Question	Upvot	Moderator Answer
In practice should we always be gating both rest and stress nuclear images in order to compare rest and stress LVEFs	1	It is ideal to gate with both rest and stress
Can you read TID on pharmacologic stress	1	Yes but it has to be more pronounced and has a much lower specificity
Pet scans in sarcoid	1	Increasingly common use not yet manifested on boards but will include next year Thanks
Is there a relation to the proximity of the lesion and the possibility of FFR 08 60 proximal LAD more likely to be positive as it supply blood to large territory	1	I dont think so
As cath and echo are coded separately and need to pass I wish if college can post these lecture videos so we can review again Thanks	1	I will go through echo and Cath with coding sheets on Saturday Cardio source has a lot of images and also ACC echo and CathSAP are useful learning tools
Can we have the echo videos and cath films on the online PDFs	1	They are loop images Hence unable to give in pdf
Are there guidelines for downstream testing based on Calcium Score Stress testing etc	1	Best to individualize to patient history especially presentation
Explain how calcium of 50 makes a 82 percentile	1	MESANHLBI CAC calculator that puts calcium score into context of patients sex age ethnicityetc
What are your views on pharmakoinvasive approach for STEMI patients even if time of first medical contact to PCI is 120 m	1	I dont think it is a good idea It increases bleeding without improving efficacy
please give indication for reasons with Aldo antagonistthanks you covered it quick	1	Third agent for use in HTN not controlled by 2 drugs
So goal of Htn is 14090 in office 13580 for home monitoring and 13080 for ambulatory home monitoring	1	Home 13585 av ambulatory 13080 Office 14090
African American with DM2 wont benefit from ACEIARB	1	Yes especially if they haveCKD
In African American patients with poorly controlled Hypertension on HCTZ and amlodipine would you choose ACEI OR ARB as third drug	1	Either ACEI or ARB would be reasonable Li EC et al Cochrane Database Syst Rev 2014
how to treat Renal Vascular htn	1	If due to renal artery stenosis than renal stenting is indicated especially if its causing pulmonary congestion and heart failure

Is it two or five visits then for diagnosis of HtN	1	Take 2 readings and average the readings Confirm the diagnosis of HTN at a subsequent visit 14 weeks after the first Consider home BP monitoring if white coat HTN is suspected
minoxidil how do you treat fluid retention	1	Diuretics
Clarification on aldosterone antagonist in acs pts Only indicated for high risk patients Not all acs patients	1	Long term aldosterone receptor blockers should be given to patients with UANSTEMI without significant renal dysfunction if hyperkalemia who are already on ACEI and have LVEF or 40 and have either symptomatic heart failure or diabetes mellitus class 1 Anderson et al UANSTEMI guidelines JACC 201361179347
Patient with ACS and managed conservatively He is on warfarin also for AF What is the recommendation here for triple therapy	1	I would avoid it and use only Asa OR clopidogrel
Any preference for enteric coated va chewable baby aspirin in postacs patients	1	Chewable non enteric coated at least on initial contact is preferable as for initial dosing more rapid buccal absorption occurs with non enteric coated formulas
should we avoid pharma stress testing in patients on Ticagrelor due to more risk of asthma or AVB	1	If patients can exercise than its always preferable to exercise them Ticagrelor inhibits the cellular uptake of adenosine and increases the circulating levels of adenosine So far there is still no recommendation for dose modifications of vasodilator sin stress testing for patients receiving Ticagrelor Verberne HJ et al Eur J Med Mol Imaging 20154219291940
What is the ideal heparin dosing with tank use	1	Sorry what us Tank I do inot want to assume and provide incorrect answer Thanks
When on triple therapy and decreasing to dual therapy would you withdraw aspirin or plavix first	1	Either is fine Usually Plavix is withdrawn first and aspirin continued indefinitely
Which is more accurate exercise SPECT vs exercise ECHO	1	Almost similar Slightly higher sensitivity for SPECT and slightly higher specificity for Echo
In a third degree heart block with junctional rhythm at a HR of 50 BPM do we code junctional rhythmtachycardia or junctional escape complexes	1	Junctional escape complexes

Which is more accurate exercise SPECT vs Exercise ECHO	1	Almost similar Spect has slightly higher sensitivity and echo slightly higher specificity
With new coding system if you see stemi without Q waves do you code as st segment suggesting injury or acute mi	15	Best is code for injury we have another ECG session on sat
How do you measure the QTC interval in Afib with RVR Single lead measurement or an average QTC of several leads	2	Difficult to measure with RvR With AF take an average
The PET lecture does not have any slides on PEY for inflammation Our predominant use of PEY is for inflammation for sarcoid and the ESC guidelines have incorporated this as a use for infection of prosthetic materials such as valves or CIED leads I think this warrants at least one slide	2	Very good point we use for this clinical indication commonly It has not yet found its way to the boards but will include next year as I agree it is coming
On ekg T41 page 215 why is this a posterolateral pathway Leads 2 3 and avf are all positive Isnt it an anterolateral pathway	2	-
Since turner is associated with coarctation couldnt that have different BPs in each arm	2	Only if the coarction involves the origin of left subclavian or proximal to subclavian usually coarctation is distal to left subclavian so higher pressure in arms
Is cangrelor fair game for board should is year	2	Yes
If offending agent is removed and QT prolongation resolves in a healthy young patient with no FH of prolonged QT etc do they need genetic testing and further work up	2	Nounless symptoms eg palpitations syncope
Are moderatorsfaculty going to answer any questions today	2	Yes Questions will be answered throughout the second half of today Thanks
What happens to AS and MR murmur on exam after PVC	2	Murmurs originating at normal or stenotic valves increase in intensity during the cycle after a PVC By contrast systolic murmur due to Atrioventricular valve regurgitation donot change diminish papillary muscle dysfunction or become shorter MVP
Whats the recommendation for a pt with afib on AC who has a NSTEMi and goes to CABG Triple therapy w clopidogrel postop	2	Yes dual anti platelet for 12 months Duration of triple therapy should be minimized depending upon risk of bleeding If risk of bleeding high than warfarin with either aspirin if clopidogrel

Can you load stemi patients undergoing primary pci with prasugrel before knowing their coronary anatomy	2	Pre treatment with Prasugrel is not recommended as pretreatment with Prasugrel did not reduce the rate of major ischemic events but increased the rate of major bleeding complications Montalescot G et al NEJM 2013 3699991010
Are the se and sp reported for ETT for single vessel Dz or 3 vessel dz	2	-
Please define Left Atrial Abnormally	2	Pl see page 142 of the booklet Thanks
If they are on acearb how does that impact Aldorenin ratio for evaluation of hyperaldo	2	Ideally they should be held but even in this setting a significantly elevated aldosterone with low renin points to primary aldosteronism
Regarding my previous question about how to code septal Qs in V1 and V2 with normal R in V3 I would like to know if I should call this old septal infarct for clinical coding I know this wont be on the exam	2	There is no septal infarct to code in exam In clinical practice yes its frequently coded as septal infarct
pls give link for Mesa ca score	2	Search google for Mesa nhlbi calcium calculator
Patient with PCI done 2 years ago presents with angina and normal ECG GXT or imaging stress test	2	They will likely not ask you to choose between 2 modalities for a case like this For initial diagnosis in patients with suspected CAD and risk assesment in patients with stable ischemic heart disease recommendation is to use standard exercise ECG ref Fihn SD et al 2012 ACC Stable ischemic heart disease guideline JACC 2012
How does imaging increase prognostic accuracy without changing the newly discovered LM3vd Does prognostic accuracy study include abnl EKG	2	-
What about ECG 63 and 65 no answers in the syllabus were not mentioned in the lecture	2	We will provide the answers We have another Ecg session on sat
How do you interpret the reninaldosterone ratio when someone is on ACEARB or mineralocorticoid antagonist	2	Preferably the patient should be off these meds However a significantly elevated aldosterone with low renin may still point to primary aldosteronism
if do exercise nuclear and Ecg portion is positive but nuclear portion definitely normal is this a positive or negative test	2	Depends on clinical situation A high risk ECG response should result in invasive eval even with normal perfusion

Does Mediterranean diet include Shawerma	2	-
What thiazide do you recommend for HTN	2	In trials Chlorthalidone has been used but in practice Hydrochorthiazide HCTZ is used Chlorthalidone is slight more potent but has higher side effects
Resistant htn defined as 13080 but goal less than 14090	2	-
With the increasingly sensitive troponin tests now available has the pretest probability for ER patients with chest pain but negative serial troponins decreased enough that stress testing is no longer helpful in these patients	2	Troponin can be elevated due to multiple causes in ER Stress test will always be helpful in appropriate patients Another modality that can used instead if stress test us ct coronary
An EKG shows Qs in V1 and V2 but normal R wave in V3 Would you code this as a septal infarct even knowing full well that a prior study has shown that most of these patients often do not even have CAD let alone prior infarct	22	There is no place to code for just septal infarct in the coding sheet for ECG
What do you do about triple therapy when you have a patient w ACS and you go the CABG route but per guidelines you should continue DAPT for 12 months Since we dont have the guide of at least 1 mo for BMS or 6 mo for DES ok to do warfarin Asa alone and forgo dapt Thanks	3	Yes dual anti platelet for 12 months post CABG after ACS
What if the lady from case 76 yo lady with Nstemi who has Des to Lcx then develops afib on day 2 How long would you use triple therapy Could you use a Noac instead of warfarin as part of dual or triple therapy	3	Triple therapy should be used for a minimum period of time as risk of bleeding is increased with triple therapy Duration of triple therapy depends on type of stent and risk of bleeding Avoid NOAC for triple therapy A consensus document provides some guidance based on type of stents ref LipGYH et al Eur Heart J 20103113111318
Whats your opinion about crushed ticagrelor in ACS To counteract delayed absorption	3	I am not aware of any data on use if crushed Ticagrelor in ACS
How do you assess axis deviation in a bundle branch block	3	Generally yes Like in other ECGs
Post bypass surgery for stable ischemic heart disease is dapt recommended for a certain time period	3	For stable cad no routine recommendation
Does LAD bridge cause chest pain for the purpose of the board	3	Yes myocardial bridge can present with chest pain and myocardial ischemia and infarction Corban MT et al JACC 20142223642355
Does high PaO2 cause inaccuracies in fick equation If it was 300 from a vented pt	3	It becomes necessary to account for dissolved O2 in addition to HB bound O2

Prognosis with normal cardiac ct	3	1012 year warranty against ACS events has been assigned to a normal coronary CTA
Does heart rate have to be for coronary calcium scoring studies	3	Ideally heart rate should be controlled during the imaging aquisitionbeta blockers can be given for this purpose
How does calcium score of 50 place one in the 82nd percentile in regards to moderate intensity statnin Thought score of 50 not that high	3	Right Number not that high but based on patients age ethnicity etc the CAC MESANHLBI calculator identifies someone as high risk
Is LVH or LVH with repolarization is a contraindication to ETT	3	No
We only have answers up to ECG 58a in our syllabus but there is 67 ECGs Can u please make answers available Thanks	3	Some of the ECG from 5867 have answers written on top We have another ECG session on Sat We will provide you with answers
Pt with lvef less than 35 at time of mi undergoes complete revascularization Implant icd after 40 days or 3 months of OMT	3	Hospital survivors with an initially reduced LVEF40 who do it merit AICD therapy before discharge should undergo reassessment of LVEF 40 days later to determine eligibility for AICD
What do you do in a patient who needs Cath and stent if they are allergic to ASA	3	I try to desensitize to asa
Do the triple therapy duration recommendations for ACS apply to PCI patients	3	Yes
The classification of type II MI is not addressed in management for the guidelines Isnt this more theoretical and by the guidelines shouldnt any troponin with a typical peak be treated as ACS	3	Right but type 2 mi is not an acs
What source can We use to check the percentile of CAC for matched age group What calculator did you use that checked the incremental value of CAC on risk calculation	3	MESA Google Mesa calcium score
what is the duration of warfarin therapy for ant infarct patient with thrombus Ifthe LV returns to normal presumably it can be stopped once EF has improved and no thrombus presentIf the aneurysm is still there wo thrombus I think it use to be 3 months	4	The recent ACC STEMI guidelines recommends anticoagulant therapy for LV thrombi class 2 B 3 to 6 months of anticoagulation us reasonable Once EF improves and clot resolves anticoagulation can be stopped as you have suggested

What is the maximum HR allowed for ccta	4	There is not a specific upper cutoff but goal is to have HR 60 at time of scan Irregularity can make a HR of 70 intolerable and sometimes a very regular HR of 80 comes out ok
Would you code st tw abnormalities 22 electrolyte disturbance for hypo and hyper calcemia Hypokalemia	4	Yes
Would you code any qt prolong with ppmlbbb	5	Yes taking into account the normal QRS prolongation in these situations
Why did the guidelines favors newer agents over plavix for over 12 months post ACS and PCI DAPT trial included patients on plavix	5	Ticagrelor and Prasugrel improves primary endpoint but with increased risk of bleeding compared to clopidogrel in both ACC and ESC STEMI guideline all three medications Ticagrelor Prasugrel Clopidogrel has been given Class 1 indication Although in the ESC guidelines Clopidogrel is recommended preferably when Prasugrel or Ticagrelor are either not available or contraindicated
Confusion from the complete guide to ECGs If there is an ECG with acute ST elevation and Q waves in anterior leads for example we should code ST T wave for MI age recent or probably acute question is do we code ST T wave changed for myocardial injury as well do we code ST T wave changes for myocardial ischemia if there is reciprocal changes	58	If there associated ST depression code for myocardial ischemia as well If ST elevation code for myocardial injury as well We have another ECG session on Saturday
Do I code first degree AV block if there is mobitz ii	6	No
There are 67 EKGs in the lecture however the key in our book only gives explanations for 58are the rest of answers online	6	the answers for ECG 5967 are already provided with the ECG Some of The answers are given at the top of these ECGs and answers are also on page 167 of the booklet
What is considered a hypertensive Bp response in exercise stress testing	7	No consensus in this or guideline recommendation In study hypertensive response to exercise was described as SBP 220 mmHg for menSBP 190mmHg for women or an increase in diastolic DBP 10mmHg or DBP 90 mm Hg during exercise ref Ha JW etal Circulation 2002393237
what is the best source for grading exercise functional capacity as poor vs low vs normal etc Duration vs Mets and what are cutoffs	7	For pre op evaluation 4 METSis considered moderate to good functional capacity METS is best for functional capacity

is there any degree of upsloping st depression that would consider an ETT as positive for ischemia	7	ECG findings on stress test has to be corellated with other clinical symptoms Eg chest pain hypotensive response If a patient is giving chest pain with upsloping St depression than I would assume ischemia especially if baseline ECG is normal For the reading downsloping 1mm from J point is considered positive
If cardiac CT is used as gateway to cath lab how much time do we need between contrast doses for normal GFR	1	A few days at most one day may be enough Cardiac CTA uses about 60cc of contrast
How long after an ischemic event vs myocarditis is CMR diagnostic	1	24 weeks
If I order a coronary ct to ro cad should I order a ct with calcium score	1	With a CTA you almost always get a calcium score some do this as aprotocol since if there a huge amounts of calcium the CTA may not be readable
Who reads your coronary ct scans Radiology or cardiology	1	Both Each institution is different as long as they have expertise either is fine
Which is better for determining EF when echo results poor and making a decision about ICD MUGA or MRI	1	Both are good You could use either but cmr can do this without radiation
Arent the patients with myocarditis much sicker than a nstemi	1	Not usually some are but the disease presentations can vary considerably from outpatient stable to cardiac arrest
What is a Viability Scan	1	A viability study is used to see if non moving heart muscle that looks dead is actually hibernating and will recover Several options for this cmr dobutamine stress echo pet scan
Cardiac ctaI was told the results wouldnt be accurate if patients hr greater than 60	1	Depends on the scanner and patient but in general the HR should be below 65 Usually there is a beta blocker protocol for this so its streamlined Some scanners are now fast enough to get diagnostic images in the right patient with HRs in th upper 70s
Any evidence to move straight to Cardiac CT prior to stress testing in patient presenting with anginal symptoms not needing cath	1	Yes The PROMISE study showed CTA and functional imaging are equivalent
Do we WANT to see wall thickening	1	Yes normal response to exercise

Is the late gadolinium imaging decision made during the MRI or do we need to order that specifically	1	You have to ask for it More than 90 are with contrast in most labs
How does stress MRI compare	1	Well but not universally covered or available plus takes more time
Can you give us a little more time to answer the questions please	1	Yes we are asking faculty to verbally tee up the questions so you have more time thanks for the suggestion
In asymptomatic pt how long would you exercise with EKG changes	2	Symptom limited or presence of arrhythmia or hypotension
Is there window in early recovery to get BP representing peak exercise	2	Yes asap within 10 seconds if possible
When a stress test says hypertensive response to exercise what should I be considering	4	Treatment or evaluation for htn
Is stress testing ever recommended in asymptomatic patient with history of Cabg	4	Yes especially prior to rehab or exercise program
What is your feeling on treadmill a symptomatic AS patients for an outlying ambulatory setting not near an OR	4	Depends on how severe AS is If very severe with no symptoms may need to do inpatient
For the last scenario with the elevated BP would dobutamine stress be an option or is the nuclear pharm test the best option	4	Avoid dobutamine if BP high
A patient who had aregular stress 3 years ago It was abnormal and prompted a stress nuclear which was negative for is chemical Patient comes back 3 years later with chest painwould you do a regular again or go straight to nuclear I had a cardiologist tell me that patient may not have another abnormal regular stress test	6	I might opt to do a cardiac ct to truly evaluate coronaries