

CLINICAL PATHWAY

Heart & Vascular Health



Non-ST-Segment- Elevation Myocardial Infarction



CHRISTIANA CARE
HEALTH SYSTEM

Non-ST-Segment-Elevation Myocardial Infarction

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INTRODUCTION

This clinical pathway supports optimal care of patients experiencing non-ST-elevation acute coronary syndromes by standardizing the process of clinical care based on available best evidence, and by reducing the risk of harm that may occur due to unnecessary variations in clinical care.

Scope of this Pathway

The NSTEMI pathway begins with the onset of symptoms in the hospital setting and subsequent identification of cardiac necrosis and diagnosis of NSTEMI or unstable angina. This includes patients presenting in the Emergency Department and in the Same Day Clinic.

Phase 1 pathway efforts focus on admission through seven days post-acute discharge. Phase 2 will focus on the care and status of pathway patients one year post initial admission to include readmissions, secondary prevention and clinical management.

Exclusions: STEMI patients, Type II MI Patients (MI from ischemia due to either O2 demand or supply), In hospital admissions with an NSTEMI post initial admission.



Pathway Contacts

The content of this pathway is developed and maintained by the Heart & Vascular Health line of Christiana Care Health System. Questions or feedback about the content may be directed to:

Administrative Lead: Leslie Mulshenock
phone: 302-733-5236
e-mail: lmulshenock@christianacare.org

Physician Lead: Henry Weiner, M.D.
phone: 302-733-1881
e-mail: hweiner@christianacare.org

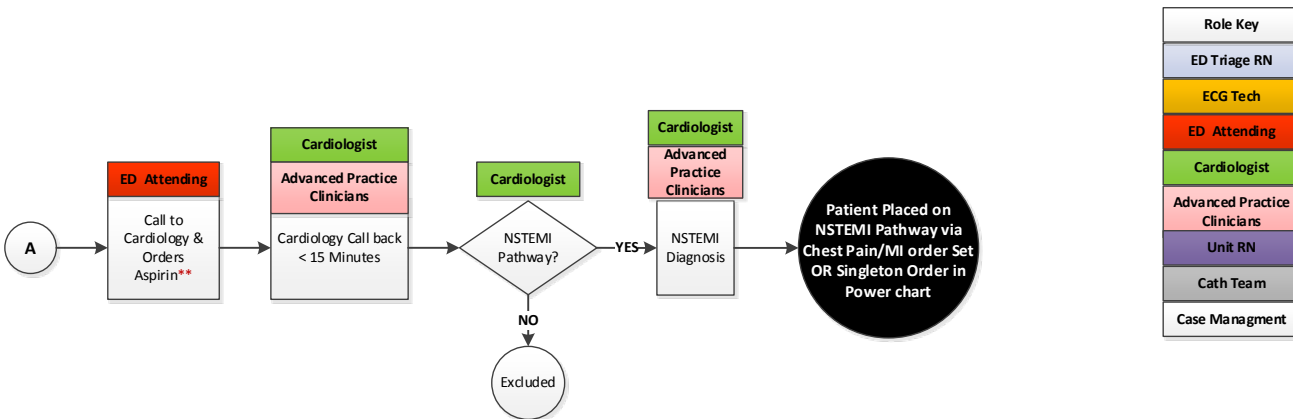
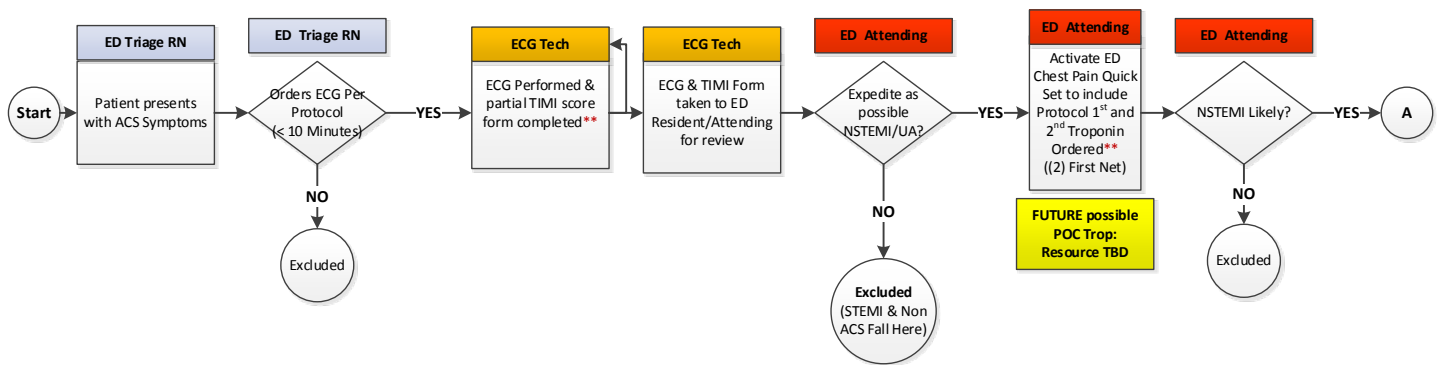


PATHWAY ALGORITHMS

ALGORITHM 1: DIAGNOSIS & EARLY HOSPITAL CLINICAL PATHWAY OUTLINE 0-6 HOURS POST ARRIVAL/ONSET OF SYMPTOMS

****AHA/ACC 2014 Guidelines
Level 1a Recommendation**

NSTEMI Diagnosis & Early Hospital Clinical Pathway Outline 0-6 Hours Post Arrival/Onset of Symptoms



****AHA/ACC 2014 Guidelines
Level 1a Recommendation**



ALGORITHM 2: IN HOSPITAL CLINICAL PATHWAY OUTLINE

NSTEMI Pathway In Hospital Clinical Pathway Outline

****AHA/ACC 2014 Guidelines
Level Ia Recommendation**

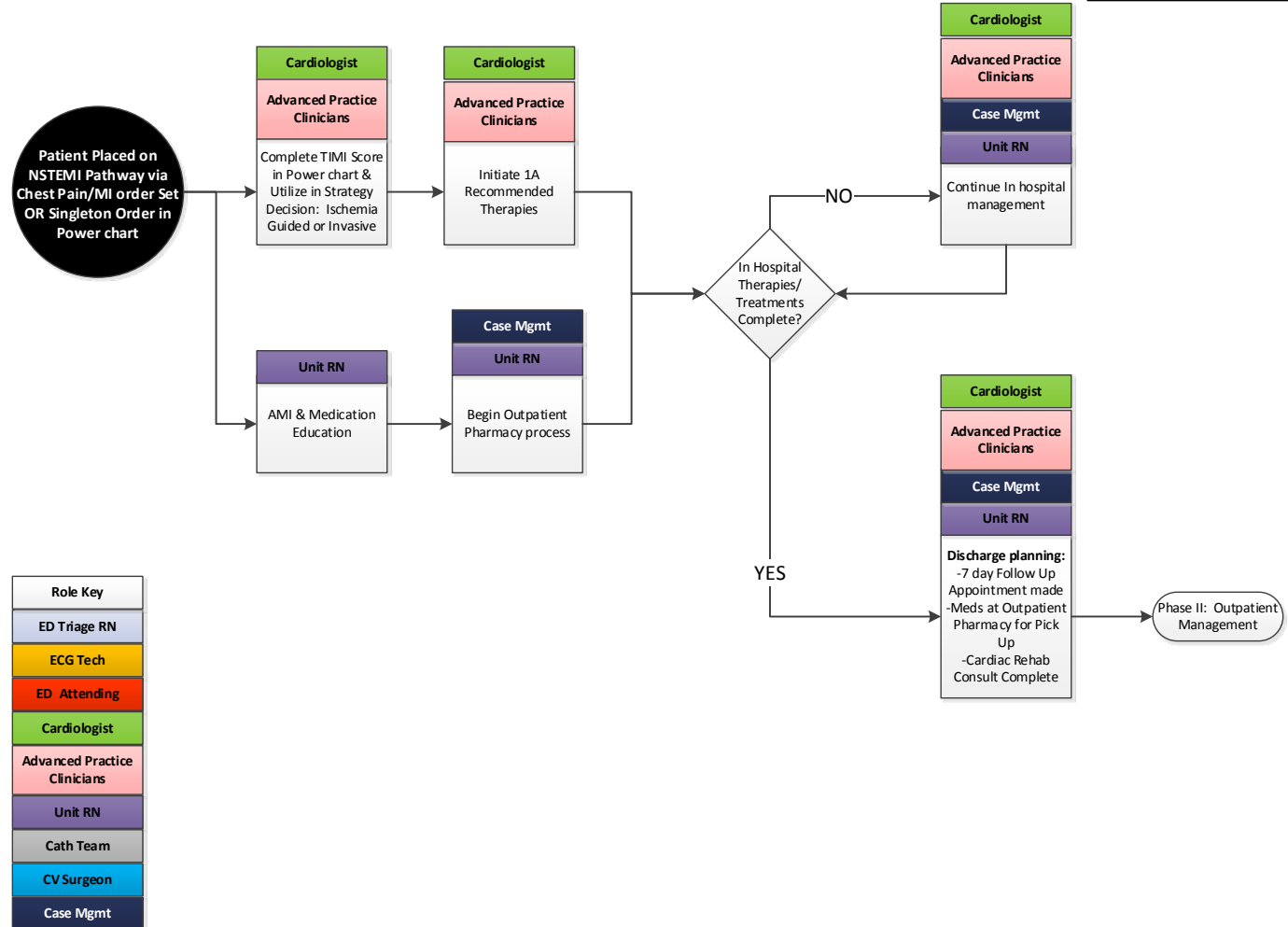


TABLE 1: DAY # 1/2 ADMISSION TO INPATIENT UNIT/CSSU

PROCESS	
PATIENT OUTCOMES	<p>Hemodynamically stable.</p> <p>Patient tolerating activity level.</p> <p>Absence of chest pain and unstable arrhythmias.</p> <p>Absence of bleeding.</p>
ASSESSMENT/ MEASUREMENTS	<p>System assessment every 8 hours.</p> <p>Vitals including O2 sats every 4 hours.</p> <p>Strict intake and output.</p> <p>Assess anxiety and intervene as necessary.</p> <p>Assess for bleeding (bleeding precautions).</p>
CONSULTS	<p>Cardiac rehab phase1.</p> <p>Social work/case management for d/c planning.</p> <p>Chaplin/priest as needed.</p>
DIAGNOSTICS/ LABORATORY	<p>Echocardiogram to evaluate EF.</p> <p>EKG on admission and as needed during episode of chest pain.</p> <p>Comprehensive metabolic profile, MG, CBC, troponin, lipid profile, PTT, BNP, HGA1C as appropriate.</p>
MEDICATIONS	<p>Obtain an accurate list of home medications.</p> <p>Anticoagulation.</p> <p>Aspirin.</p> <p>Beta blockers.</p> <p>Statin.</p>
TREATMENTS/ INTERVENTIONS	<p>Cardiac monitor.</p> <p>IV access.</p> <p>Oxygen only if oxygen saturation <90%.</p>
FLUIDS/NUTRITION	<p>Cardiac; add carbohydrate controlled if diabetic</p> <p>NPO if planned for cardiac catheterization; may have clear liquids up to 2 hours prior to procedure if time of procedure known.</p>



PROCESS	
PSYCHOSOCIAL SUPPORT/ EDUCATION	<p>Orientation to unit and procedures.</p> <p>Introduce patient pathway and plan of care.</p> <p>Patient safety teaching (to call for CP and assistance for bed side commode, bed exit alarms)</p> <p>Teaching checklist: (Day 1: GetWellNetwork: What Is A Heart Attack & The Angiography Procedure – What To Expect; Exit Care: MI Easy To Read Christiana Care; Formulary Leaflets For New Medications & Exit Care Medications After a Heart Attack; Medication Teaching On Beta Blockers, Statin, Asa, ACE/ARB; with each medication administration).</p>
DISCHARGE PLANNING	<p>Begin discharge planning by assessing home care needs.</p> <p>Assess discharge criteria daily.</p>

TABLE 2: DAY # 2/3

PROCESS	
PATIENT OUTCOMES	<p>Absence of unstable arrhythmias and chest pain.</p> <p>Absence of bleeding.</p> <p>Absence of access site complication.</p> <p>Patient reports improvements in their condition.</p> <p>Patient able to verbalize day 1 and 2 teaching material.</p>
ASSESSMENT/ MEASUREMENTS	<p>Routine vital signs if appropriate.</p> <p>System assessment every 8 hours.</p> <p>Assess anxiety and intervene as necessary.</p> <p>Access site assessment per order post cardiac catheterization.</p>
CONSULTS	<p>Cardiac rehab.</p> <p>Nutrition as needed.</p> <p>Cardiovascular surgery if MVD on cardiac catheterization.</p>
DIAGNOSTICS/ LABORATORY	<p>Labwork as needed (BMP, lipids, PTT if on heparin)</p> <p>Cardiac catheterization.</p> <p>Ultrasound le/carotids if for CABG .</p>
MEDICATIONS	<p>Addition of ace/arb if EF <40%.</p> <p>Anticoagulation with heparoids d/c after revascularization – continue if CABG planned this admission.</p>
TREATMENTS/ INTERVENTIONS	<p>Cardiac monitor.</p> <p>IV access.</p>
FLUIDS/	<p>Cardiac; carb controlled added if diabetic.</p>



PROCESS	
NUTRITION	NPO if planned for cardiac catheterization; may have clear liquids up to 2 hours prior to procedure if time of procedure known.
MOBILITY/ ACTIVITY	Bedrest if groin access. Ambulation – per order after catheterization.
PSYCHOSOCIAL SUPPORT/ EDUCATION	Teaching checklist Day 2: Myocardial infarction, Medications Reinforcement, Exit Care – Dual Antiplatelets, Groin Site/Radial Site Care; GetWellNetwork: the Benefits of Cardiac Rehabilitation & After A Heart Attack At Discharge; medication education with each medication administration; gwn video-; smoking cessation creating a plan if applicable; after a heart attack taking nitroglycerin; symptoms of heart attack common to women. medication education with each medication administrations. reinforce prior education CABG (if MVD present).
DISCHARGE PLANNING	Discharge planning: home care, VNA visit, placement needs. Schedule 7 day discharge appointment and add to discharge instructions.



TABLE 3: DISCHARGE CRITERIA

PROCESS	DISCHARGE CRITERIA
PERFORMANCE INDICATORS	<p>ACE inhibitor prescribed at d/c or contraindication documented.</p> <p>Beta blocker prescribed at d/c or contraindication documented.</p> <p>Dapt prescribed at d/c.</p> <p>Statin prescribed at d/c or contraindication documented.</p> <p>Echocardiogram completed and EF recorded.</p> <p>Smoking cessation advice/counseling completed.</p> <p>Discharge instructions re: accurate discharge meds, symptoms of recurrent heart attack, dapt, when to call MD.</p> <p>7 day follow-up appointment made.</p>
ASSESSMENTS/ OUTCOMES	<p>No chest pain or other symptoms of MI.</p> <p>Blood pressure within stable limits after introduction of new medications.</p>
DIAGNOSTICS/ LABORATORY	<p>Electrolytes within normal limits.</p> <p>Stable renal function.</p>
MEDICATIONS	<p>Oral meds stable x 24 hours</p> <p>Patient verbalizes understanding of meds and able to teachback.</p>
MOBILITY/ ACTIVITY	<p>Patient tolerating activity without chest pain</p> <p>Phase 1 cardiac rehab consult complete.</p>
PSYCHOSOCIAL SUPPORT/ EDUCATION	<p>Patient verbalizes understanding of symptoms of heart attack, when to call physician/come to hospital, medication regimen and able to teachback.</p>
DISCHARGE PLANNING	<p>Follow-up appointments with Cardiology, Cardiac Rehab, VNA.</p> <p>30-day supply of new medication available in outpatient pharmacy.</p>



PATIENT EDUCATION MATERIALS

SYSTEM	ADMISSION/DAY 2	DAY2/3	DISCHARGE
Get Well Network Videos	<ul style="list-style-type: none"> • "What is a Heart Attack? Video". • "The Angiography Procedure Video. • "My Medications". 	<ul style="list-style-type: none"> • "Taking Nitroglycerin Video". • "Benefits of Cardiac Rehabilitation Video". • "My Medications". 	Follow Up on Outstanding
Exit Care Materials	<ul style="list-style-type: none"> • "Cardiology Cardiac Catheterization Christiana Care (Custom)". • "HVIS AMI Pathway Christiana Care (Custom)". • "HVIS Medications Prescribed after a Heart Attack. 	<ul style="list-style-type: none"> • "HVIS Dual Antiplatelet Therapy Christiana Care (Custom)". • "HVIS Groin Site Care (Custom)". • "Radial Site Care". • "Cardiac Rehabilitation". • "Smoking, You Can Quit, Easy-to-Read". 	Follow Up on Outstanding



CLINICAL EDUCATION MATERIALS

- [NSTEMI Pathway Education for Nurses \(PowerPoint\).](#)
- [Heart & Vascular Service Line Implementation of the NSTEMI Clinical Pathway \(PowerPoint\).](#)
- [NSTEMI Clinical Pathway Nursing Checklist](#)



REFERENCES

- [2014 AHA/ACC Guideline for the Management of Patients with Non-ST-Elevation Acute Coronary Syndromes](#)
- [Intermountain Healthcare Guidelines for Diagnosis and Management of ACS](#)
- [Possible Cardiac Chest Pain Clinical Pathway-Queensland Government](#)
- [Early versus Delayed Invasive Intervention in Acute Coronary Syndromes](#)
- [Care Redesign-A Path Forward for Providers](#)
- [Early Medication Nonadherence after Acute Myocardial Infarction: Insights into Actionable Opportunities from the Treatment with ADP receptor inhibitors: Longitudinal Assessment of Treatment Patterns and Events after Acute Coronary Syndrome \(TARNSLATE-ACS\) Study](#)
- [Effect of Nicotine Replacement Therapy on Cardiovascular Outcomes After Acute Coronary Syndromes](#)
- [The Picker Patient Experience Questionnaire: development and validation using data from in-patient surveys in five countries](#)
- [Discharge Counseling for Patients with Heart Failure or Myocardial Infarction: A Best Practice Model Developed by Members of the American College of Clinical Pharmacy's Cardiology Practice and Research Based Network Based on the Hospital to Home \(H2H\) Initiative](#)
- [AHA/ACCF Secondary Prevention and Risk Factor Reduction Therapy for Patients with Coronary and Other Atherosclerotic Vascular Disease](#)
- [2013 AHA/ACC Guideline on Lifestyle Management to Reduce Cardiovascular Risk](#)



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Physician Champion: Henry Weiner, MD			
Project Manager: Leslie Mulshenock, MBA			
Implementation Team: Matt Esham, Laura Dechant, Danielle Coyne, Prathibha Krishna Reddy			
Team Member/Participants:			
Andrew Doorey, MD	Heather Hastings	Donna Casey	Laura Zizza
Erik Marshall, MD	Jen Leonovich	Billie Speakman	John Flaherty
Tony Furey, MD	Beth Walls	Tim Gardner, MD	Lisa Hall
Mike Kostal, MD	Karen Toulson	Kirk Garratt, MD	Greg O'Neill
Mike Banbury, MD	Stefanie Smith	Janice Anderson	Kim Oates
Yuan Yuan Zhang, MD	Melissa Freuler	Beth Bradley	Tony Gialloreto
Jason Nace, MD	Mary Guest	Dianne Tidy	Katie Muether
Tom Sweeney, MD	Tabassum Salam, MD	Christina DiMarco	Sharon Urban
Kate Groner, MD		Christie Williams	



THE CHRISTIANA CARE WAY

We serve our neighbors as respectful, expert, caring partners in their health. We do this by creating innovative, effective, affordable systems of care that our neighbors value.



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