Name of Policy:	**Urgent and Emergency Procedures**
Policy Number:	3364-162-03
Department:	Ambulatory Services-Cardiovascular Rehab
Approving Officer:	Chief Executive Officer - UTMC
Responsible Agent:	Director Cardiovascular Services
Scope:	Ambulatory Services

THE UNIVERSITY OF TOLEDO MEDICAL CENTER

Effective Date: 06/01/19
Initial Effective Date:

X New policy proposal	_____ Minor/technical revision of existing policy
_____ Major revision of existing policy	_____ Reaffirmation of existing policy

(A) Policy Statement

There shall be specific procedures to ensure an effective system for the management of urgent and emergency events during cardiovascular therapy sessions (CTS) or supervised exercise therapy (SET) for PAD.

(B) Purpose of Policy

The purpose is to provide urgent and emergency protocols and to ensure that staff members are trained in the procedures prior to providing care during a CTS/SET.

(C) Procedure

(1) The following procedures identify responsibilities of the cardiovascular rehabilitation staff to ensure an effective system for the management of urgent or emergency events during a CTS. Clinical staff members must be certified by the American Heart Association or the American Red Cross in Basic and Advanced Cardiac Life Support. All staff members should be familiar with urgent and emergent policies and procedures before providing care in a CTS. A review of urgent and emergent procedures will be documented quarterly at a staff meeting.

(a) For urgent events between 7:00 a.m. and 5:00 p.m., the MED IV cardiology fellow should be consulted (x1653 or MED IV cardiology fellow beeper #).
(b) For urgent events after 5:00 p.m. the cardiology fellow on call should be contacted by pager.
(c) In the event that a cardiology fellow is not available, the patient may be transferred to the UTMC Emergency Department (ED) for further evaluation/care.
(d) An urgent event is defined as a change in a patient's cardiac or pulmonary symptoms at rest or an abnormal cardiac or pulmonary response to exercise such as new onset of chest pain (CP), shortness of breath (SOB), hypo/hypertension, arrhythmia, brady/tachycardia, other indication of cardiac compromise, significant decrease in O_2 saturation, bronchospasm, or other indications of respiratory compromise.
(e) For life-threatening events, the cardiovascular rehabilitation staff will follow UTMC policy #3364-100-45-06 for calling a Code Blue. Instructions for calling a Code Blue have been posted by all phones in the cardiovascular rehabilitation area.

(2) Preparation for a Cardiac Therapy Session

(a) Code Cart/O_2/Defibrillator Check: In accordance with UTMC policy #3364-100-45-10, the cardiovascular rehabilitation staff will be responsible to check the Code Cart/O2/Defibrillator each day that a CTS/SET is scheduled.

(b) Ancillary Supplies: Ancillary medical supplies is stored in the bottom drawer of the lateral file in the cardiovascular rehabilitation classroom. Supplies include: sterile gloves, size medium (2 pair); sterile gloves, size large (2 pair); red biohazard bag (2); 2x2 gauze sponges (6); nasal cannula (2); 4x4 gauze sponges (5); non-rebreathing mask; 1 inch durapore tape (2 rolls); emesis basin; large basin (2); large blue pads (1 pack).

(c) Emergency Medication Box: A locked red plastic box containing emergency medications is located in the locked cabinet that houses the telemetry monitoring system. Maintenance of this box is the responsibility of the cardiovascular rehabilitation nursing staff. This box will be taken to the Pharmacy Department for restock and checking when:

i. A medication has been used
ii. The seal on the box has been broken
iii. A medication has expired.

(d) Personal Protective Equipment: Personal protective equipment is stored in the bottom drawer of the lateral file in the cardiovascular rehabilitation classroom. Supplies should include: face masks (5), goggles (1), yellow gowns (2), disposable gloves (2 pair), Biohazard Response Personal Protective Equipment Kit (1).

(3) Early Warning Signs and Symptoms of Increasing Risk

(a) All indications of early warning signs and symptoms should be documented in the patient's progress notes in the telemetry monitoring system. The following list from the AACVPR Guidelines for Cardiac Rehabilitation Programs should be used as a guide.

i. A change in the type, intensity, frequency or duration of angina will be documented and conveyed to the patient's physician.
ii. New onset of angina in any patient should be immediately reported to the patient's physician.
iii. Abnormal resting or exercise blood pressure (BP).
iv. A changing pattern in the frequency, duration, or type of usual arrhythmias, especially any episodes of arrhythmia associated with lightheadedness.
v. New onset of atrial or ventricular arrhythmias.
vi. Changing patterns of dyspnea, coughing or wheezing
vii. Syncope or presyncope, especially if associated with arrhythmias.
viii. Symptoms of transient ischemic attack (TIA) or stroke.
ix. Symptoms of intermittent claudication.
x. Indications of left ventricular (LV) dysfunction, congestive heart failure (CHF) or decompensated cor pulmonale.
xi. A change in the rating of perceived exercise (RPE) with usual exercise.
xii. Worsening or changing patterns of dyspnea at rest or with exercise.
xiii. Swelling of both ankles associated with weight gain.
xiv. Changing patterns of fatigue: increased fatigue with usual exercise patterns or the inability to sleep at night following normal exercise routines.

(b) Items documented in the patient chart will be reported to the referring physician.

(4) Guidelines for Managing Abnormal Responses and Medical Emergencies During Cardiovascular Therapy Sessions

(a) The cardiovascular rehabilitation staff is to respond appropriately to any patient whose medical status is abnormal or compensated before, during or after a CTS.

(b) Hypertension/Hypotension

i. If resting diastolic blood pressure (DBP) is $\geq$ 100 mmHg, check BP after warm-up. If DBP doesn't exceed 110 mmHg, continue with exercise.
ii. If resting DBP is $\geq$ 110 mmHg, do not exercise patient until DBP is <110 mmHg. Cardiovascular rehab staff will report elevated DBP to cardiology fellow and/or referring physician or, if necessary, transport the patient to the ED.
iii. If resting systolic blood pressure (SBP) is $\geq$ 200 mmHg or $\leq$ 60 mmHg on two separate readings 15 minutes apart, page the cardiology fellow on call or the referring physician or, if necessary, transport the patient to the ED.
iv. If exercise SBP is $\geq$ 250 mmHg discontinue exercise.
v. If exercise DBP is $\geq$ 115 mmHg discontinue exercise.
vi. For discharge from CTS/SET, SBP must be <180 mmHg or $\geq$ 60mmHg and DBP must be <110 mmHg. Consult cardiology fellow and/or referring physician as needed.

(c) Hyperglycemia/Hypoglycemia in patient with Type 1 or Type II Diabetes

i. Patients with diabetes who are taking an oral hypoglycemic agent or are on insulin for control of their diabetes will have finger stick blood sugars (FSBS) assessed pre and post exercise for their first six cardiovascular therapy sessions (per Cardiovascular Rehabilitation Physician Order). Pre and post exercise FSBS checks will continue if recommended by patient's primary care physician (PCP) or endocrinologist if values of <80 mg/dl or >300 mg/dl are persistently recorded during the first 6 sessions. Clinical judgement will be considered along with:
    a. What type of insulin or oral medication was taken
    b. What time the insulin or oral medication was taken
    c. What time the patient last ate in relation to time of patient's CTS.
    d. Time and intensity of exercise to be performed

ii. Hyperglycemia

    a. Patients with Type I diabetes who have a FSBS >300 mg/dl will not be allowed to exercise.
    b. Patients with Type II diabetes should exercise with caution if FSBS is $\geq$ 300 mg/dl provided they are feeling well and are adequately hydrated.
    c. If a patient has repeated FSBS $\geq$ 300 mg/dl, staff will contact the patient's PCP or endocrinologist.

iii. Hypoglycemia

a. If a patient's FSBS is ≤80 prior to exercise, 20 grams of carbohydrate should be ingested. Goal is for FSBS to be >80 mg/dl prior to starting exercise.
b. If a patients post blood sugar is <70 mg/dl, the patient will be given 15 grams of carbohydrates and FSBS will be re-checked after 15 minutes.
    1. The cardiology fellow or referring physician will be consulted for patients that are symptomatic.
    2. Patient will be transported to the ER if recommended by the cardiology fellow or referring physician.
c. Patients should be encouraged to test their FSBS one hour after exercise and to be aware of a potential hypoglycemic response for 24-48 hours after exercise.
d. If a patient experiences repeated FSBS <80 mg/dl with symptoms of hypoglycemia, staff will contact the patient's PCP or endocrinologist.

(d) Angina, acute dyspnea or other indications of cardiac compromise

i. If a patient has onset of chest pain, acute dyspnea, or other indications of cardiac compromise as determined by cardiovascular rehabilitation staff:
    a. Decrease workload or terminate exercise.
    b. Assess heart rate and rhythm on the patient's ECG.
    c. Assess blood pressure.

ii. If symptoms persist:
    a. Administer one 0.4 mg nitroglycerin (NTG) tablet sublingual (per Cardiovascular Rehabilitation Physician Order).
    b. Assess BP 5 minutes after administering NTG
    c. If symptoms persist and BP is stable, repeat NTG in 5 minute intervals two times.
    d. If symptoms persist and BP is not stable, page cardiology fellow or transport patient to the ED. Another staff member will notify the ED at extension 3888.

(e) Bradycardia/Tachycardia

i. Recognize patient problem and terminate exercise.
ii. Assess heart rate and rhythm on the patient's ECG and assess BP.
iii. If the patient is alert, awake and asymptomatic, page the cardiology fellow.
iv. If the patient is alert, awake and symptomatic, notify the ED at 3888 and transport patient.
v. If the patient is unresponsive, initiate CPR and call a Code Blue.

(f) Cardiopulmonary Arrest

vi. Recognize patient problem and verify unresponsiveness and pulse absent

vii. If the patient is unresponsive and pulseless, initiate CPR and have staff member call a Code Blue.
viii. Other staff members remove patients from the immediate area.
ix. Following any emergent event where a Code Blue was initiated, the cardiovascular rehabilitation staff will review the incident, a critique will be performed and the conclusions drawn and areas of deficiency documented.

Approved by: /s/ 06/18/19 Todd Korzec Date Director Cardiovascular Services /s/ 06/19/19 Anil Mathew, M.D. Date Assistant Professor /s/ 06/20/19 Dan Barbee, MBA, BSN, RN FACHE Date Chief Executive Officer – UTMC *Review/Revision Completed By: Todd Korzec* *Heart Station*	**Review/Revision Date:** 06/01/19 **Next Review Date:** 06/01/2022
Policies Superseded by This Policy:	