



CLINICAL POLICY

Cardiopulmonary Exercise Test (CPET)

A. EFFECTIVE DATE :

October 22, 2021

B. PURPOSE :

To determine the process to order and obtain a cardiopulmonary exercise test.

C. POLICY :

Informed consent for CPET will be obtained by the pulmonologist or the pulmonary fellow supervising the test.

D. SCOPE :

All UCONN Health outpatient clinics

E. DEFINITIONS :

1. The **cardiopulmonary exercise test (CPET)** assesses cardio-pulmonary function during incremental exercise and combines the routine measurements of the electrocardiogram (ECG), blood pressure and power output with the analysis of exhaled gases.
2. **Workload**- level of exercise performed
3. **Oxygen consumption**- volume of oxygen taken up by exercise(ml/kg)
4. **Anerobic threshold (AT)** - occurs when energy demands exceed the body's ability to produce energy by aerobic metabolism. The workload at which it is measured is considered an index of fitness.
5. **VE/VO2 ventilatory equivalent for oxygen**- measure of efficiency of ventilator pump
6. **O2 pulse**-efficiency of circulatory pump

F. MATERIAL(S) NEEDED :

The completed PFT Lab Physician Order
Exercise Metabolic Testing Machine
Patient mouthpiece, gauze, head gear, trap, ECG electrode (skin prep) etc.
Gloves
BP manometer
Oximeter
Code cart, located outside Exercise testing room

G. PROCEDURE :

1. The Cardiopulmonary Department receives the order for CPET from a UConn Health practitioner or other community provider.
2. The Pulmonary Office receives the order and notifies the Respiratory Therapist (RT) to schedule the

- patient for the cardiopulmonary exercise test (CPET).
3. On the day of testing, the pulmonary office will register the patient.
 4. The pulmonologist or the pulmonary fellow supervising the test will obtain informed consent.
 5. The Respiratory Therapist will:
 - a. Bring the patient to the Lab following implementation of the Safety Absolute for patient identification using 2 unique identifiers
 - b. Review the practitioner's order.
 - c. Arrive the patient in EPIC and transfer the patient's demographics to the testing software.
 - d. Review the patient's allergies and medication list.
 - e. Explain the testing procedure to the patient. The pulmonologist or pulmonary fellow will obtain informed consent.
 - f. Obtain the patient's height and weight and enter these data into the exercise system.
 - g. Perform Spirometry and MVV (maximum voluntary ventilation) tests
 - h. Prepare the patient's chest will be prepped and place electrodes for 12 Lead ECG.
 - i. Apply blood pressure cuff and oximeter probe.
 - j. Apply scuba type mouthpiece and nose clips for testing
 - k. Obtain ECG, O2 sats, blood pressure at baseline, warm-up, exercise and recovery periods.
 - l. Terminate testing when patient has given full effort or has met criteria for stopping the test.

Indications for exercise termination are:

 - Chest pain suggestive of ischemia
 - Ischemic ECG changes
 - Complex ectopy
 - Second or third degree heart block
 - Fall in systolic pressure 20 mm Hg from the highest value during the test
 - Hypertension (250 mm Hg systolic; 120 mm Hg diastolic)
 - Severe desaturation: SpO2 80% when accompanied by symptoms and signs of severe hypoxemia
 - Sudden pallor
 - Loss of coordination
 - Mental confusion
 - Dizziness or faintness
 - Signs of respiratory failure
 - m. Allow patient to return to baseline before leaving the lab
 - n. Generate a report
 - o. Complete patient charges in EPIC upon test completion
 6. The pulmonologist will review the results and sign electronically in EPIC.

H. ATTACHMENTS :

None

I. REFERENCES :

American Thoracic Society: Standardisation of the measurement of Pulmonary Function
 Manual of pulmonary function testing: Greg Ruppel

J. SEARCH WORDS :

CPET, Cardiopulmonary Exercise test, Exercise Test with ventilation

K. ENFORCEMENT:

Violations of this policy or associated procedures may result in appropriate disciplinary measures in accordance with University By-Laws, General Rules of Conduct for All University Employees, applicable collective bargaining agreements, the University of Connecticut Student Code, other applicable University Policies, or as outlined in any procedures document related to this policy.

L. STAKEHOLDER APPROVALS :

On File

M. COMMITTEE APPROVALS :

None

N. FINAL APPROVAL :

- | | |
|---|-----------------------------------|
| <p>1. <u>Andrew Agwunobi, MD (Signed)</u>
Andrew Agwunobi, MD, MBA
UConn Health Chief Executive Officer</p> | <p><u>10/28/2021</u>
Date</p> |
| <p>2. <u>Anne D. Horbatuck, (Signed)</u>
Anne D. Horbatuck, RN, BSN, MBA
Clinical Policy Committee Co-Chair</p> | <p><u>10/21/2021</u>
Date</p> |
| <p>3. <u>Scott Allen, MD (Signed)</u>
Scott Allen, MD
Clinical Policy Committee Co-Chair</p> | <p><u>10/29/2021</u>
Date</p> |
| <p>4. <u>Caryl Ryan (Signed)</u>
Caryl Ryan, MS, BSN, RN
Interim Chief Operating Officer, JDH
VP Quality and Patient Services & Chief Nursing Officer</p> | <p><u>10/28/2021</u>
Date</p> |

O. REVISION HISTORY :

Date Issued: 11/28/17

Date Revised: 10/22/21

Date Reviewed: 07/20/18