This Nurse Tip Sheet was developed by AAHFN as a resource in facilitating patient education. It provides additional information so that the Nurse can supplement patient teaching with the corresponding Patient Tip Sheet. A list of resources is provided for additional information.

**Background:**

*Patient Adherence Challenges/Barriers*

- Compliance with exercise after 3 months is <45%
- Factors associated with low compliance are:
  - Older age
  - Lower socioeconomic status
  - Female gender
  - Psychological issues like depression, lack of motivation
  - Financial and medical concerns
  - Physical symptoms
  - Lack of energy
- Overcoming barriers to exercise training:
  - Enhance patient’s knowledge
  - Provide social support
  - Provide tailored programs at convenient times (evenings, weekends)
  - Promote home training
  - Provide information regarding costs, reimbursement, and financial support
  - Simplify program and focus on preferences
  - Adapt program to the patient’s physical symptoms and mental abilities
  - Discuss your patient’s attitudes and barriers to, motivation for, beliefs about, and goals for exercise
  - Discuss benefits of participating in a Cardiac Rehabilitation Program
Please refer to the Borg Perceived Exertion Scale on the AAHFN Website (http://cymcdn.com/sites/aahfn.sites-ym.com/resource/resmgr/docs/awareness/2017_HF_Week/6_Minute_Walk_Test_Instruction.pdf)

Exercise Tips – “Do’s”:

- Emphasize with your patient that even with heart failure (HF) most patients can exercise, but every person is different
- Emphasize that your patient should do what is right for him or her and do something he or she will enjoy
- Recommend that your patient exercise with someone else... find a walking buddy, or join a group at the YMCA that is designed for individuals who are just beginning to exercise. Your patient should share with the exercise leader his or her health history, and perceived goals
- Advise your patient to wait 1-hour after eating before exercising
- Encourage your patient to record his or her successes by keeping a calendar
  - Mark every day he or she exercised on the calendar
  - Record heart rate before exercise
  - Record the type of exercise
  - Record amount of time exercised
  - Record feelings during exercise
  - Record perceived exertion level
  - Record heart rate 15 minutes after exercise
  - Share the calendar with all healthcare providers

<table>
<thead>
<tr>
<th>Date</th>
<th>Heart rate before exercise</th>
<th>Type of exercise</th>
<th>Time exercised (minutes)</th>
<th>Feelings during exercise</th>
<th>Exertion level 6 - 20</th>
<th>Heart rate 15 minutes after exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 1</td>
<td>80</td>
<td>Walking on level ground</td>
<td>35</td>
<td>No symptoms;</td>
<td>10</td>
<td>82</td>
</tr>
<tr>
<td>Oct 2</td>
<td>84</td>
<td>Walking at mall</td>
<td>30</td>
<td>No symptoms;</td>
<td>11</td>
<td>82</td>
</tr>
</tbody>
</table>
Contraindications to exercise testing and training – “Don’t’s”

- Early phase after acute coronary syndrome (up to 2 days)
- Untreated life-threatening cardiac arrhythmias
- Acute heart failure (hemodynamic instability)
- Uncontrolled hypertension
- Advanced atrioventricular block
- Acute myocarditis and pericarditis
- Symptomatic aortic stenosis
- Severe hypertrophic obstructive cardiomyopathy
- Acute systemic illness
- Intracardiac thrombus

Contraindications to exercise training

- Progressive worsening of exercise tolerance or dyspnea at rest over previous 3–5 days
- Significant ischemia during low-intensity exercise
- Uncontrolled diabetes
- Recent embolism
- Thrombophlebitis
- New-onset atrial fibrillation/atrial flutter
- NYHA functional class IV

Increased risk with exercise training

- 3 to 4-pound increase in body mass over the previous 1–3 days
- Concurrent, continuous, or intermittent Dobutamine therapy
- Decrease in systolic blood pressure with exercise
- Complex ventricular arrhythmia at rest or arrhythmias appearing with exertion
• Supine resting heart rate >100 bpm
• Pre-existing co-morbidities limiting exercise tolerance

Things to AVOID:
• Advise your patient to avoid isometric exercises that tend to strain muscle
groups, for example sit ups and pushups may strain the heart too much; the
patient’s healthcare provider can determine limitations
• Advise your patient to avoid extreme hot or cold environments. Either extreme
may make breathing more difficult and may cause chest pain. Suggest mall
walking instead

Medications – “How Medications Play into the Equation”:
*What about heart failure and medications...don’t stop them! As new medications are
added to your patient’s regimen, talk about potential side effects. Advise your patient
to discuss side effects with healthcare providers so that a balance between exercise
and side effects can be achieved. Your patient needs to adjust the exercise routine to
the medications; not the medications to the exercise routine. For example:

<table>
<thead>
<tr>
<th>Medication</th>
<th>Potential Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta Blockers, such as carvedilol or metoprolol</td>
<td>▪ May limit your patient’s ability to raise his or her heart rate</td>
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<td></td>
<td>▪ Your patient can still exercise, but he or she may notice a lower heart rate</td>
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<tr>
<td>ACE Inhibitors and ARB’s, such as lisinopril</td>
<td>▪ May cause hypotension, dizziness, fatigue, or chest pain</td>
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<tr>
<td>or candesartan, respectively</td>
<td></td>
</tr>
<tr>
<td>ARNI’s, such as sacubitril/valsartan (Entresto)</td>
<td>▪ May lower your patient’s blood pressure; monitor for hypotension, fatigue, or dizziness</td>
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<td></td>
<td></td>
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<tr>
<td>Calcium Channel Blocker, such as amlodipine</td>
<td>▪ May cause your patient be dizzy or more easily fatigued</td>
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<tr>
<td>Ivabradine (Corlanor)</td>
<td>▪ Used in conjunction with Beta Blockers</td>
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<td></td>
<td>▪ Goal is to help regulate the heart rate</td>
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<tr>
<td></td>
<td>▪ Potential side effects include a slow heart rate, dizziness, and in some cases, hypertension or palpitations</td>
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</tbody>
</table>
Diuretics (General)
- Most HF patients are taking some type of diuretic
- Recommend that your patient void before he or she starts any exercise
- Recommend that your patient’s exercise routine is near a bathroom

Loop Diuretics/Potassium-Sparing/Thiazide, such as furosemide, spironolactone, hydrochlorothiazide, and triamterene/hydrochlorothiazide
- Hypotension
- Muscle cramping
- If your patient complains of orthostatic hypotension, caution not to abruptly change positions, or quickly move from a head down position to an upright position, as is frequently done in Yoga

Nitrates, such as Isosorbide dinitrate (Isordil)
- Can cause hypotension

Vasodilators, such as hydralazine
- Can cause tachycardia as well as palpitations

With the right encouragement and understanding of your patients’ goals, issues and concerns, you can support your patient in developing an exercise routine that is right for him or her in the setting of Heart Failure!

For Future Reference