.2 Service Provision ☐ 4.3 Organisations ☐ 4.4 Budget and Reimbursement ☐ 4.5 Procurement ☐ 4.6 Staff Management ☐

RPS Advanced Pharmacy Framework

Cluster 1 Expert Professional Practice	Cluster 2 Collaborative Working Relationships	Cluster 3 Leadership	Cluster 4 Management	Cluster 5 Education, Training and Development	Cluster 6 Research and Evaluation
1.1 Expert Skills and Knowledge AS1 ☐ AS2 ☐ M ☐ 1.2 Delivery of Professional Expertise AS1 ☐ AS2 ☐ M ☐ 1.3 Reasoning and Judgement AS1 ☐ AS2 ☐ M ☐ 1.4 Professional Autonomy AS1 ☐ AS2 ☐ M ☐	2.1 Communication AS1 ☐ AS2 ☐ M ☐ 2.2 Teamwork and Consultation AS1 ☐ AS2 ☐ M ☐	3.1 Strategic Context AS1 ☐ AS2 ☐ M ☐ 3.2 Governance AS1 ☐ AS2 ☐ M ☐ 3.3 Vision AS1 ☐ AS2 ☐ M ☐ 3.4 Innovation AS1 ☐ AS2 ☐ M ☐ 3.5 Service Development AS1 ☐ AS2 ☐ M ☐ 3.6 Motivational AS1 ☐ AS2 ☐ M ☐	4.1 Implementing National Priorities AS1 ☐ AS2 ☐ M ☐ 4.2 Resource Utilisation AS1 ☐ AS2 ☐ M ☐ 4.3 Standards of Practice AS1 ☐ AS2 ☐ M ☐ 4.4 Management of Risk AS1 ☐ AS2 ☐ M ☐ 4.5 Managing Performance AS1 ☐ AS2 ☐ M ☐	5.1 Role Model AS1 ☐ AS2 ☐ M ☐ 5.2 Mentorship AS1 ☐ AS2 ☐ M ☐ 5.3 Conducting Education and Training AS1 ☐ AS2 ☐ M ☐ 5.4 Professional Development AS1 ☐ AS2 ☐ M ☐ 5.5 Links Practice and Education	6.1 Critical Evaluation AS1 ☐ AS2 ☐ M ☐ 6.2 Identifies Gaps in the Evidence Base AS1 ☐ AS2 ☐ M ☐ 6.3 Develops and Evaluates Research Protocols AS1 ☐ AS2 ☐ M ☐ 6.4 Creates Evidence AS1 ☐ AS2 ☐ M ☐ 6.5 Research Evidence

RPS Advanced Pharmacy Framework					
Cluster 1 Expert Professional Practice	Cluster 2 Collaborative Working Relationships	Cluster 3 Leadership	Cluster 4 Management	Cluster 5 Education, Training and Development	Cluster 6 Research and Evaluation
			4.6 Project Management AS1 ☐ AS2 ☐ M ☐ 4.7 Managing Change AS1 ☐ AS2 ☐ M ☐ 4.8 Strategic Planning AS1 ☐ AS2 ☐ M ☐ 4.9 Working Across Boundaries AS1 ☐ AS2 ☐ M ☐	AS1 ☐ AS2 ☐ M ☐ 5.6 Educational Policy AS1 ☐ AS2 ☐ M ☐	into Working Practice AS1 ☐ AS2 ☐ M ☐ 6.6 Supervises Others Undertaking Research AS1 ☐ AS2 ☐ M ☐ 6.7 Establishes Research Partnerships AS1 ☐ AS2 ☐ M ☐

APPENDIX

Please enclose a copy of the case-based discussion form (if applicable), here.

ROYAL SOCIETY

Case Based Discussion*

Practitioner Details

Knowledge, Skill, Experience or Behaviour (KSEB)	Significantly below	Below expectations	Meets expectations	Above expectations	Significantly above	Unable to comment
Pharmaceutical need assessment				✓		
Treatment recommendations			✓			
Follow up or monitorings				✓		
Professioanalism				✓		
Overall clinical judgement	☐	☐	☐	☑	☐	☐

Summary of Assessment

Summary of patient interaction (to include sector, patient type, focus of interaction, new or follow up case, complexity case):

Patient admitted with chest pain.
- Richard recognised ACS symptoms but correctly discussed ruling out P.E, chest infection and stroke.
- All appropride ACS mediaines prescribed according to guidelines afte Richard challenged casultat regarding ticagrelor.
- Correct recognition that patient prescribed amlodipine incorrectly for hypertension according to guidance, but changed to ramipril accordingly.
- Aminophylline correct stopped post MI.
- Follow up as an inpatient correctly noted but also included GP follow up which was excellent.
- Modifiable risk factors considered appropriately.

Relatively straight forwod ACS case with excellent pharmaceutical care.

ROYAL SOCIETY

Summary of Assessment

Anything especially good:

- Guidance considered for both ACS medication and existing medication.
- All medications on admission linked to PMHx and reviewed to see if still appropriate.
- Consultant challenged regarding initial incorrect prescription.
- Heart failure recognised due to symptoms.

Suggestions for development:

Consider treatment options for heart failure and STEMI to expand cardiac knowledge.

Could attend cardiac rehab for experience?

Agreed action:

Another fantastic piece of work, well done.
Carry on building clinical knowledge and experience.
To arrange cardiac rehab experience.

Assessor Details

Full Name:

RPS Membership Number: 1113453

Position: PRESCRIBING PHARMACIST (TUTOR) Date: 16/12/16