

# NONPHARMACOLOGIC STRATEGIES FOR SYMPTOM MANAGEMENT AT THE END OF LIFE

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## Objectives...

- Identify common symptoms and symptom clusters experienced at the end of life
- Describe evidence-based complementary nonpharmacologic strategies at the end of life
- Consider how you might incorporate nonpharmacologic strategies in your work with patients/residents and their families with advancing illness in home or LTC settings

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## What do dying persons want at the end of life?

- Maintain dignity (95-99%)
- Freedom from anxiety (90-91%)
- Have physical touch (86-97%)
- Feel prepared to die (79-87%)



Steinhauser et al., 2000

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## Comfort care at the end of life



- Physical comfort
- Mental and emotional needs
- Spiritual issues
- Practical tasks

National Institute on Aging

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## Common symptoms in palliative care

- Anxiety
- Anorexia / Cachexia
- Constipation
- Cough
- Depression
- Diarrhea
- Dry Mouth
- Dyspnea
- Respiratory secretions
- Fatigue
- Sleep Disturbance
- Nausea & Vomiting
- Pain
- Pruritus (itching)

Bookbinder & McHugh, 2010; Kehl & Kowalkowski, 2013; von Gunten, 2006

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## Common symptoms in nursing home residents at end of life

- Pain
- Agitation
- Shortness of breath
- Respiratory secretions
- Cough
- Constipation
- Nausea / vomiting



Hendriks, Smalbrugge, Herogh, & van der Steen, 2012 ;  
Hockley et al., 2004; Rodriguez et al., 2010

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## Co-occurring symptoms

- Persons experience multiple symptoms in advanced disease and at the end of life

### • Examples

- Fatigue + Pain + Sleep Disturbance / Drowsiness
- Poor Appetite + Nausea + Bowel problems
- Breathlessness + Anxiety + Fatigue
- Shortness of breath + Cough + Nausea
- Anxiety + Tension + Depression

- Selecting a single intervention that is effective for all co-occurring symptoms is less burdensome than prescribing several single-symptom interventions

Bedi et al., 2009; Chan, Chair, & Chui, 2009; Stiel et al., 2014

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## Self-reported symptom management strategies

- **Medications / Medical Procedures**
- Heat
- Cold
- Exercise
- Rest / Relaxation
- **Natural Products**
- Mind-Body Techniques
- Body work / manipulation Techniques
- Energy Therapies
- Spiritual Practices
- Social Support
- Diet Changes
- Distracting Activities

Hanson, Shusarek, Witt & Kwekkeboom, 2010

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## Nonpharmacologic interventions

- Used as adjunctive (complementary) therapy
- Symptoms are multidimensional
- Nonpharmacologic strategies operate differently than pharmacologic agents
  - Relieve distress and anxiety
  - Enhance perceptions of control / mastery
  - Alter negative expectations
  - Enhance sense of well-being

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- “In the absence of cure, the most appropriate treatment will be one that addresses cognitive, affective, and behavioral factors associated with pain, and not solely physical ones.”  
and other symptoms

*Turk, 2002*

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## Nonpharmacologic interventions

- Support / reinforce usual coping methods
- Supplement usual coping with new techniques



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## Evidence base

- Many nonpharmacologic strategies have been studied
- Some strategies have substantial research support in general symptom management research
- Few have sufficient evidence in palliative care populations

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### Systematic review: complementary therapies at end of life

- Pain
  - Massage
  - Relaxation
  - Imagery, hypnosis
  - TENS\*
  - Acupuncture\*
- Dyspnea
  - Acupuncture & Acupressure
  - Relaxation
  - Counseling – breathing training & coping

Pan et al., 2000. Complementary and alternative medicine in the management of pain, dyspnea, nausea and vomiting near the end of life. *Journal of Pain & Symptom Management*

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### Systematic review: complementary therapies at end of life

- Breathlessness
  - Neuro-electrical muscle stimulation
  - Chest wall vibration
  - Walking aids
  - Breathing training



Bausewein et al. 2008. Non-pharmacological interventions for breathlessness in advanced stages of malignant and non-malignant diseases. *Cochrane Database of Systematic Reviews*.

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### Systematic review: complementary therapies in palliative care

- Massage
  - Pain
  - Distress
- Music
  - Pain
  - Anxiety
- Guided imagery / meditation
  - Pain
  - Negative mood, depression, anxiety

Lafferty et al., 2006. Evaluating CAM treatment at end of life: a review of clinical trials for massage and meditation. *Complementary Therapies in Medicine*.

Bowers, T.A. & Wetzel, M. A. 2014. Utilization of music therapy in palliative and hospice care. *Journal of Hospice & Palliative Nursing*.

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## Educational interventions

- Health or disease-related information
  - Anticipated events, procedures, sensations
  - Causes and factors that contribute to symptoms / side effects
  - Rationale for symptom management strategies
  
- Delivered alone or with self-management skills training
  
- Useful across all symptoms

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## Simple comfort measures

Strategy	Useful For:	
<b>Body Positioning</b>	<i>Cough</i> <i>Dyspnea</i>	<i>Pain</i>
<b>Air Flow</b>	<i>Dyspnea</i>	<i>Itching</i>




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## Simple comfort measures

Strategy	Useful For:	
<b>Breathing training (e.g., abdominal breathing, pursed lip breathing)</b>	<i>Dyspnea</i>	<i>Anxiety</i>
<b>Diet Alterations</b>	<i>Anorexia / Cachexia</i> <i>Constipation</i> <i>Diarrhea</i>	<i>Dry mouth</i> <i>Insomnia</i> <i>Nausea &amp; Vomiting</i>

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## Alterations in activity

Strategy	Useful For	
<b>Exercise</b>	Constipation Depression	Dyspnea Fatigue
<b>Pacing Activities</b>	Dyspnea / breathlessness Fatigue	Pain
<b>Sleep Hygiene</b>	Insomnia	Fatigue




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## Sleep hygiene

- Get up at the same time each day
- Exercise regularly (> 3 hours before sleep)
- Avoid long naps (>30 min)
- Eliminate caffeine, nicotine
- Limit fluids in the evening
- Avoid alcohol in the evening
- Have a light snack before bed
- Relax before bed
- Keep bedroom dark, quiet, and cool
- Get out of bed if unable to sleep

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## Cutaneous Stimulation: Heat

- Effective for **pain**
- Moist heat increases penetration
- Temperature: 40° to 45° C
- Duration: 5 – 30 minutes
- Contraindications
  - Bleeding
  - Burned or radiated skin
  - Decreased sensitivity or inability to report discomfort




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## Cutaneous Stimulation: Cold

- Effective for **pain, dyspnea, itching**
- Provide graduate onset of cold
- Temperature: 15° C
- Duration: Up to 20 minutes
- Contraindications
  - Poor circulation
    - Peripheral vascular disease
    - Raynaud's phenomenon
  - Burned or radiated skin



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## Cutaneous Stimulation: Massage

- Effective for **pain, anxiety, insomnia**
- Traditional massage: gentle kneading strokes
  - Site of pain
  - Muscle relaxation sites - back, neck, scalp, hands, feet
- Duration: 5 minutes – 1 hour
- Contraindications
  - Thrombocytopenia
  - Fragile skin
  - Superficial thrombophlebitis or DVT
  - Acute inflammation or skin infection



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## Cutaneous Stimulation: TENS

- Effective for **pain**
- Skin stimulation through mild electrical current
- Various modes: conventional, brief-intense, strong low-rate (acupuncture-like)
- Electrodes placed directly over or near the site of pain or at an acupuncture point
- Contraindications
  - Pacemakers
  - Implanted electrical devices



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## Mind-body strategies: Distraction

Effective for	
Anxiety	Nausea & Vomiting
Depression	Pain
Fatigue	Pruritus
Insomnia	

- Directing attention away from bothersome symptoms
- Requires:
  - Mental capacity to concentrate
  - Physical ability / energy to engage in distracting activities
- Useful for brief pain or symptom episodes
  - Awareness may return when distraction ends

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## Using distraction interventions

- Choose something the individual is interested in
- Consistent with energy level / ability to concentrate
- Activity that stimulates the major senses
  - Hearing
  - Sight
  - Touch / movement
- Potential to increase the distractive stimulus when the symptom increases in intensity

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## Mind-body strategies: Music

Effective for	
Anxiety	Insomnia
Depression	Pain

- Distracts attention from pain or other symptoms, stimulates relaxation, or changes attitude / mood
- Use personal preference for music selection
- Encourage engagement
  - tapping out rhythm, singing, dancing
- Allow control over volume and length of music listening

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## Mind-body strategies: Guided imagery

Effective for	
Anxiety	Insomnia
Depression	Nausea & Vomiting
Dyspnea	Pain
Fatigue	

- Using one's imagination to create pleasant images or sensory images that change how the symptom is perceived or experienced
  - Pleasant imagery (distracting / relaxing)
  - Symptom-focused (e.g., create and change the image of pain or other symptom)

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## Using imagery

- Audiotaped script or live guide
- Preceded by relaxation exercise
- Use multiple senses in developing images
- Length tailored to individual's preferences and energy level
- Caution in persons with psychiatric illness

Samples:

[http://www.mckinley.illinois.edu/units/health\\_ed/stress\\_audio/Trip%20to%20the%20Beach.mp3](http://www.mckinley.illinois.edu/units/health_ed/stress_audio/Trip%20to%20the%20Beach.mp3)

[http://www.med.umich.edu/cancer/podcasts/gi\\_pain.mp3](http://www.med.umich.edu/cancer/podcasts/gi_pain.mp3)

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## Mind-body strategies: Relaxation

- Effective for
  - Anxiety
  - Dyspnea
  - Fatigue
  - Insomnia
  - Nausea & vomiting
  - Pain



- Release of physical tension
- Reduction in emotional distress

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## Relaxation techniques

- Jaw Relaxation
- Rhythmic breathing
- Heartbeat breathing
- Progressive muscle relaxation
- Stretch-based relaxation
- Meditation
- Prayer



Sample: Brief muscle relaxation  
[http://www.uhs.wisc.edu/health-topics/stress/mp3/uhs\\_brief\\_muscle\\_relaxation\\_nature.mp3](http://www.uhs.wisc.edu/health-topics/stress/mp3/uhs_brief_muscle_relaxation_nature.mp3)

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## Provider-delivered CAM practices

Strategy	Useful for	
Acupuncture / Acupressure	Dyspnea Nausea & Vomiting	Insomnia Pain
Energy Therapies (Reiki, Therapeutic or Healing Touch)	Anxiety Insomnia	Pain Fatigue
Reflexology	Pain	
Yoga, Tai Chi, Qi Gong	Anxiety Depression Fatigue	Insomnia Pain

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## Practice issues

- Individual differences in effectiveness
- Consider physical and cognitive capacity for various strategies
- Provide rationale for recommended strategies
- Involve family / caregivers

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## Practice issues

- Needs of older adults
  - Pace training and provide written instructions
  - Consider age-associated skin changes
  - Allow extra time for cognitive interventions
- Consider sensory limitations
  - Amplification (music, imagery tapes)
  - Written materials in large print

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## Practice Issues

- Advancing disease
  - Change in mobility / range of motion
  - Diminished memory
  - Reduced ability to report discomfort
  - Change in energy level /ability to actively participate
- Setting – home and LTC
  - Access to experienced providers
  - Staff time
  - Environmental barriers
  - Caregiver knowledge / confidence

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## Referrals

### Multidisciplinary Team

- Cutaneous Stimulation – *Physical therapy*
- Mind-Body Strategies - *Health psychology, Social work, Chaplain*
- Breathing re-training - *Respiratory therapy*
- Dietary alterations – *Dietician*
- CAM - *Integrative medicine service or volunteers*  
(e.g., acupuncture, massage therapy, therapeutic touch)

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Questions & Discussion



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