GUIDELINE TITLE:	**MSH ED Guideline on the Use of Continuous Cardiac Monitoring and Pulse Oximetry in the ED**			
	MSH	*TBD*		
EFFECTIVE DATE:	12/7/2022		**GUIDELINE OWNER:**	Emergency Medicine

I. PURPOSE

To describe the protocols and rationale for continuously monitoring the cardiac rhythms of patients in the MSH Emergency Department

II. SCOPE

This document applies to patients in the MSH Emergency Department who have not been admitted to the hospital or to RETU (See MSHS 140 for admitted and RETU patients in a non-ICU setting). The document describes the use of the order “Cardiac Monitoring within the ED”.

III. DEFINITIONS

Cardiac Monitoring within the ED: Cardiac monitoring within the ED refers to the transmission of a patient’s cardiac rhythm, at a minimum, to a hard-wired monitor capable of visual rhythm display with pre-set alarm parameters and an audible alarm. It can also include monitors which transmit rhythms to a central monitor.

All cardiac monitoring set-ups are assumed to be hard-wired in this protocol, requiring a patient to be fully disconnected from a monitor to leave their bed.

Pulse Oximetry, continuous: Patients can be ordered strictly for continuous pulse oximetry in the ED. Though typically ordered with cardiac monitoring, this order is distinct and does not confer the expectations below. Additionally, please refer to GPP 268 regarding transport of patients on oxygen.

Ventilator Alarm Monitoring: Mechanical ventilators may be connected to a secondary wall jack adjacent to the nurse call bell hook-up. This system conveys ventilator alarms using the same systems as call bells.

1. Patient selection. The following patients should be ordered for cardiac monitoring within the ED
    a. All patients who require ED critical care in ED Resus
    b. All patients connected to mechanical ventilators through an ET tube or tracheostomy
        i. Patients connected to a mechanical ventilator should also be connected to the Hill-Rom ventilator alarm system at all times except during transport.
    c. All patients on BiPAP and High Flow Nasal Cannula treatment
    d. Patients with moderate or high-risk chest pain (or CP equivalent) as defined below prior to the result of sufficient negative troponin enzyme tests to rule out AMI. Please refer to the Suspected ACS Accelerated Diagnostic Pathway for guidance on ruling out AMI.
        i. History of PCI or CABG within the last year
        ii. History of abnormal stress/cCTA/cath within the last year
        iii. New regional ischemic EKG changes, frequent PVCs, new bundle branch block
        iv. Concerning signs or symptoms

e. Patients with or deemed at moderate or high risk for potentially unstable dysrhythmias
f. Patients at moderate or high-risk for cardiovascular decompensation (including but not limited to syncope presentation, sepsis, possible or known pulmonary embolism)
g. Patients with critical electrolyte derangements prior to definitive management, including significant hypokalemia, hyperkalemia, and hypomagnesemia
h. Patients with a drug (prescription, OTC, or recreational) or toxin ingestion or exposure that confers elevated risk of rapid decompensation or dysrhythmia
i. Other patients felt to clinically require continuous monitoring.

2. Ordering and Communication
   a. The order "Cardiac Monitoring within the ED" must be placed in EPIC by a provider (Resident, PA, or Attending).
   b. The ordering provider must verbally communicate that the patient has been ordered for cardiac monitoring to the patient's primary nurse, or the zone or charge nurse.
   c. Patients ordered for cardiac monitoring will have a  or  in the notifications column on the ED Track Board.
3. Transport of Patients on Cardiac Monitoring
   a. Patients ordered for cardiac monitoring must remain connected to a monitor with a clinical staff member (RN, PA, NP or MD) close enough to hear alarms.
   b. Patients leaving the department for radiology studies should be accompanied by a clinical staff member and connected to a portable monitor.
      i. Patients who no longer require cardiac monitoring may have their order discontinued prior to transport.
      ii. Cardiac monitoring should not be "suspended" for transport to a study outside the ED
4. Bathroom use while on Cardiac Monitoring
   a. Patients should be provided with a urinal, bedpan, or in-room commode if at all possible to maintain cardiac monitoring.
   b. If a patient needs to use a bathroom this should be cleared with a clinical provider for safety. If approved, they require accompaniment to the bathroom by a clinical staff member who must remain in the room or just outside the door for the duration. They may not be accompanied only by non-clinical staff.
5. Discontinuation of Cardiac Monitoring in the ED
   a. Patients who no longer require monitoring per the criteria above should have their order discontinued. Their nurse should be informed by the discontinuing provider.
6. Continuation of Cardiac Monitoring after IP Admission
   a. If a patient requires cardiac monitoring as an inpatient (whether 'boarding' in the ED or not), they require an inpatient telemetry order (See MSHS-140), available alongside the admission order set. The cardiac monitoring in the ED order should be discontinued.

REVIEW/REVISION HISTORY

Reviewed								
Revised								