Course Title: Respiratory Rescue: Understanding the Pulmonary Dysfunctional Client

Produced by: Fitness Learning Systems
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Course Type: e-Learning Home Study

Credit hours: IACET (International Association for Continuing Education and Training) 0.3 (3 Hours) Approved and Accepted by several additional organizations.

Author:

Soraya Cates Parr, BS CPT
Soraya Cates Parr has been serving the fitness and health industry for thirty-two years, Soraya is a certified group exercise instructor and personal trainer. Her certifications include AEA, ACE, AFAA, ISSA, NETA and NSCA-CPT.

After working as fitness coordinator at Baptist Hospital in Nashville Tennessee, she became State Health Educator for Dickson, Houston, and Humphries Counties in Tennessee. This position allowed her the honor of working with the impoverished, the incarcerated, and people with chronic conditions.

She was appointed (2005) and re-elected (2009-2013) to serve on the board of the Governor's Council on Fitness and Health for the State of Tennessee for this work.

Soraya is the creator of BellyTone® fitness programs.
She graduated with a Bachelor's of Science degree from Tennessee Technological University, Cookeville, Tennessee, in Plant and Soil Science. She worked several years as Cheekwood Botanical Garden's Orchid Horticulturist in Nashville Tennessee.

She considers herself an avid life-long learner. Her hobbies include music, dance, folklore, botany and amateur radio for emergency communications.

Course Summary:

It is important for the health-fitness professional to have a clear understanding of the anatomy and physiology of the respiratory system. Knowledge of the respiratory system and pulmonary function is fundamental for training the client with chronic conditions known as pulmonary disorders. These disorders are characterized by airflow obstruction, cardiovascular and muscular impairments, abnormalities of gas exchange, and psychological issues. Exercise can improve musculoskeletal and psychosocial factors that limit clients with pulmonary disease.

The purpose of this course is to help you understand the basic structure and function of the respiratory system and the muscles that control the respiratory system, with guidelines and recommendations provided for working with the client with a dysfunctional pulmonary system.
Objectives:

After completing this course you will be able to:

1. Identify 17 terms and definitions pertaining to pulmonary function and disease.
2. Briefly describe the role of oxygen in the human body.
3. Discuss the role of exercise training in pulmonary function.
4. Identify the divisions and basic anatomy of the respiratory system, and the muscles involved with inspiration and expiration.
5. Describe pulmonary circulation and air flow/gas exchange in the human body.
6. Describe 4 breathing exercises for clients with pulmonary dysfunction.
7. Discuss 12 recommendations for working with clients with chronic pulmonary dysfunctions.
8. Discuss 3 general categories of medication for pulmonary dysfunction, including side effects and effects on exercise.
9. Discuss contraindications and symptoms for exercise termination for clients with pulmonary dysfunction.
10. Describe symptoms and causes of asthma and the ACSM FITT-VP recommendations for individuals with asthma.
11. Describe symptoms, 3 forms, causes, and 8 special considerations for clients with COPD and the ACSM FITT-VP recommendations for individuals with COPD.
12. Discuss four other conditions that can affect the function of the respiratory system.
13. Describe the affects of submersion and hydrostatic pressure, general recommendations, and 8 considerations for aquatic exercise for clients with pulmonary dysfunction.

Outline:

<table>
<thead>
<tr>
<th>Learning Outcome 1</th>
<th>Identify 17 terms and definitions pertaining to pulmonary function and disease.</th>
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Subtopics:

1.1 Respiratory Facts
1.2 Respiratory Terminology

Assessment Questions: 3

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<thead>
<tr>
<th>Learning Outcome 2</th>
<th>Briefly describe the role of oxygen in the human body.</th>
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Subtopics:
### 2.1 The Role of Oxygen

**Learning Outcome 3**

Discuss the role of exercise training in pulmonary function.

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**Subtopics:**

3.1 The Role of Exercise Training

**Learning Outcome 4**

Identify the divisions and basic anatomy of the respiratory system, and the muscles involved with inspiration and expiration.

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**Subtopics:**

4.1 The Respiratory System
   - 1.1 Divisions of the Respiratory System
   - 1.2 Anatomy of the Respiratory System
   - 1.3 Muscles of the Respiratory System
     - Inspiratory
     - Expiratory

**Learning Outcome 5**

Describe pulmonary circulation and air flow/gas exchange in the human body.

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**Subtopics:**

5.1 The Respiratory System
   - Pulmonary Circulation
   - Air Flow and gas Exchange
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<tr>
<td><strong>Learning Outcome 6</strong></td>
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<td>Describe 4 breathing exercises for clients with pulmonary dysfunction.</td>
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<td><strong>Subtopics:</strong></td>
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<td>6.1 Breathing exercises</td>
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<tr>
<td>- Diaphragmatic Breathing Technique</td>
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<td>- Pursed-lip Breathing</td>
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<td>- Side to Side</td>
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<td>- Chest Expansion</td>
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<td>Discuss 12 recommendations for working with clients with chronic pulmonary dysfunctions.</td>
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<td>Discuss 3 general categories of medication for pulmonary dysfunction, including side effects and effects on exercise.</td>
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Learning Outcome 9
Discuss contraindications and symptoms for exercise termination for clients with pulmonary dysfunction.

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Subtopics:
9.1 Exercise and Pulmonary Conditions
- Contraindications

Assessment Questions: 1

Learning Outcome 10
Describe symptoms and causes of asthma and the ACSM FITT-VP recommendations for individuals with asthma.

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Subtopics:
10.1 Exercise and Pulmonary Conditions
- Asthma

Assessment Questions: 3

Learning Outcome 11
Describe symptoms, 3 forms, causes, and 8 special considerations for clients with COPD and the ACSM FITT-VP recommendations for individuals with COPD.

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Subtopics:
Body Systems
11.1 Exercise and Pulmonary Conditions
- COPD
Assessment Questions: 3

Learning Outcome 12
Discuss four other conditions that can affect the function of the respiratory system.

Pages: 2  Videos: 0
Audio: 2  Interactive Material: 0

Subtopics:
12.1 Exercise and Pulmonary Conditions
- Other Conditions

Assessment Questions: 1

Learning Outcome 13
Describe the affects of submersion and hydrostatic pressure, general recommendations, and considerations for aquatic exercise for clients with pulmonary dysfunction.

Pages: 7  Videos: 0
Audio: 0  Interactive Material: 0

Subtopics:
13.1 Aquatic Exercise and Pulmonary Dysfunction

Assessment Questions: 3

Bibliography:


Resources:

Aerobics and Fitness Association of America http://www.afaa.com

Alpha-1 Foundation. http://alpha-1foundation.org

American College of Sports Medicine www.acsm.org

American Council on Exercise. www.acefitness.org

American Alliance for Health, Physical Education, Recreation and Dance. www.aahperd.org

Aquatic Exercise Association. www.aeawave.com

Arthritis Foundation. www.arthritis.org/
• National Strength and Conditioning Association. www.nsca.org
• Powerbreathe UK. http://www.powerbreathe.com/