NON-ST-ELEVATION/UNSTABLE ANGINA MANAGEMENT ALGORITHM

- Complete **"ISCHEMIC PAIN SUSPECTED INITIAL MANAGEMENT"** orders PPO #650
- Use this algorithm to guide clinical decision making for patients being **ADMITTED** with NSTEMI/Unstable Angina
  Complete appropriate orders after reviewing this management algorithm

Step 1: ESTABLISH PRESENCE OF CLINICAL CRITERIA

Ischemic or presumed ischemic discomfort lasting 20 minutes or more presumed to be NSTEMI or Unstable angina

Step 2: RISK STRATIFY PATIENT

Calculate GRACE RISK SCORE - online calculator at:
https://www.mdcalc.com/grace-acs-risk-mortality-calculator

- **Grace Score:** _____ (Use "In-hospital Death/MI" Endpoint) ✱**OR**✱ Use elements from table below to assess risk if unable to access online calculator
- Default to highest risk category; need to fulfil only ONE component in Very High Risk Category or ONE of CLINICAL, BIOCHEMICAL or ECG to qualify for any subsequent category

RISK CATEGORY	CLINICAL	BIOCHEMICAL	ECG
VERY HIGH	• Medically refractory or recurrent angina despite intense medical therapy ✱**AND**✱ ○ New ST depression 2 mm in 2 or more leads ✱**OR**✱ New deep negative T waves in 2 or more leads • Clinical symptoms of cardiogenic shock or advanced heart failure • Life-threatening arrhythmias (ventricular fibrillation or tachycardia)		
HIGH (GRACE RISK SCORE above 140)	• N/A	• At least 1 elevated troponin	• New ST depression 2 mm in 2 or more contiguous leads or T wave changes as above ✱**OR**✱ • New T wave inversion 2 mm in 2 or more contiguous leads
INTERMEDIATE (GRACE RISK SCORE 109 to 140)	• Presence of diabetes or renal insufficiency (GFR below 60 mL/min) ✱**OR**✱ • Known EF below 40% ✱**OR**✱ • PCI, ACS or CABG in past 6 months	• Troponin negative	• New ST depression below 1mm or any ST depression but less than 2 leads ✱**OR**✱ • New T wave inversion below 1 mm or in less than 2 leads
LOW (GRACE RISK SCORE below 109)	**NO** heart failure ✱**AND** ✱ **NO** arrhythmias ✱**AND** ✱ **NO** recurrent chest pain	• Troponin negative	• Normal

Step 3: ASSIGN TO TREATMENT STRATEGY

RISK CATEGORY	STRATEGY	OPTIMAL TREATMENT TIMELINES
VERY HIGH	Urgent Invasive	Consult Interventional Cardiologist urgently; angiography to be performed as soon as possible and within 24 hours.
HIGH	Early Invasive	Consult local cardiac specialist; angiography to be performed by end of next business day
INTERMEDIATE	Invasive	Consult local cardiac specialist; non-emergent angiography within 72 hours (pre-discharge)
LOW	Primary Conservative	Refer for angiography only if ischemia recurs prior to discharge or is provocable on follow-up inpatient functional exam

Step 4: DETERMINE ANTI-PLATELET AND ANTICOAGULANT THERAPY

- If possible, calculate patient's CRUSADE Bleeding Risk Score using online calculator available at (or can search online for score):
  https://www.mdcalc.com/crusade-score-post-mi-bleeding-risk Crusade Bleeding Score: _____

✱**OR**✱ Use guide below to select anti-platelet and anticoagulant agents

NOTE: Routine pre-treatment with a P2Y12 receptor inhibitor in ACS patients, in whom an early invasive management is planned and coronary anatomy is not known, is NOT RECOMMENDED given the lack of established benefit. However for patients with a planned delayed invasive management strategy (greater than 24 hours), P2Y12 receptor inhibitor may be considered based on thrombotic and bleed risk; AND likelihood of requiring urgent cardiac surgery in the next 5 days.

STRATEGY	ASA + ANTIPLATELET AGENT (see below)		INITIAL ANTICOAGULANT
Invasive	ticagrelor 180 mg PO once then 90mg BID (preferred; administer post-angiogram) ✱**OR**✱		heparin IV (preferred) ✱**OR**✱ enoxaparin (may be used in patients requiring inter-facility transfer ✱**AND**✱ if eGFR above 30 mL/min)
	clopidogrel	600 mg once; 75mg daily (administer post-angiogram)	
	If has been on clopidogrel for past 7 consecutive days	NO load; 75 mg daily	
Conservative	clopidogrel-naïve or taking clopidogrel for less than 7 days ✱AND✱ low likelihood of urgent cardiac surgery in the next 5 days	300 mg once; 75mg daily (continue post-angiogram)	**If eGFR above 30 mL/min:** fondaparinux preferred unless patient may undergo PCI in the next 7 days ✱**OR**✱ enoxaparin ✱**OR**✱ heparin IV **If eGFR is 30 mL/min or below:** heparin IV
	If has been on clopidogrel for past 7 consecutive days ✱AND✱ low likelihood of urgent cardiac surgery in the next 5 days	NO load; 75 mg daily	
	WHERE UNIT POLICIES PERMIT: **Glycoprotein IIB/IIIA Inhibitor therapy** may be considered in very high risk patients awaiting PCI who have ongoing/recurrent ischemia despite dual antiplatelet therapy and anticoagulant . Discuss with interventional or local cardiologist *prior to* ordering		
Cautions	*Avoid clopidogrel and ticagrelor in patients at high risk for bleeding; avoid ticagrelor where HR is below 50 bpm; clopidogrel is preferred in those requiring long-term oral anti-coagulation.*		