CHECKLIST FOR CONSIDERATION OF SAME-DAY DISCHARGE AFTER PCI

Members of the care team complete this checklist to decide whether the patient undergoing PCI is a reasonable candidate for same-day discharge or should be monitored overnight.

The questions below do not need to be answered in order, however, it is recommended that a decision to discharge a patient on the same day as the PCI should be made only after all questions have been answered.

Pre-Procedure Evaluation

Patient Factors: Clinical	1. Is the patient experiencing a STEMI or NSTEMI?	❑ No ↓	❑ Yes —→	Monitor patient overnight
	2. Does any member of the care team feel for any other reason that the patient is not a candidate for same-day discharge?	❑ No ↓	❑ Yes —→	
Patient Factors: Social	3. Does the patient have adequate caregiver support?*	❑ Yes ↓	❑ No —→	
	4. Can the patient or caregiver reach 911, if necessary?	❑ Yes ↓	❑ No —→	
	5. Is the patient willing to be discharged the same day (shared decision-making)?	❑ Yes ↓	❑ No —→	
Staff/Sysytem Factors	6. Is the patient scheduled early enough in the day so that they can be observed for a sufficient amount of time (4-6 hours post-procedure) and discharged at a reasonable time?	❑ Yes ↓	❑ No —→	

Care Team Action

Once the procedure is finished, complete the Post-Procedure Evaluation on the next page to confirm same-day discharge.

Notes (does the clinician want to note anything not captured on the checklist?):

**Caregiver support is defined as support from a person who has the ability and willingness to: 1) accompany the patient home or to the caregiver's home; 2) stay with the patient overnight after discharge; 3) access emergency services; and 4) help with the activities of daily living.*

CHECKLIST FOR CONSIDERATION OF SAME-DAY DISCHARGE AFTER PCI

Post-Procedure Evaluation			
7. Did complications occur during the procedure?†	❑ No ↓	❑ Yes —→	Monitor patient overnight
8. Was PCI successful?‡	❑ Yes ↓	❑ No —→	
9. Is the patient experiencing any of the following post-procedure? Stroke, bleed, vascular complications, allergic reaction, unresolved and/or severe chest pain, acute heart failure, persistent ischemic ECG changes, dysrhythmia, or any other unforeseen complications.	❑ No ↓	❑ Yes —→	
10. Is there an exacerbation of an underlying disease (e.g., heart failure, high blood pressure, diabetes, COPD flare)?	❑ No ↓	❑ Yes —→	
11. Is the patient's mental status the same as baseline presentation?	❑ Yes ↓	❑ No —→	
12. Is the patient willing to be discharged the same day (shared decision-making)?	❑ Yes ↓	❑ No —→	
Proceed to the Pre-Discharge Checklist			

Pre-Discharge Checklist

__ 1. Confirm that loading dose of $P2Y_{12}$i has been administered.
__ 2. Confirm patient has received prescriptions for at least 30 days of $P2Y_{12}$i.
__ 3. Confirm prescription for aspirin and statin.
__ 4. Confirm referral to cardiac rehab.
__ 5. _____ (Name of person responsible for following up with patient) plans on calling patient the day after discharge.
__ 6. The cath lab/post-procedural staff has provided education to patient on how to monitor access site (in-person training, handouts, videos, etc.) and the importance of taking DAPT as prescribed and the specific risks of premature discontinuation.
__ 7. The cath lab/post-procedural staff has provided the patient with an emergency number to call.
__ 8. The cath lab/post-procedural staff has scheduled a follow-up appointment.

↓

Physician concludes that same-day discharge is reasonable

Notes (does the clinician want to note anything not captured on the checklist?):

_____

_____

_____

†Examples include persistent slow flow or no flow, compromise of large side branch resulting in chest pain, untreated dissection, perforation, allergic reaction to contrast medium (anaphylaxis).

‡Success defined using the NCDR definition: <50% post-stenosis, TIMI3 flow, and 20% or greater reduction from pre- to post-stenosis.

COPD = chronic obstructive pulmonary disease; DAPT = dual antiplatelet therapy; ECG = electrocardiogram; NCDR = The National Cardiovascular Data Registry; NSTEMI = non-ST-elevation myocardial infarction; $P2Y_{12}$i = $P2Y_{12}$ inhibitors; PCI = percutaneous coronary intervention; TIMI = thrombolysis in myocardial infarction.

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CHECKLIST FOR CONSIDERATION OF SAME-DAY DISCHARGE AFTER PCI

Six Clinical Scenarios Showing the Rationale For SDD or Overnight Monitoring

Complex Patient, Eligible for SDD

Patient: 86-year-old man, accompanied by his wife.

Medical History: S/p CABG 22 years prior with SVG to OM and IMA to LAD now has angina that prevents him from farming. Patient also has AF treated with aspirin, nitrates, diltiazem, ranolazine, and warfarin.

Investigation: Stress test showed severe lateral-wall ischemia. Dx cath showed graft-dependent LCx and LAD with a degenerated SVG to OM graft that had a bulky, calcified lesion just distal to the ostium.

Management: Using the right radial artery, a 6-F, 0.75 AL was used to engage the SVG. An embolic protection device could not be used due to anatomic considerations. The lesion was treated with a cutting balloon and a 3.5-mm DES with excellent results and persistent TIMI-3 flow. Procedure time was 1 h. Four h later, the patient was ambulating and free of angina.

DECISION: Cath lab staff and/or physician completed the Same-Day Discharge Checklist and physician confirmed that SDD is reasonable.

Post-Procedure Exclusion

Patient: 85-year-old woman, accompanied by husband who has mild dementia.

Medical History: Coronary angiography 8 years prior demonstrated a 90% lesion of the proximal RCA s/p PCI with BMS.

Investigation: Stress test showed severe inferior wall ischemia. Dx cath showed significant ISR of the prior RCA stent.

Management: Using the left radial artery a 6-F, JR4 guide caused significant radial artery spasm. RFA access was obtained. An excellent angiographic result was obtained with a 3.0 × 15 mm DES. Procedure time was 1.5 h. Post-cath, the patient developed a significant hematoma at the femoral access site and reported pain. The hematoma resolved with additional manual compression.

DECISION: Given issues with social support and access site complications, the cath lab staff and/or physician deemed the patient not a candidate for SDD, according to the Same-Day Discharge Checklist.

Post-Procedure Exclusion

Patient: 75-year-old woman, accompanied by her husband.

Medical History: PAD, hypertension, hyperlipidemia, diabetes mellitus, and ESRD with dialysis 3 times a week. Patient having chest pain with dialysis.

Investigation: Nuclear stress test concerning for anterior wall ischemia. Right radial approach aborted due to tortuosity (fistula in left arm). RFA used as back-up approach. Dx cath showed 90% calcified mid-LAD lesion.

Management: A 6-F left coronary guide catheter was placed into the LM coronary artery. Lesion treated with 4 runs of atherectomy with 1 episode of slow flow. Despite atherectomy, stent delivery was difficult. Patient reported chest pain during procedure. Ultimately, a 3.25 × 28 mm DES was delivered. D2 was lost and could not be rescued. Control of femoral access with sheath pull was difficult and a small hematoma was present.

DECISION: The post-procedure section of the Same-Day Discharge Checklist highlighted procedural complications and post-procedure vascular complications. The patient is deemed not a candidate for SDD.

Post-Procedure Exclusion

Patient: 45-year-old man.

Medical History: Familial hypercholesterolemia and lupus, presents urgently (<24 h) for an angiogram due to unstable angina symptoms as an outpatient.

Management: Radial access and successful stent placement to the mid LAD. However, there was a guide dissection of the LM artery, resulting in chest discomfort, requiring additional stenting of the LM artery into the LAD. The patient was initiated on ticagrelor and 2 h later in the post-procedure room reported dyspnea.

DECISION: The post-procedure section of the Same-Day Discharge Checklist highlighted procedural complications and post-procedure dyspnea. The patient is deemed not a candidate for SDD.

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CHECKLIST FOR CONSIDERATION OF SAME-DAY DISCHARGE AFTER PCI

Six Clinical Scenarios Showing the Rationale For SDD or Overnight Monitoring

Patient Eligible for SDD

Patient: 70-year-old woman with polio using arm crutches.

Medical History: Type 2 diabetes, CCS 3 angina on 3 antianginal agents.

Management: Femoral access PCI with successful DES to the LAD. Successful closure of femoral arteriotomy. DAPT had been initiated 2 weeks prior to the procedure, and there are no medicine changes. Her daughter will drive and stay with her through the night. No symptoms in recovery.

DECISION: Cath lab staff and/or physician completed the Same-Day Discharge Checklist and physician confirmed that SDD is reasonable.

Pre-Procedure Exclusion

Patient: 80-year-old widower accompanied by his daughter, who flew in for the day. He wants to stay overnight like his neighbor did.

Medical History: Hypertension well-controlled, physically active. Recently developed chest pain on effort that limited his ADLs.

Investigation: Stress echocardiogram showed extensive anterior wall motion abnormality at a low exercise load. Right radial approach was used but there was significant radial artery spasm with manipulation of diagnostic catheters. A proximal, type-A stenosis of 95% was found in the LAD.

Management: A 6.5-F sheathless guide was passed up the radial artery without further spasm. The lesion was treated with a 2.5-mm balloon, then underwent IVUS to size the vessel to the stent. A 4.0 × 18 mm DES was delivered and post-dilated at 18 ATMS. Repeat IVUS showed full expansion and no overlap into the LM. Procedure was terminated and patient returned to the recovery unit. The radial sheath was removed without incident. The nurse called the man's daughter to let her know that the procedure went well, and she left a message on the daughter's cell phone. The patient was hesitant to be home alone.

DECISION: Overnight stay due to patient preference.

ADLs = activities of daily living; AF = atrial fibrillation; AL = Amplatz left; BMS = bare metal stent; CABG = coronary artery bypass grafting; CCS = Canadian Cardiovascular Score; D2 = second diagonal branch; DAPT = dual antiplatelet therapy; DES = drug-eluting stent; Dx cath = case diagnostic cardiac catheterization; EBU = extra backup; ESRD = end-stage renal disease; h = hour; IMA = internal mammary artery; ISR = in-stent restenosis; IVUS = intravascular ultrasound; LAD = left anterior descending artery; LCX = left circumflex artery; LM = left main; OM = obtuse marginal artery; PAD = peripheral artery disease; PCI = percutaneous coronary intervention; RCA = right coronary artery; RFA = right femoral artery; SDD = same-day discharge; s/p = status post; SVG = saphenous vein graft; TIMI = thrombolysis in myocardial infarction.

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Defining Concepts From the Checklist	
1. Adequate caregiver support	Definition of concept: Support from a person who has the ability and willingness to: 1) accompany the patient home or to the caregiver's home; 2) stay with the patient overnight after discharge; 3) access emergency services; and 4) help with the activities of daily living. How/why it should be considered: The patient may need help with monitoring the site and daily tasks. In case of an emergency situation, the caregiver must be able to call for help.
2. Can reach 911	Definition of concept: Access to a cell phone or landline, either in the home or very nearby. How/why it should be considered: In case of emergency, the patient or caregiver will need to call 911.
3. Observed for a reasonable amount of time	Definition of concept: Studies examining the safety of SDD after PCI have included 4-6 hours of post-PCI observation. How/why it should be considered: Earlier procedural scheduling may be preferable in order to allow a sufficient period of post-procedural observation, resumption of baseline pre-procedure ambulatory status, and SDD at a reasonable hour.
4. Shared decision-making	Definition of concept: The physician and patient have had a discussion todetermine whether the patient is eligible for same-day discharge. How/why it should be considered: Part of ACC's Core Values is "patientcentered" care that advocates shared decision-making. To learn more about shared decision-making, see *ACC's CardioSmart tool.*
5. Did complications arise?	Definition of concept: During the procedure, did the patient experience persistent slow flow or no flow, compromise of large side branch resulting in chest pain, untreated dissection, perforation, or allergic reaction to contrast agent (anaphylaxis)? How/why it should be considered: These complications could affect patients' clinical stability, placing them in the "Monitor patient overnight" category.
6. Was PCI successful?	Definition of concept: Success defined using the NCDR definition:<50% post-stenosis, TIMI 3 flow, and 20% or greater reduction from preto post-stenosis. How/why it should be considered: This definition: 1) provides a universal definition that can be applied in all clinics, and 2) clarifies that even if a patient does not meet criteria for successful PCI, they couldstill be considered for same-day discharge.

7. Is the patient experiencing any of the following postprocedure?	Definition of concept: Describes the clinical condition of the patient post-PCI. Patient does not have: stroke, bleed, vascular complications, allergic reaction, unresolved and/or severe chest pain, clinical heart failure, persistent ischemic ECG changes, dysrhythmia, or any other unforeseen complications. How/why it should be considered: These conditions would place patients in the "Monitor patient overnight" category.
8. Exacerbation of underlying disease?	Definition of concept: Acute worsening of underlying condition compared to baseline. How/why it should be considered: Even if the PCI was successful based on the NCDR definition, the patient could still be clinically unstable and therefore should be kept overnight. Likewise, in a situation where the PCI is unsuccessful but the coronary artery is at pre-procedure condition, the decision might be that the patient can be discharged; however, if there is an exacerbation of the underlying condition that prompted the PCI or of another comorbidity, monitor the patient overnight.
9. Mental status	Definition of concept: The patient's mental status is no worse than at baseline/initial presentation. How/why it should be considered: Worsening of patient's mental status should prompt monitoring the patient overnight.
10. Pre-Discharge	Definition of concept: The steps the staff should complete before discharging the patient. How/why it should be considered: The items on this checklist are not part of the algorithm that prompts the consideration to discharge or keep the patient overnight, however; these items are included because they are important steps that should be carried out before discharging the patient.

ACC = American College of Cardiology; ECG= electrocardiogram; NCDR = National Cardiovascular Data Registry; PCI = percutaneous coronary intervention; SDD = same-day discharge; TIMI = thrombolysis in myocardial infarction.