A Day in our PAD Exercise Program

A Practical Review

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Objectives

- An overview of an existing PAD Exercise program
- Review of the basics: staffing, equipment, routine
- Review of patient care: FITT, education
- Practical advice for program development based on experience and history
Special thanks to
Laura York, RN

- Foresight and vision into our PAD Rehab program
- Started our program in 2003
Our Setting

- Phase 3 Cardiac Rehab setting
- Off campus, across street from main hospital
- 2 structured classes and 1 Open Gym (self-structured) class per week
- Self-pay
- Staffed by Registered Nurses and Masters-prepared Exercise Physiologists (usually 1 RN/1 EP on floor)
- Case Management approach
- Required MD order
  - Stress test per MD discretion
  - Lipid Profile (<1 year old)
History/Progression of our PAD Program

Initially (2003):

- Orientation: health history, PAD assessment, graded treadmill PAD testing
- Exercised 2 times per week in a structured PAD only class
- Instructor-led stretching warm-ups/muscular strengthening/cool-downs
- Home exercise program to do on off days. Walking encouraged most days of week
- Education:
  - Classroom: Vascular Disease Pathophysiology
    - Exercise Therapy
    - Diet/Cholesterol
    - Foot/leg Care
- Specific PAD risk factors addressed 1:1 (smoking cessation, foot wear)
History/Progression of our PAD Program (cont.)

Presently:

- Exercises 3 times per week **within** our Phase 3 program
  - 2 structured classes
  - 1 Open Gym (self-structured) class per week
- Patient joins regular Phase 3 class for warm-ups /muscle strengthening, then performs own exercise protocol. Typically a seated recovery.
- Home exercise program to do on off days. Usually consists of home treadmill, walking around home/neighborhood/big box store.
History/Progression of our PAD Program (cont.)

Presently:
- Attends our Phase 3 education classes:
  - Anatomy/Physiology
  - Arteriosclerosis Disease
  - PAD/Stroke
  - Heart Healthy Diet
  - Lipid Physiology
  - Hypertension
  - Stress
  - Weight Management
  - Heart Failure
  - Diabetes
  - Exercise

- Specific PAD risk factors addressed 1:1 (smoking cessation, walking program)
**Typical Patient seen/referred**

- Cardiac referral (Phase 2 graduate/outside referral) and upon health history, shown to have activity limited by PAD
- MD referral with classic PAD symptomology
- Self referral from information received at health fair/screening
- Post-PAD intervention-unsuccessful
- Post-PAD intervention-successful: reconditioning
  - May not qualify for reimbursable PAD Rehab if no longer symptomatic

If a true PAD patient ...think low functioning, deconditioned, using assisted device
Orientation

- General Phase 3 Orientation
  - Phase 2 graduate/Group setting: Phase 3 program specifics, tour, paperwork
  - Outside referral/Individual: Health history, 6 minute walk test, Phase 3 program specifics, goal setting, paperwork

- PAD Specific Orientation/Individual
  - Done during original orientation or prior to first class
  - Claudication history, 6 minute walk test (noting stopping/resting times)
    - Do not do any graded exercise testing protocol
  - Resting ABI per staff discretion
  - Review of PAD walking protocol
  - Emphasizing a different kind of “rehab”...painful vs pain-free
  - What is their goal for PAD Rehab
Environment...Things to consider

- Low platform treadmill for ease to get on/off
- Chair located next to for rest periods
- Areas for holding on to for balance/fall prevention (treadmill railing/wall railing/etc.)
- Space for walker/cane
Environment...Things to consider (cont.)

- Easy accessibility to clipboard/training form and timer
- Close to restroom
- Posted claudication scale
- Reserve sign to save specific treadmill for patient
Intermittent Claudication Rating Scale

0  No claudication pain
1  Initial, minimal pain
2  Moderate, bothersome pain
3  Intense pain
4  Maximal pain, cannot continue
Typical Day of Exercise

- One staff is scheduled for approximately 1 week to work 1:1 with patient
  - After 1:1 session, patient self-responsible for walk protocol and training form
  - Clinic staff assist when needed
- First session continuously tele-monitored
  - THR: 60-80% APMHR
- Resting vitals: HR/BP/rhythm check
- Warm-ups: Stretching, active
  - Patient specific: Seated if needed
- Walking program
  - Exercise vitals: HR/rhythm check/once weekly BP
- Cool Downs:
  - If done with walking protocol, joins Phase 3 cool-down portion
  - Seated rest
Typical Day of Exercise (cont..)

- Walking protocol
  - No cookie cutter speed/grade
  - Trial and error for speed/grade
  - **Speed**: A comfortable speed that allows for a 5-10 minute walking period; provokes pain enough to stop
    - Goal is about 2.0 mph speed initially, increasing based on patient’s ability
  - **Grade**: Patient specific for goals. Do not want to deter speed/safety/pain onset
    - Once at speed goal, can increase elevation (0.5-1% increments) to provoke pain
  - **Pain scale**: Patient specific. 2-3 on scale. Goal is to push to pain
  - **Rest periods**: Until pain is subsided
  - **Total walking time**: 30 minutes minimum, Goal: 45 minutes
  - **Open gym day**: May choose non-weight bearing modalities to work on CV vs. PAD
Contraindications/Terminate of Exercise

Contraindications:

- Resting claudication pain
- PAD wounds not medically attended to
- Cardiac contraindications (rest SOB/chest pain/symptomatic HF/etc.)
- Elevated resting BP ($\geq 140/\geq 90$)
  - Seated rest/slow warm-up, recheck
  - MD order for new guideline if continuously over

Termination:

- Exceeds THR/safe limit
- Elevated exercise BP ($\geq 200/\geq 100$)
- Cardiac signs/symptoms (lightheaded/dizziness/chest pain/severe fatigue/etc.)
- Drop of SBP (>20 mmHg)
Documentation...our training form

<table>
<thead>
<tr>
<th>NAME</th>
<th>CR#</th>
<th>THR min / 10 sec</th>
<th>MET</th>
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Physician: ____________________  Phone: ________________

Email #1: ____________________  Phone: ________________

Email #2: ____________________  Phone: ________________

Medications: ____________________  Medications: ____________________

Allergies: ____________________

<table>
<thead>
<tr>
<th>Date</th>
<th>Weight</th>
<th>Rent HR</th>
<th>Rent BP</th>
<th>Mode</th>
<th>Warm-up (spoil/hr)</th>
<th>Init Pain (min)</th>
<th>Max min</th>
<th>Claud Scale</th>
<th>Exercise HR</th>
<th>Rent Time</th>
<th>Exercise BP</th>
<th>Recovery HR</th>
<th>Comments</th>
</tr>
</thead>
</table>

Mode: TM-Treadmill  EL-Elliptical  RR-Rower  SM-Stair Machine  UB-Upper Body  RO-Rowing  BD-Stationary Bike  AD-Abdominal  B-Bike  RB-Recumbent Bike

PAD EXERCISE LOG

Rest BP

Mode

Warm-up (spoil/hr)

Init Pain (min)

Max min

Claud Scale

Exercise HR

Rent Time

Exercise BP

Recovery HR

Comments
### Documentation...our training form (cont.)

<table>
<thead>
<tr>
<th>Date</th>
<th>Daily</th>
<th>3/15/18</th>
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<tbody>
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<td>Weight</td>
<td>Weekly/Daily if HF</td>
<td>175.2</td>
</tr>
<tr>
<td>Rest HR</td>
<td>Daily</td>
<td>68</td>
</tr>
<tr>
<td>Rest BP</td>
<td>Daily</td>
<td>112/64</td>
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<tr>
<td>Mode</td>
<td>TM</td>
<td>TM</td>
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<tr>
<td>Wkld (spd/elv)</td>
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<td>1.6/0</td>
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<tr>
<td>Init Pain (min)</td>
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<td>4:30</td>
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<tr>
<td>Max min</td>
<td>6:43</td>
<td>8:25</td>
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<tr>
<td>Claud Scale</td>
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<td>3</td>
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<tr>
<td>Exercise HR</td>
<td>103</td>
<td>110</td>
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<tr>
<td>Rest Time</td>
<td>4:15</td>
<td>3:45</td>
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<tr>
<td>Exercise BP</td>
<td>Once Weekly or more if ↑</td>
<td>138/68</td>
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<tr>
<td>Recovery HR</td>
<td>Daily</td>
<td>72</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td>Great day today</td>
</tr>
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**Initial Pain Time**
Use treadmill timer

**Maximum Time**
Use treadmill timer

**Heart Rates**
pulse check/oximeter/device

**Rest Time**
Kitchen timer
Exercise Program...FITTT

**Frequency:** PAD Exercise program: 3 times/week
Home: Encourage patient to continue walking on **most** non-rehab days
- Walking in a big box store. Shopping cart is great aid.

**Intensity:** Home: Can encourage to do using a “lower” pain scale

**Time:** Total 30-45 minutes
- Can be multiple “mini” sessions through the day.
  - 10 minutes-morning/noon/night

**Type:** **Cardiovascular**-Walking preferred
- If not able to tolerate, can use a non-weight bearing modality

  **Muscle Strengthening**-
- 2-3 times/week
- 6-12 exercises of major muscle groups
- 8-12 reps; 2-3 sets
Follow-up

- Case Management appointments to work on risk factors
- 6 minute walk test: 3 months/6 months/9 months/yearly
  - A great motivator or can be a great revealer
Documentation

- Training form
- PAD Individualized Treatment Plan
  - History of PAD/DM/smoking/orthopedic issues
  - Signs/symptoms (pain/tightness/fatigue/physical signs)
  - Physical assessment (color/hair loss/nails/skin condition)
  - Interventions (rehab/education)
  - ABI results
  - Narrative charting area
- Outcomes Flowsheet (6MWT data/lipid & HgA1c/Medical Utilization/Smoking)
- Paper chart
  - Progress notes (telemetry strips, charting)
  - Consents/orders
  - Stress test results
  - Lipid/HgA1c flow sheet
  - Miscellaneous
## Results

<table>
<thead>
<tr>
<th>Patient</th>
<th>Pre-PAD 6MWT Distance (feet)</th>
<th>Post-6MWT</th>
<th>% Change</th>
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</thead>
<tbody>
<tr>
<td>Jackie</td>
<td>455’</td>
<td>3 mos.: 910’</td>
<td>455’/ 50.0%</td>
</tr>
<tr>
<td>Phil</td>
<td>650’ 2 stops/CS-3</td>
<td>3 mos.: 940’/ No stops/CS-2</td>
<td>290’/ 30.9%</td>
</tr>
<tr>
<td>Pat</td>
<td>1442’</td>
<td>6 mos.: 1778’</td>
<td>336’/ 18.9%</td>
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Ultimate Goals

- IMPROVE QUALITY OF LIFE
- Patient specific
- Functional
  - Refer to patient goal
  - Increase in peak walking distance
  - Improve pain free walking distance
- Physiological/mechanical improvement
  - Improving muscle metabolism/functioning/strength
  - Improving endothelial functioning
  - Improved walking biomechanics
  - Reduce CV risk factors
Thank you...

Here’s.......Susan Bauman on PAD Reimbursement