Cardiac Rehabilitation for Veterans with Heart Failure

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November 6, 2013
Disclosures

• DE Forman receives funding from:
  o Patient-Centered Outcomes Research Institute (Co-I)
  o VHA HSR&D QUERI RRP

• Dr. Whooley receives funding from:
  o Patient-Centered Outcomes Research Institute (Contract 6787)
  o VHA HSR&D QUERI RRP (12-232)
  o VHA HSR&D CHF QUERI (Associate Director)
  o VHA Office of Informatics and Analytics
  o VHA Office of Rural Health
  o Janssen Healthcare Innovation
Overview:
Cardiac Rehabilitation for Veterans with Heart Failure

- Benefits of cardiac rehab/exercise training for IHD, valvular heart disease, heart transplant are well-known
- Evidence of similar benefits for HF patients are also well-established, but CMS indication for CR have lagged
- Updated AHA/ACC Heart Failure Guidelines - 2013
- What’s happening in VHA
Cardiac Rehabilitation

Multifactorial Program:

- Exercise/physical activity
  - Prescription and Surveillance: Advance activity amidst clinical instability
- Education
- Risk factor management
- Nutrition (weight management, ↓cholesterol, ↓sugar, ↓salt)
- Psychosocial support

Team Approach

- Cardiologist; Nurse; Exercise physiologist; Nutritionist; Psychologist
### AACVPR/AACF/AHA Performance Measures for Referral to CR

**All patients who within the past 12 months have experienced:**

- Acute myocardial infarction
- Chronic stable angina
- Coronary artery bypass grafting
- Percutaneous coronary intervention
- Cardiac valve surgery
- Cardiac transplantation

**Other patients likely to benefit:**

- Heart failure
  - HFrEF
  - HFpEF
- PAD
- CVD Subclinical disease
- CVD Risk factors

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Thomas et al. *Circulation*. 2010;122:1342-1350
Exercise for HF: Historical perspective

- Congestion
- Remodeling
- Ischemia
- Arrhythmia
- Hemodynamic Instability
- Falls
- Syncope
Clinical benefits of exercise (aerobic and strength) for HF

- Heart
  - Inotropic, Lusitropic
  - Remodeling
  - Anti-arrhythmic
  - Chronotropic
- Pulmonary
  - Increased resp efficiency
- Vascular
  - Dilation
  - Distensibility
- Skeletal Muscle
  - Fiber type
  - Mitochondria
  - Oxidative capacity
  - Motor recruitment
- Neurohormonal
- Inflammatory

Downing, Balady. JACC 2011;58:561-9
Exercise training for HF: All-cause mortality

Exercise training: 28% reduction in HF hospitalizations

Pooled RR 0.72 (95% CI, 0.52-0.99)

HF-ACTION

• N=2,331; 30 month mean follow-up
  – Mild ↑ peak VO₂ (4%)

• 7% ↓ all-cause mortality/hospitalization, p=0.13
  – When adjusted for CPX duration, LVEF, Depression, Afib:
    11% reduction all-cause mortality/hospitalization, p<0.03

• Only 30% of 1,159 of those in the Ex Group, met or exceeded adherence target
HF-ACTION and volume of exercise

CV mortality or hospitalization

Keteyian S, J Am Coll Cardiol 2012;60:1899–905
Efficacy and Safety of Exercise Training in Patients With Chronic Heart Failure
HF-ACTION Randomized Controlled Trial

Decreased CV mortality or HF hospitalization, JAMA 2009;301:1439-50

Effects of Exercise Training on Health Status in Patients With Chronic Heart Failure
HF-ACTION Randomized Controlled Trial

Improved quality of life, JAMA 2009;301:1451-59

Effects of Exercise Training on Depressive Symptoms in Patients With Chronic Heart Failure
The HF-ACTION Randomized Trial

Lower depressive symptoms, JAMA 2012;308:465-74
Heart Failure Therapy

• Exercise is effective HF therapy
• Compliance is challenging
• Cardiac rehabilitation has utility in respect to its multiple components:
  a. Monitored exercise
     ▪ Intrinsic cardiac instability
     ▪ Clinical status (volume, hemodynamics)
     ▪ Type of exercise
  b. Behavior modification
  c. Education
  d. Diet
     ▪ Salt
  e. Polypharmacy, multimorbidity
Cardiac Rehab for Veterans with HF

- Updated AHA/ACC Heart Failure Guidelines - 2013
- What’s happening in VHA
2013 ACCF/AHA Guideline for the Management of Heart Failure
A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines

Developed in Collaboration With the American College of Chest Physicians, Heart Rhythm Society and International Society for Heart and Lung Transplantation

Endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation

7.3.1.6. Activity, Exercise Prescription, and Cardiac Rehabilitation: Recommendations

Class I

1. Exercise training (or regular physical activity) is recommended as safe and effective for patients with HF who are able to participate to improve functional status.\textsuperscript{404-407} (Level of Evidence: A)

Class IIa

1. Cardiac rehabilitation can be useful in clinically stable patients with HF to improve functional capacity, exercise duration, HRQOL, and mortality.\textsuperscript{404,406-411} (Level of Evidence: B)
**Current CMS National Coverage Analysis (NCA) for CR Programs - Chronic Heart Failure (CAG-00437N)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>Feb 2013</td>
<td>AACVPR, AHA, HFSA, ACC meet with CMS</td>
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<tr>
<td>Mar 2013</td>
<td>Formal written request submitted to CMS</td>
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<tr>
<td>Jun 2013</td>
<td>CMS posted intent to conduct NCA</td>
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<td>July 2013</td>
<td>30-day public comment period</td>
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<tr>
<td>Dec 2013</td>
<td>Decision proposal anticipated</td>
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<tr>
<td>March 2014</td>
<td>National Coverage Determination Completion</td>
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2011 Survey of VA Cardiovascular Specialty Care Services

(Healthcare Analysis & Information Group)

VA Medical Centers (n=149)

Inpatient care provided (n=123)

CR program (n=35, 28%)

No CR program (n=88, 72%)

Of the 9.3 million Veterans currently enrolled in VHA, 6.9 million (74%) live more than 60 minutes from a VA CR center.
## 35 VA Facilities with Onsite Cardiac Rehab (by VISN)

<table>
<thead>
<tr>
<th></th>
<th>Facility Name</th>
<th>VISN Number</th>
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<tr>
<td>1</td>
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<td>2</td>
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<td>Western New York HCS</td>
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Veterans Hospitalized for Heart Failure, FY 2006-2012

Participated in Cardiac Rehabilitation Program (1.4%)

N=96,876

Figure. Standardized rates of CR by state.
AHA Presidential Advisory

Referral, Enrollment, and Delivery of Cardiac Rehabilitation/Secondary Prevention Programs at Clinical Centers and Beyond

A Presidential Advisory From the American Heart Association

Gary J. Balady, MD, FAHA, Chair; Philip A. Ades, MD; Vera A. Bittner, MD, FAHA; Barry A. Franklin, PhD, FAHA; Neil F. Gordon, MD, PhD, MPH; Randal J. Thomas, MD, FAHA; Gordon F. Tomaselli, MD, FAHA; Clyde W. Yancy, MD, MSc, FAHA

The remarkably wide treatment gap between scientific evidence of the benefits of cardiac rehabilitation and clinical implementation of rehabilitation programs is unacceptable.
Conclusions

• Exercise training improves mortality and quality of life in patients with HF

• New HF guidelines recommend CR for HF

• CR vastly underutilized both inside and outside VHA

• Implementing home CR may improve utilization