Objective: To compare the effects of resistance and cardiovascular exercise on functional mobility in individuals with advanced cancer.

Design: Prospective, 2-group pretest-posttest pilot study with randomization to either resistance or cardiovascular exercise mode.

Setting: Comprehensive community cancer center and a hospital-based fitness facility.

Participants: Volunteer sample of individuals with advanced cancer recruited through the cancer center, palliative care service, rehabilitation department, and a local hospice.

Demographics:

<table>
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<th>Metastatic Site</th>
<th>Primary Diagnosis</th>
<th>Other Current Treatment Regimen</th>
<th>None</th>
<th>Chemo</th>
<th>Radiation</th>
<th>Combination</th>
<th>Other</th>
<th>Visceral</th>
<th>Skeletal</th>
<th>CNS</th>
<th>Prostate</th>
<th>Gynecologic</th>
<th>Lung</th>
<th>Lymphoma/HD</th>
<th>Primary Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>26%</td>
<td>21%</td>
<td>17%</td>
<td>9%</td>
<td>55%</td>
<td>24%</td>
<td>14%</td>
<td>18%</td>
<td>3%</td>
<td>55%</td>
<td>12%</td>
<td>7%</td>
<td>6%</td>
<td>14%</td>
<td>17%</td>
<td>21%</td>
</tr>
</tbody>
</table>

Results: Fifty-two patients (78.8%) completed the study: 23 (67.7%) of 34 patients in the resistance arm and 29 (90.6%) of 32 patients in the cardiovascular arm. No participant withdrew because of study adverse events. Ten-week outcomes (n=52) included a significant increase in SPPB total score (P<.001), increase in gait speed (P=.001), and reduction in fatigue (P=.05). Although cardiovascular exercise participants had a modestly greater improvement in SPPB total score than resistance training participants (F1,49=4.21, P=.045), the difference was not confirmed in a subsequent intention-to-treat analysis (N=66).

Conclusions: Individuals with advanced cancer appear to benefit from exercise for improving functional mobility. Neither resistance nor cardiovascular exercise appeared to have a strong differential effect on outcome.

Outcome Measures: Functional mobility was assessed using the Short Physical Performance Battery (SPPB); self-reported pain and fatigue were assessed secondarily using visual analog scales. Data were analyzed using a split plot 2x2 analysis of variance (α=.05).

Interventions: Ten weeks of individualized resistance or cardiovascular exercise, prescribed and monitored by oncology-trained physical therapists and exercise personnel.

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