

Type of Non-Pharmacologic Approach	Description/ Specific Approaches	Efficacy for Reducing Behavioral and Psychological Symptoms of Dementia
Sensory Stimulation Approaches	<p>Sensory stimulation approaches focus on stimulating the senses of the person with dementia. The aim of these approaches is to respond to the unmet needs for stimulation, to enhance the senses and to achieve therapeutic effects such as pain control, relaxation and reduction of anxiety. Some sensory stimulation approaches are informed by physiological models regarding the calming influence of sensory touch or proximity associated with some techniques such as massage. Examples include:</p> <ul style="list-style-type: none"> <li>• Music therapy</li> <li>• Snoezelen Multisensory Stimulation Therapy (MSS)</li> <li>• Transcutaneous Electrical Nerve Stimulation (TENS)</li> <li>• White Noise</li> <li>• Light therapy</li> <li>• Massage and touch therapy</li> <li>• Aromatherapy</li> </ul>	<ul style="list-style-type: none"> <li>• Music therapy has demonstrated short-term efficacy in reducing agitation among persons with dementia, although overall study findings have been inconsistent.<sup>29, 30, 44-47</sup> No evidence on effectiveness with persons with severe agitation.<sup>30</sup></li> <li>• MSS combines light, music, tactile, and aroma therapies. Findings regarding the effect of MSS on behavioral symptoms are inconsistent but some preliminary randomized trials have demonstrated improved short-term BPSD outcomes when using Snoezelen as well as other positive experiences associated with the treatment, meriting further testing.<sup>29, 31</sup></li> <li>• Several RCTs testing TENS have demonstrated no effect on BPSD. There is no evidence to support the use of TENS to treat behavioral symptoms.</li> <li>• Insufficient evidence exists to recommend the use of white noise in treating behavioral symptoms.<sup>32</sup></li> <li>• Insufficient evidence exists to recommend light therapy in reducing BPSD in nursing home residents.<sup>33</sup> No effect on dementia symptoms from Bright Light Therapy (BLT) in nursing home residents.<sup>29,30</sup></li> <li>• Massage and touch therapy have demonstrated a moderate effect on BPSD, specifically agitation.<sup>29,30,34</sup></li> <li>• Aromatherapy has demonstrated moderate efficacy in reducing agitation, however more rigorous research is needed.<sup>35,36</sup></li> </ul>
Behavior Management Approaches	<p>Behavior management approaches are intended to support adaptive behavior of people with dementia through reinforcing certain kinds of social behavior and reducing behavioral symptoms through, for example, ignoring the behavior. Examples include:</p> <ul style="list-style-type: none"> <li>• Habit training</li> <li>• Communication training</li> <li>• Cognitive-behavioral therapy</li> <li>• Individualized behavioral reinforcement therapies</li> </ul>	<ul style="list-style-type: none"> <li>• Inconsistent study results and limited methodological rigor provide insufficient evidence to support the use of behavioral management techniques at this time.<sup>11,15</sup></li> </ul>

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Cognitive/Emotion-Oriented Approaches	<p>Cognitive/Emotion-Oriented Approaches focus on eliciting positive emotional behavioral responses. Examples include:</p> <ul style="list-style-type: none"> <li>• Reminiscence therapy</li> <li>• Simulated Presence Therapy (SPT)</li> <li>• Validation Therapy</li> <li>• Reality Orientation</li> </ul>	<ul style="list-style-type: none"> <li>• Currently, evidence does not support the use of any of these approaches for BPSD.<sup>29</sup> There is limited and inconsistent evidence regarding the use of cognitive/emotion-oriented interventions. Some of these interventions, such as SPT and reality orientation may actually have an adverse effect in some persons with dementia and are not recommended for treatment of BPSD.<sup>30</sup></li> </ul>
Structured Activity Approaches	<p>Structured activity approaches may include recreational activities as well as certain forms of exercise on a regular basis. The goals of structured activity approaches are often to develop and/or stimulate the social, cognitive and physical abilities of persons with dementia and to reduce boredom. Examples include:</p> <ul style="list-style-type: none"> <li>• Exercise</li> <li>• Recreation activities</li> </ul>	<ul style="list-style-type: none"> <li>• There is insufficient evidence to conclude the effects of exercise interventions or structured activities on BPSD; this is largely due to methodological limitations of existing studies.<sup>12,16, 29,30</sup></li> <li>• There is also limited evidence regarding the effect of exercise on BPSD, however, other benefits of exercise programs such as improved sleep may merit their use depending on individual care needs.<sup>15</sup></li> <li>• Group activities – short term effect on decreasing agitation in NH residents, but no evidence of long-term effect to decrease agitation and no evidence to suggest that individualizing activities further decreases agitation.<sup>30</sup></li> </ul>
Social Contact Approaches (with real or simulated stimuli)	<p>Real or simulated social contact approaches may include face-to-face interaction, group activities or audiotapes from family members. Social interactions are believed to produce positive mood/affect and to subsequently reduce BPSD<sup>17</sup>. As nursing home residents also experience boredom and social isolation, social interaction is believed to generally improve the well-being of people with dementia. Examples include:</p> <ul style="list-style-type: none"> <li>• Animal-assisted therapy</li> <li>• One-on-one interaction</li> <li>• Simulated presence therapy (i.e. simulated family presence)</li> </ul>	<ul style="list-style-type: none"> <li>• While AAT has demonstrated preliminary positive findings, the current evidence base is very limited and includes primarily non-randomized, very small scale studies. Additional research is needed to understand whether AAT effectively reduces BPSD.<sup>15, 37,38</sup></li> <li>• There is currently an insufficient evidence base to support the efficacy of one-on-one interaction for reducing BPSD, however further testing of this approach is merited because preliminary work suggests that people with dementia benefit by being engaged in social contact.<sup>18-20,11,15</sup></li> <li>• There is currently inadequate evidence to recommend the use of simulated-presence therapy and it may have an adverse effect in some individuals.<sup>15, 39</sup></li> </ul>

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Environmental Modification Approaches	<p>Environmental modification approaches focus on matching the environment to the needs of the person with dementia. This can be done in different ways by providing conditions that help to maintain the person's autonomy and independence, create a home-like atmosphere and thereby reduce the level of stress. The approaches are often designed specifically to reduce wandering behaviors, or mood/sleep disturbances. Examples include:</p> <ul style="list-style-type: none"> <li>● Wandering areas</li> <li>● Natural/enhanced environments</li> <li>● Reduced stimulation units.</li> </ul>	<ul style="list-style-type: none"> <li>● Environmental modification interventions have not demonstrated efficacy in reducing BPSD.<sup>11,15</sup></li> </ul>
Clinically-Oriented Approaches	<p>Clinically-oriented approaches are generally (but not always) multi-faceted and aim to guide providers in relieving the underlying unmet needs or causes contributing to BPSD. The intended outcomes include reducing the use of psychotropic drugs and BPSD, along with improving other health outcomes. Examples include:</p> <ul style="list-style-type: none"> <li>● Pain management</li> <li>● Comprehensive assessment</li> <li>● Restraint removal</li> <li>● Decision-support approaches</li> <li>● Delirium recognition and management</li> </ul>	<ul style="list-style-type: none"> <li>● Most of these interventions have demonstrated positive (not necessarily significant) effects in reducing BPSD but few have been tested in rigorous trials and as a result are not included in many systematic reviews.</li> <li>● A systematic approach to pain management has been shown to significantly reduce agitation in nursing home residents with moderate to severe dementia.<sup>40-43</sup></li> <li>● Individualized interventions that utilize a systematic algorithm to support clinical-decision making demonstrate strong potential for treating and managing BPSD and unmet needs of persons with dementia.<sup>21,22</sup> Since these approaches are particularly promising, more information is provided later in this document.</li> </ul>

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<p>Staff-training Approaches (See also Education and Leadership Development section of Toolkit)</p>	<p>Caregiver development as an approach is intended to increase the knowledge of staff who are called upon to respond to BPSD. The aim of this type of approach is to reduce behavioral symptoms and the stress caregivers experience themselves. Most staff training approaches are educational or psychosocial and teach:</p> <ul style="list-style-type: none"> <li>• Communication skills</li> <li>• Person-centered bathing or towel bathing<sup>23</sup></li> <li>• Minimizing care-resistant behaviors during oral hygiene<sup>24,25</sup></li> <li>• Strategies for responding to needs of persons with dementia</li> <li>• Understanding and responding to BPSD</li> </ul>	<p>Generally, findings from staff-training approaches demonstrate limited sustained improvement in BPSD and suggest that continual training or reinforcement are needed to influence behavior change. These studies have produced inconsistent findings for the strategies used and are difficult to evaluate due to methodological limitations, as such insufficient evidence exists at this time to support the efficacy of most staff-training approaches for reducing BPSD.<sup>30</sup> Some specific approaches merit replication in a more rigorous manner.<sup>11,14,15</sup></p> <ul style="list-style-type: none"> <li>• Person-centered care training: limited evidence to suggest that PCC training is effective in reducing agitation in persons with dementia<sup>30</sup></li> <li>• Dementia care mapping – some evidence suggests the effectiveness of dementia care mapping to reduce agitation in NH residents<sup>30</sup></li> </ul>
<p>Person-centered Care Approaches<sup>4,8</sup></p>	<p>The concept of person-centered care is to train care providers to focus on the person during the task rather than the task itself. This training may also emphasize abilities-focused care and maximizing comfort. An example of a person-centered care approach to reduce agitation includes:</p> <ul style="list-style-type: none"> <li>• Person-centered bathing or towel bathing<sup>23</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Use of person-centered bathing and towel bathing has demonstrated reduced agitation and aggression during bathing experiences.<sup>23</sup></li> <li>• “Some evidence suggests that a person-centered approach reduces resistance-to-care behaviors during bathing”<sup>44</sup></li> <li>• “A low level of evidence suggests that using music during mealtime and shower/bathtime reduces the resistance-to-care behaviors of nursing home residents with dementia”<sup>44</sup></li> </ul>