

Southeast Webinar:

Guidelines, Discharge Protocol, and Routine Follow-up to Optimize Treatment in Patients With Recent MI

Guideline Recommendations for Very High-Risk ASCVD Patients

Patient Case 1: What Is the Risk According to the Guidelines?

RO is a 65 yo male

Medical History:

- STEMI 2 months ago
- STEMI (2017)
- Hyperlipidemia
- Hypertension
- Family history of CVD
- Smoker

Pertinent Medications:

- High-intensity statin therapy + ezetimibe (LDL-C 85 mg/dL)
- ACEi (BP 128/76)
- DAPT
- Beta-blocker (HR 71)
- NTG (prn-chest pain)

Very High Risk ASCVD

History of multiple *major* ASCVD events, OR 1 major event and multiple *high-risk* conditions

Major ASCVD Events

- Recent ACS** (within past 12 months)
- Hx of MI** (other than ACS event above)
 - **Hx of ischemic stroke**
 - **Symptomatic PAD** (Hx claudication with ABI < 0.85, or previous revascularization or amputation)

High-Risk Conditions

- Age ≥ 65 yrs**
 - **Heterozygous familial hypercholesterolemia**
 - **Prior CABG or PCI** outside of major ASCVD event(s)
 - **Diabetes mellitus**
 - **History of congestive HF**
- Hypertension**
 - **CKD** (eGFR 15-59 mL/min/1.73m²)
- Currently smoking**
 - **Persistent LDL-C ≥ 100 mg/dL** despite maximal tolerated statin therapy and ezetimibe

Patient is Very High-Risk ASCVD

Hypothetical Patient Case

Grundy SM, et al. *J Am Coll Cardiol*. 2018;73:e285-e350.

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Patient Case 2: What Is the Risk According to the Guidelines?

TF is a 68 yo female

Medical History:

- NSTEMI 5 months ago
- STEMI (2017)
- Hyperlipidemia

Pertinent Medications:

- High-intensity statin therapy (LDL-C 95 mg/dL)
- DAPT
- Beta-blocker (HR 71)

Very High Risk ASCVD

History of multiple *major* ASCVD events, OR 1 major event and multiple *high-risk* conditions

Major ASCVD Events

- Recent ACS** (within past 12 months)
- Hx of MI** (other than ACS event above)
 - **Hx of ischemic stroke**
 - **Symptomatic PAD** (Hx claudication with ABI < 0.85, or previous revascularization or amputation)

High-Risk Conditions

- Age ≥ 65 yrs**
 - **Heterozygous familial hypercholesterolemia**
 - **Prior CABG or PCI** outside of major ASCVD event(s)
 - **Diabetes mellitus**
 - **History of congestive HF**
- **Hypertension**
- **CKD** (eGFR 15-59 mL/min/1.73m²)
- **Currently smoking**
- **Persistent LDL-C ≥ 100 mg/dL** despite maximal tolerated statin therapy and ezetimibe

Patient is Very High-Risk ASCVD

Hypothetical Patient Case

Grundy SM, et al. *J Am Coll Cardiol*. 2018;73:e285-e350.

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Patient Case 3: What Is the Risk According to the Guidelines?

RJ is a 62 yo female

Medical History:

- NSTEMI 3 months ago
- PCI (2016)
- Hyperlipidemia

Pertinent Medications:

- Maximally tolerated moderate intensity statin therapy + ezetimibe (LDL-C 117 mg/dL)
- DAPT
- Beta-blocker (HR 71)

Very High Risk ASCVD
History of multiple *major* ASCVD events, OR 1 major event and multiple *high-risk* conditions

Major ASCVD Events

- Recent ACS** (within past 12 months)
 - Hx of MI (other than ACS event above)
 - Hx of ischemic stroke
 - **Symptomatic PAD** (Hx claudication with ABI < 0.85, or previous revascularization or amputation)

High-Risk Conditions

- | | |
|---|---|
| <ul style="list-style-type: none"> • Age ≥ 65 yrs • Heterozygous familial hypercholesterolemia <input checked="" type="checkbox"/> Prior CABG or PCI outside of major ASCVD event(s) • Diabetes mellitus • History of congestive HF | <ul style="list-style-type: none"> • Hypertension • CKD (eGFR 15-59 mL/min/1.73m²) • Currently smoking <input checked="" type="checkbox"/> Persistent LDL-C ≥ 100 mg/dL despite maximal tolerated statin therapy and ezetimibe |
|---|---|

Patient is Very High-Risk ASCVD

Hypothetical Patient Case
Grundy SM, et al. *J Am Coll Cardiol*. 2018;73:e285-e350.

Should Changes to Lipid Management be Considered?

Guidelines for Treatment of Dyslipidemia in ACS STEMI and NSTEMI Patients Emphasize LDL-C Lowering^{1,2}

ACC/AHA ¹	ESC/EAS ²
<ul style="list-style-type: none"> • Age ≤ 75 and no safety concerns: High-intensity statins to lower LDL-C by ≥ 50% • Age > 75 or safety concerns: Moderate- or high-intensity statin therapy after evaluation for ASCVD risk reduction² • On maximal LDL-C lowering therapy with LDL-C ≥ 70 mg/dL (≥ 1.8 mmol/L): reasonable to add non-statin therapy 	<ul style="list-style-type: none"> • LDL-C ↓ ≥ 50% from baseline <i>AND</i> < 1.4 mmol/L (< 55 mg/dL) • Initiate high-intensity statin therapy during first 1–4 days of ACS hospitalization • For planned PCI: consider high-intensity statin pre-treatment (or loading dose if on statin) • LDL-C levels not at goal despite maximally tolerated statin consider addition of non-statin early after event (during hospitalization for ACS event, if possible) • LDL-C goal not achieved after 4-6 weeks despite maximally tolerated statin recommend initiation of non-statin therapy

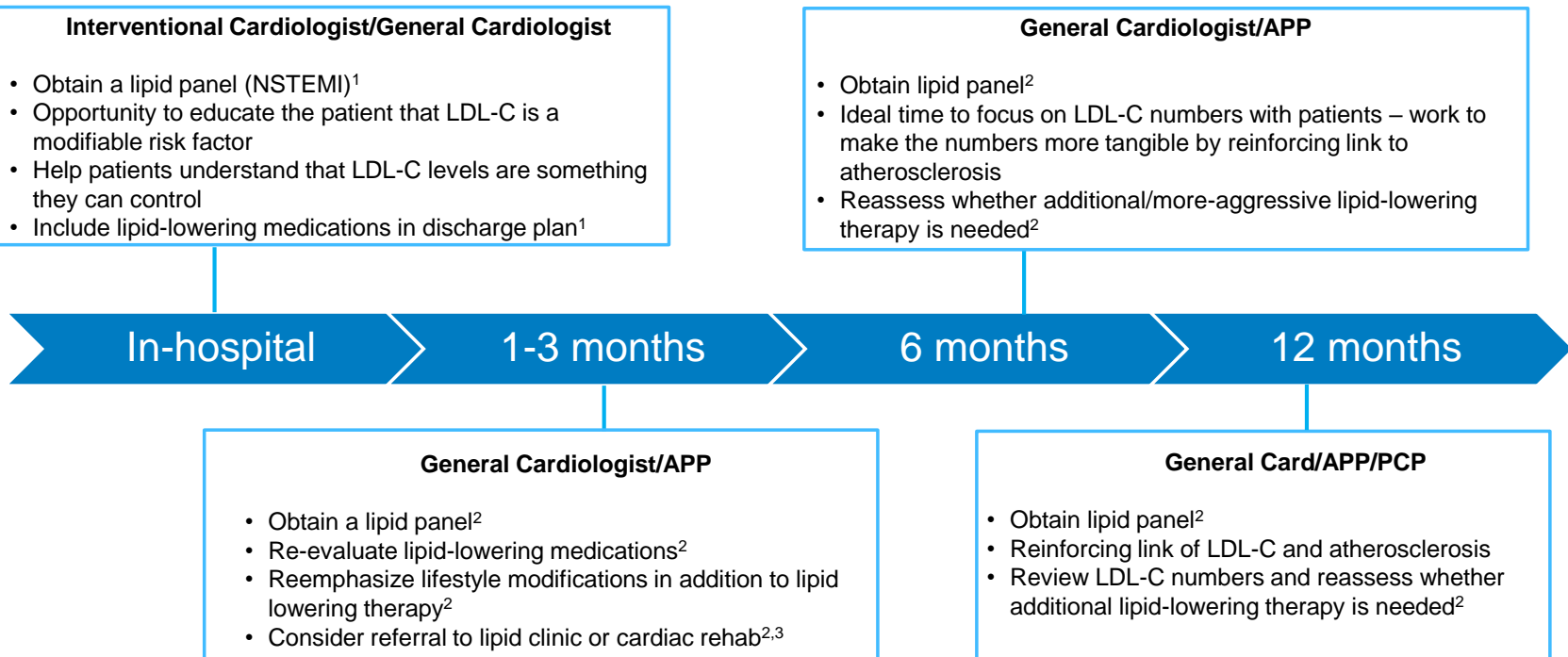
Additionally, for ASCVD patients on maximally tolerated statin experiencing a 2nd vascular event within 2 years, a lower LDL-C goal of <1.0 mmol/L (< 40 mg/dL) may be considered

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Optimizing Treatment Through Personalized Discharge Plan and Routine Follow-up

Multiple Educational and Actionable Opportunities to Optimize LDL-C Levels and Reduce Risk of Future CV Events



1. Amsterdam EA et al. *J Am College Cardiol.* 2014;64:139-e228. 2. Grundy SM et al. *J Am College Cardiol.* 2018;73:e285- e350. 3. American Heart Association. <https://www.heart.org/en/health-topics/heart-attack/life-after-a-heart-attack>. Accessed September 18, 2019.

Discharge Plan

- 1 Details and timeline on which activities patients can resume and lifestyle modifications¹
- When can they get back to work?
 - When can they start exercising normally?

- 2 Details on the medications they are taking and why^{1,2}

Medications	Uses
Antiplatelet	Prevent blood clots and keep the stent open
Anticoagulants	Reduce blood's ability to clot
Lipid-Lowering Therapy	Lower cholesterol levels, reduce risk of cardiovascular events due to atherosclerosis
Nitrates	As needed to relieve chest pain
Beta Blockers	Treat high BP and decrease incidence of abnormal heart rhythm
ACEi/ARB	Lower blood pressure

- 3 Any signs/symptoms to look out for¹
- Pressure/tightness in chest, fatigue, lightheadedness, cold sweat, SOB, nausea

- 4 Schedule follow-up appointment¹

1. American Heart Association. <https://www.heart.org/en/health-topics/heart-attack/life-after-a-heart-attack>. Accessed September 18, 2019. 2. Grundy SM et al. *J Am College Cardiol*. 2018;73:e285- e350.

Cardiac Rehab and/or Lipid Clinic

- Referral to Lipid Clinic and/or Cardiac Rehab should be considered at hospital discharge or follow-up appointments for further lipid management

	Providers Involved
Lipid Clinic ^{1,2}	<ul style="list-style-type: none">• Lipidologist• Cardiologist• Lipid Nurses• Dietician
Cardiac Rehab ^{2,3}	<ul style="list-style-type: none">• Rehab Physicians• Nurses• Exercise Specialists• Physical/Occupational Therapist• Dietician

1. The Mayo Clinic. <https://www.mayoclinic.org/departments-centers/lipid-disorders-specialty-group/overview/ovc-20392579>. Accessed September 18, 2019. 2. The Mayo Clinic. <https://www.mayoclinic.org/tests-procedures/cardiac-rehabilitation/about/pac-20385192>. Accessed September 18, 2019. 3. American Heart Association. <https://www.heart.org/en/health-topics/heart-attack/life-after-a-heart-attack>. Accessed September 18, 2019.

Thank You!

Abbreviations

- ABI = ankle-brachial index
- ACC = American College of Cardiology
- ACEi = angiotensin-converting enzyme inhibitor;
- ACS = acute coronary syndrome
- AHA = American Heart Association
- APP = advanced practice provider
- ARB = angiotensin-receptor blocker
- ASCVD = atherosclerotic cardiovascular disease
- BP = Blood pressure
- CABG = coronary artery bypass graft
- CAI = cholesterol absorption inhibitor
- CKD = chronic kidney disease
- CVD = cardiovascular disease
- DAPT = dual Anti-Platelet Therapy
- eGFR = estimated glomerular filtration rate
- ESC = European Society of Cardiology
- EAS = European Atherosclerosis Society
- HF = heart failure
- HR = heart rate
- Hx = history
- LDL-C = low-density lipoprotein cholesterol
- MI = myocardial infarction
- NTG = nitroglycerin
- NP = Nurse Practitioner
- NSTEMI = Non-ST-elevation Myocardial infarction
- PAD = peripheral artery disease
- PCI = percutaneous coronary intervention
- PCP = Primary Care Physician
- SOB = shortness of breath
- STEMI = ST-elevation myocardial infarction