Objective
To assess the feasibility and benefit of remote delivery of mindfulness based stress reduction (MBSR) training in multiple sclerosis (MS).

Background
Mindfulness meditation focuses on awareness of one’s self and consciousness. Mindfulness meditation is a stress reduction technique that has been shown to reduce symptom burden and improve quality of life for those living with MS. However, the requirement to attend weekly group sessions can limit access to patients with a mobility or transportation barrier. We sought to evaluate the feasibility and benefit by remotely-delivering access to mindfulness training to the participant’s home through group teleconferencing.

Methods
MS participants were 2:1 randomized to either active training (one hourly phone session per week, n=20) or a control condition of initial instruction only (with no further training, n=10) for six weeks. There was a total of n=30 participants from both conditions. Participants were ages 26 to 67 years of age with a mean age of 49.92 years and 77% were female. Most were diagnosed with the relapsing remitting subtype (n=25; all treated with glatiramer acetate), followed by secondary progressive (n=4), and the primary progressive (n=1) subtype. Expanded Disability Status Scale scores ranged from 1.0 to 6.0 with a median 2.5± 1.77.

Table 1: Change in Measures of Information Processing

<table>
<thead>
<tr>
<th>Condition</th>
<th>SDMT Total Mean±SD</th>
<th>PASAT 2,3 Second Composite Total Mean±SD</th>
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<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Study End</td>
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<tr>
<td>Active</td>
<td></td>
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<tr>
<td>(n=16)</td>
<td>51.88±10.17</td>
<td>55.88±11.59</td>
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<tr>
<td>Control</td>
<td></td>
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<tr>
<td>(n=6)</td>
<td>48.57±7.19</td>
<td>50.29±9.14</td>
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Results
Active vs. control participants had significant improvement in cognitive measures of information processing (Symbol Digit Modalities Test, p=0.007 vs 0.482; Paced Auditory Serial Addition Test, p=0.001 vs 0.105). In addition the results report greater reduction in fatigue, depressive symptoms and improved sleep quality before and after the mindfulness based stress reduction(MBSR). Fidelity to daily meditation practice was greatest for those who were initially seeking stress reduction training.

Figure 1: SDMT Improvement

Figure 2: Measure of Depression and Fatigue before and after MBSR

Conclusion
• Mindfulness meditation has the potential to benefit cognition, depression symptoms and fatigue with those living with MS.
• Providing instruction and practice through a telemedicine platform greatly improves access and lowers the cost of this symptomatic treatment approach.

References