REVIEW ARTICLE

End-of-Life Symptom Management for Family Physicians

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ABSTRACT

For osteopathic family medicine physicians, caring for patients at the end of life (EOL) is embedded into the continuum of care we offer and necessitates a level of familiarity with providing sufficient symptom management. This article presents an overview of symptom management at EOL, with high-yield diagnosis and treatment approaches for the most common symptoms, including pain, dyspnea, nausea/vomiting, delirium/agitation/anxiety, constipation, and oropharyngeal secretions. Additionally, this will serve as a guide to enhance the osteopathic family physician's ability to deliver compassionate, high-quality end-of-life care, ensuring greater comfort and support for patients and their loved ones.

INTRODUCTION

Osteopathic family physicians are unique in that they often serve as continuity physicians throughout a patient's entire life. An important component of this longitudinal care includes end-of-life (EOL) management, focusing on comfort through symptom control, honoring the patient's dignity, and supporting the patient and their loved ones throughout the process. For the purposes of this article, EOL refers to the hours to days prior to death. Given that each EOL scenario is unique, care in this time requires flexibility, ingenuity, and a thorough appreciation for the etiology of symptoms. Physicians must frequently reassess a patient's comfort at EOL to ensure minimal suffering. This article, sourced from current studies, will present the most common EOL symptoms that arise, their etiology, and best-practice management.

PAIN

Pain is reported to be one of the most common symptoms at EOL.[1] Recognizing signs of pain and subsequently providing effective care are important in allowing for a patient to die without suffering. As patients get closer to EOL, their ability to communicate is often diminished, thus making it more difficult for them to report their symptoms. Management of pain at EOL includes evaluating a patient for nonverbal signs of discomfort, evaluating for the etiology of potential pain, and knowing how to appropriately dose pain medications, including opioids.

Types of Pain

Nociceptive pain is a result of damage to the soft tissues (somatic) and internal organs (visceral).[2] Somatic pain occurs from mechanical (pressure), thermal (hot or cold), or other stimulation that typically causes sharp localized pain such as burns, fractures, or wounds. Visceral pain occurs in the setting of inflammation, ischemia, or stretching of the organs or bones and may be harder to localize.[3]

Neuropathic pain is the result of an injury to peripheral or central nerves and may be described as electric or radiating in nature. Potential etiologies of neuropathic pain include peripheral neuropathies and injuries to nerve roots or plexuses.[3]

Lastly, the concept of "total pain," first introduced by Dame Cicely Saunders, is a way to acknowledge pain that is not always an isolated physical experience but can be a complex psychological and emotional experience as well. A patient's "total pain" impacts their perception and experience of an illness, which is why an interdisciplinary approach to pain is ideal.[4]

Evaluation

Evaluating a patient's pain involves inquiring about specific descriptors such as onset, precipitating and palliating factors, quality, region/radiation, severity, and timing.

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While numeric scales attempt to provide objective and standardized measures for pain, it is equally important to evaluate the impact of a patient's pain on their function. This may include asking a patient to relate the numerical severity of their pain to their functional ability, such as their comfort in reading a book, watching TV, and ambulating around the home.[5]

As patients become less communicative near EOL, clinicians must rely on other signs and symptoms of pain. Various tools have been developed to better evaluate pain nonverbally. One such tool is the Pain Assessment in Dementia (PAIN-AD) scale, originally developed to assess pain in patients with dementia. This tool is based on five behavioral indicators, each scored as 0, 1, or 2 out of 10 total points:

- Breathing (appearance of work of respirations).
- Negative vocalization (such as moaning).
- Facial expression (frowning, grimacing).
- Body language (rigid, tense).
- Consolability (distractibility by reassurance), see Supplemental 1.[6]

The Adult Non-Verbal Pain Scale (NVPS) is utilized to rate the appearance of face, movement, and level of guarding alongside physiologic signs of changes in systolic blood pressure, heart rate, and respiratory rate. Lastly, the Critical Care Pain Observation Tool (CPOT) assesses pain through observation of facial movement, body movements, and muscle tension.[6]

It is prudent to anticipate potential sources of pain for the patient at EOL. Consideration of pain level prior to the active dying process is beneficial especially for patients with chronic or acute pain; a scheduled regimen may be indicated. It can also be appropriate to premedicate a patient prior to repositioning, wound care, toileting, or suctioning, especially if they are no longer able to communicate their needs.

Management

Each patient requires different considerations for their pain regimen. Regimens, whether scheduled, as needed, or a combination of both, may require adjustment to account for changes in the patient's ability to take oral medications, changes in severity of pain, or renal and/or hepatic dysfunction. Renal and hepatic dysfunction may necessitate a rotation from one medication to another.

While opioids are a mainstay of treatment for pain at EOL, it is still appropriate to utilize nonopioid medications such as anti-inflammatories, topical and transdermal lidocaine, steroids, and acetaminophen. Nonopioid medications are indicated in mild pain or in pain that is not opioid-responsive. Neuropathic agents are appropriate to continue if the route of administration is tolerated by the patient, and they continue to yield benefit from the medication. Notably, if a patient is actively dying or approaching EOL, they may stop taking oral medications abruptly. This possibility should be accounted for when managing pain at EOL.

Opioids are an ideal agent to utilize in the EOL patient, as they have a fast onset and multiple routes of administration, including intravenous, subcutaneous, oral, sublingual, and rectal. Opioid frequency is based on pharmacokinetics for the different routes of administration, although there can be variability from patient to patient. For example, oral opioids can be safely given as frequently as every 60 minutes and intravenous opioids as frequently as every 10 minutes, as indicated and tolerated. If pain appears to be uncontrolled at the current dose, it is reasonable to increase the dose by 50% to 100% for the next administration. At times, a continuous infusion may be utilized to manage pain if a patient requires multiple doses of opioids every hour for comfort. Opioid infusion rates should be based on the prior 24-hour oral morphine equivalence, or if a 24-hour window of data is not available, the prior few hours. Note that even when an infusion is running, acute symptom management is still achieved with as-needed pain medications concurrently, not the infusion itself. An infusion can be safely increased after 12 to 18 hours at its current rate, as it takes about four half-lives to reach a steady state.[7,8] See Table 1 for initial PRN dosing of opioids in acute symptom management.

TABLE 1: Initial PRN dosing of opioids in acute symptom management at EOL.

Opioid	Dosing
Morphine[a]	2.5-10 mg PO q1hr PRN 2-10 mg IV q10min PRN or SQ q30min PRN
Hydromorphone (Dilaudid)	2-4 mg PO q1hr PRN 0.5-2 mg IV q10min PRN or SQ q30min PRN
Fentanyl[b]	25-100 mcg IV q10min PRN or SQ q30min PRN
Oxycodone[a]	2.5-10 mg PO q1hr PRN
Note the time to Cmax for different opioid formulations: PO: 1 hour, SQ: 30 minutes, IV: 10 minutes	

[a]Highly concentrated formulations available.

[b]Safest in renal impairment with eGFR <30.

Dyspnea

Similar to the concept of "total pain," patients can experience "total dyspnea," which not only compromises physical comfort but amplifies emotional and psychological suffering.[9] Management requires a multidisciplinary approach that targets reversible causes when appropriate, optimizes symptom control, and incorporates psychosocial support.

Etiology

The source of a patient's dyspnea can have multiple etiologies and is sometimes a combination of different factors. Dyspnea can result from cardiac (congestive heart failure, ischemic disease, pericardial effusion), pulmonary (chronic obstructive pulmonary disease [COPD], pulmonary fibrosis, infections, complications of malignancy such as effusions or obstruction from a mass), metabolic (acidosis), or even hematologic conditions (severe anemia), often with different mechanisms of action that can direct treatments to best address the symptom.[10]

Considerations

Initial management of dyspnea should focus on addressing the underlying cause of the symptom. This may include stabilizing a patient's cardiopulmonary status with breathing treatments, airway clearance devices such as chest vests or cough assist systems, diuretics to reduce fluid in the thorax, and, at times, palliative radiation to target malignancies.[11,12] These treatments may be most helpful earlier in a disease process or with a more functional patient, but for those closer to EOL, these interventions may be limited due to the patient's tolerance, fatigue, ability to participate, or severity of dyspnea.

Supplemental oxygen use at EOL is not titrated to address oxygen need but rather is used sparingly in settings where a patient feels it helps their breathlessness. There is concern that certain levels of oxygen support may prolong the EOL process. This topic is routinely discussed with the patient and family so they may make an informed decision regarding continuation or cessation of this intervention.[13]

For patients with conditions such as advanced COPD or neuromuscular disease, noninvasive ventilation (NIV) may improve comfort, sleep quality, and even short-term survival. Thus, a short-term trial of NIV may be appropriate, if it is within a patient's goals of care at EOL.[13]

Pharmacologic Management

Low-dose opioids are the cornerstone of pharmacologic management of dyspnea at EOL. They reduce central perception of breathlessness and may decrease ventilatory drive, thus easing respiratory distress. Along with full mu-agonist opioids, buprenorphine, a partial mu-agonist, may be considered in treatment of dyspnea, though additional research is needed to demonstrate its clinical impact.[14]

Benzodiazepines, while not first-line, can be helpful for patients with dyspnea accompanied by significant anxiety or panic. However, their use should be individualized and closely monitored due to potential adverse interactions when used in conjunction with opioids.[14] Starting with low doses of benzodiazepines, to monitor how a patient responds both with improvement in symptoms and with potential side effects, is most appropriate.

Also, steroids play a role in management of dyspnea resulting from inflammatory disorders, such as advanced COPD, pulmonary fibrosis, or a systemic inflammatory state.[14]

Nonpharmacologic Management

For patients with mild dyspnea or anxiety contributing to the distress of this symptom, nonpharmacologic measures may be utilized to improve quality of life. Measures such as using a fan on the patient's face, opening windows for airflow, position adjustments, relaxation techniques, and support from family or friends can all be very impactful. Additionally, it is often necessary to acknowledge the distress related to dyspnea, the emotional toll it takes, and how hard it can be as a caregiver to witness. Open discussion of a patient's goals for comfort and re-evaluation of their lived experience can be essential in addressing this symptom.[14]

OROPHARYNGEAL SECRETIONS

Etiology

As EOL approaches, the ability to swallow or clear one's throat of saliva that has settled in the oropharynx is reduced due to increased sedation. These normal secretions can accumulate and lead to an audible gurgling sound, sometimes referred to as the "death rattle," and it raises concern amongst those at bedside with the patient. Although there is no explicit evidence suggesting that secretions are distressing to patients, family members and clinical team members may interpret this as a concerning symptom that requires treatment.[15]

Management

Nonpharmacologic management includes gentle oropharyngeal suctioning (avoiding deep suctioning to avoid irritation and discomfort), repositioning to the lateral recumbent position for postural drainage, and discontinuing intravenous fluids or enteral feeds.

Anticholinergic agents are often used as pharmacologic treatments for secretions. Some anticholinergic agents, like scopolamine, cross the blood-brain barrier (tertiary amines), resulting in higher risk of sedation and potential delirium. A typical initial choice is glycopyrrolate, which does not cross the blood-brain barrier and is typically well tolerated.[15] Additionally, a significant part of secretion management is educating the family and caregivers. It is important to discuss that these symptoms are a common part of the dying process, and to describe how the patient will be monitored for distress and treated appropriately.[16] See Table 2 for medications typically used to treat secretions.

NAUSEA AND VOMITING

Etiology

Effective management of nausea, both pharmacologic and nonpharmacologic, is essential at EOL due to the significant distress it can cause.

When evaluating a patient's nausea, a detailed history is critical to guide medical management. For example, initial therapies may differ depending on whether the nausea is due to brain metastases with cerebral edema, chemotherapy-induced nausea, a pancreatic mass abutting the stomach, or a malignant bowel obstruction causing oral intolerance. Understanding the underlying pathophysiology will lead towards a more effective regimen.

Evaluation and Management

Evaluation of nausea and vomiting should include questions regarding timing, onset, relation to medications or food, precipitating factors (e.g., movement), constipation, and prior treatment responses.

Management with a mechanism-based treatment scheme is always appropriate. However, depending on the clinical scenario and efficacy of such a regimen, empiric treatment and addition of second-line therapies not associated with the etiology of nausea may also be appropriate. Due to decreased patient alertness at EOL, it may be appropriate to schedule antiemetics instead of offering them as needed.[17] Refer to Table 3 for a detailed list of antiemetics, the receptors they target, pathways for nausea, and which medications can be used for which pathway.[17,18] Understanding why a patient is experiencing nausea or vomiting will help guide providers to the medications that can treat the underlying mechanism.

Additionally, it is imperative to consider potential side effects a medication may have and how they may play a role in the broader context of the patient's EOL. Common adverse reactions from antiemetics include constipation (ondansetron), cramping or abdominal pain (metoclopramide), fatigue (ondansetron, haloperidol, or prochlorperazine), delirium (scopolamine, antihistamine), and QTc prolongation (ondansetron, haloperidol, prochlorperazine, olanzapine, certain antihistamines).[18-20]

CONSTIPATION

Etiology

A potentially overlooked issue at EOL is constipation. As patients become less verbal and mobile, irregularity of bowel movements (BMs) may be overlooked as a cause of distress. If a patient's oral intake decreases over time, their BMs may also become less frequent. Unlike decreased urine output, fewer BMs are not a sign of impending death. If a patient has not passed a BM in 2 to 3 days and there is evidence of worsening pain, nausea, emesis, or delirium, then it is appropriate to evaluate for and potentially treat constipation.[21]

TABLE 2: Medications to treat secretions

Medication	Dose	Onset (Duration)	Comments	Side Effects
Anticholinergic agents (tertiary amines)				
Atropine	1% ophthalmic drops – 1 drop SL	30 min (2 hours)	High risk of delirium and sedation due to crossing the blood brain barrier	Dry mouth, urinary retention, constipation, delirium, palpitations, restlessness
Scopolamine Transdermal Patch	1 patch 1.5 mg TD q72hr PRN	12 hours, ~24 hours to steady state		
Hyoscyamine (Levsin)	0.125 SL or SC			
Anticholinergic agents (quaternary amines)				
Glycopyrrolate (Robinul)	0.2-0.4 mg SC or	1 min (2-4)	Thickens secretions	Dry mouth, urinary retention, constipation, delirium, palpitations, restlessness
	1-2 mg PO TID	30 min (7)	Poor oral absorption	
Expectorant				
Guaifenesin (mucolytic)	200 mg-400 mg PO q4hr PRN	30 min (4-6 hours)	To thin out thick secretions	Nausea, vomiting
Nebulized treatments				
Hypertonic saline 3%	3-4 mL	2 min (4 hours)	Stimulates cough, decreases sputum elasticity	Risk of bronchospasm, consider using with bronchodilator
N-acetylcysteine	1-10 mL of 20% solution q2hr PRN	5 min (1 hour)	Mucolytic agent	

Constipation at EOL may be worsened by regular use of opioids, known to slow motility of the gut, increase anal sphincter tone, and make stools harder to pass as the body absorbs more water from stools the longer they remain in colonic transit.[22] Additionally, becoming less mobile and using some medications (such as ondansetron) can also contribute to slowed bowel motility.

Management

If there is a concern for constipation at EOL, the benefit versus burden of intervention should be considered, such as pain or discomfort associated with suppository or enema administration or the inability to safely tolerate oral intake.

If a patient can tolerate intervention, the best practice is prevention with a bowel regimen taken daily, either

TABLE 3: Medications to treat nausea and vomiting.

	Receptor(s)	Input That May Cause	Medication Choices and Common Initial Dosing
Chemoreceptor trigger zone	D_2, $5HT_3$, NK_1	Increased intracranial pressure (ICP), infections, intracranial mass, irritants such as chemotherapy, opioids, or alcohol	**Anti-inflammatory effective for cerebral edema** *Steroids* (dexamethasone daily has minimal mineral corticosteroid effect and lower dosing) **Dopamine antagonists** *Prochlorperazine* 10 mg PO or IV q6hr PRN *Metoclopramide* 10 mg PO or IV q8hr PRN *Haloperidol* 0.5-2 mg PO q4-6hr PRN *Trimethobenzamide* 300 mg PO or 200 mg IM TID-QID PRN *Chlorpromazine* 25 mg IV or PO q6hr PRN **Serotonin and dopamine antagonists** *Olanzapine* 5 mg ODT QHS *NK1 antagonist* *Aprepitant* 125 mg PO x 1 an hour before chemotherapy on day 1, 80 mg PO every AM on days 2 and 3 of chemotherapy
Gastrointestinal tract	$5HT_3$ (serotonin), mechanoreceptors and chemoreceptors	Gastric and bowel distention such as with obstruction or gastroparesis, tumor or cancer burden, severe constipation, irritation from radiation, medications, infections, chemotherapy	**Serotonin antagonist (5HT3)** *Ondansetron* 4 mg ODT or IV q6hr PRN *Granisetron* 10 mcg/kg/dose IV 30 min before chemotherapy **Promotility agent** *Metoclopramide* 10 mg PO or IV q8hr PRN Somatostatin analog (reducing splanchnic blood flow and inhibiting multiple hormones involved with digestion) *Octreotide* 50-100 mcg SC or IV q8-12hr **Anti-inflammatory** *Steroids*
Vestibular	H_1 and acetylcholine	Motion-related	**Antihistamine and acetylcholine antagonist** *Meclizine* 12.5-25 mg PO daily PRN *Promethazine* 12.5-25 mg PO, IV, or IM q4-6hr PRN **Acetylcholine antagonist (anticholinergic)** *Scopolamine TD patch q72hr*
Cerebral cortex	Intracerebral projections, exact receptors not elucidated	Sensory input, pain, fear, anxiety, anticipatory	*Lorazepam* 0.5-1 mg IV q6hr PRN

scheduled or as needed.

For patients with daily opioid use, it is recommended to utilize a stimulant laxative, such as senna or bisacodyl, alongside an osmotic laxative such as polyethylene glycol, both scheduled daily. The use of a combination of stimulant and osmotic laxatives in patients taking opioids specifically targets the mechanism responsible for opioid-induced slowed transit and constipation.[22] See Table 4 for the more commonly utilized laxatives, their typical dosing regimen, and special considerations with use.

If a patient is not taking anything by mouth and they are thought to have constipation causing discomfort, it is appropriate to trial a stimulant laxative suppository, such as bisacodyl, and consider an enema if the suppository is ineffective. There is no preference for what type of enema is administered at EOL. However, the patient's medical history and tolerance of such a procedure should be included in the consideration of what type of enema to give. Caution should be exercised with patients who may have bowel obstruction or perforations, where stimulant laxatives, promotility agents such as metoclopramide, or mu-receptor antagonists such as methylnaltrexone may be contraindicated.[23]

Additionally, integrative therapies, such as massage, acupuncture, or osteopathic manipulative medicine, can be considered low-risk noninvasive treatments. Fiber and increased fluid intake are not typically recommended at EOL, as a patient's level of alertness and oral intake are often poor. Fiber supplementation can worsen constipation caused by opioids, adding bulk to the stool without targeting the mechanism by which the slowed transit and constipation is caused.[24]

TABLE 4: Constipation medications.

Laxative Type	Drug Name (Generic)	Typical Dosing	Considerations With Use
Osmotic laxatives	Polyethylene glycol	17 g powder packet dissolved in 4 oz liquid daily	Caution in kidney disease with possible electrolyte derangements
	Lactulose	10 g powder packed or 10 g per 15 mL liquid, take 10-20 g 1-3x daily	May cause bloating, flatulence, cramping, and nausea or vomiting
	Magnesium citrate	150 mL 1-2x daily, max 300 mL/day	Caution in kidney disease with possible electrolyte
	Magnesium hydroxide	2400 mg 1-2x daily (400 mg/5 mL)	Use caution in patients with ileostomy or colostomy
Stimulant laxatives (contraindicated in acute abdomen such as obstruction or perforation)	Bisacodyl	P O: 5 mg, 10 mg or 15 mg tab daily, max 30 mg/day PR: 10 mg suppository, retain 15-20 min, daily	May cause cramping and suppository may be contraindicated in proctitis, neutropenia, or if localized mass near rectum
	Senna	8.6 mg tab 2-4 tabs daily-BID, max 4 tabs BID, or similar dose in liquid	May be dose limited due to cramping
Stool softener	Docusate	100 mg 1-2x daily	Poor evidence for use in opioid-induced constipation[25]

DELIRIUM, AGITATION, ANXIETY

Etiology

Delirium with or without agitation and anxiety is frequently experienced at EOL. Causes of delirium may include metabolic derangements (due to renal failure, malnutrition, dehydration, or other etiologies), infection, medication side effects, pain, or other effects specifically related to a terminal disease (e.g., effects of dementia, brain mass).[26]

Anxiety may be due to other factors such as symptom burden, fear of physical distress while dying, existential distress, medication side effects, or exacerbation of pre-existing conditions such as posttraumatic stress disorder, generalized anxiety disorder, or panic disorder.

Nonpharmacologic Management

Nonpharmacologic treatment of delirium is consistent with treatment when not at EOL and includes frequent reorientation of patient to their environment, day/night regulation, avoiding delirium-causing medications if possible, and utilizing sensory aids such as glasses and hearing aids.

Additionally, nonpharmacologic treatment of anxiety includes a thorough symptom assessment (specifically, evaluating pain and shortness of breath, both of which can induce significant anxiety), psychosocial-focused and interdisciplinary visits when indicated (such as social work and spiritual care support), and continued standard of care management of anxiety as feasible depending on the patient's ability to participate. Examples of reliable standards of care management of anxiety include mindfulness, meditation, cognitive behavioral therapy (CBT), breathing, prayer, and distraction.[27]

Pharmacologic Management

A combination of nonpharmacologic interventions and medication use is standard for delirium, agitation, and anxiety. In practice, a patient and their caregiver's safety are a priority, and agitation causing harm or distress should be treated; however, studies have shown conflicting evidence for this practice, and even which pharmacologic treatments are most effective. Antipsychotics (haloperidol, chlorpromazine, and olanzapine being the most common) and benzodiazepines have long been mainstays of treatment, and they are commonly used for these distressing EOL symptoms.[28] When a patient has a prognosis of hours to days, oral administration of medications can become more problematic and thus reliance on medications administered via alternate routes is necessary.

Commonly, short- to intermediate-acting benzodiazepines are utilized for swift and robust symptom management. Frequently chosen medications are alprazolam (Xanax; 0.25 mg to 2 mg) and lorazepam (Ativan; 0.5 mg to 2 mg), with the latter being more commonly used due to a longer half-life up to 20 hours and multiple forms of administration (IV, SL, PO).[29] The risk of reliance, abuse, or sedation related to benzodiazepine use is accepted in the setting of such a short prognosis and the great benefit seen with use of these medications. Other usual anxiety treatments such as selective serotonin reuptake inhibitors (SSRIs) are often less helpful due to the length of time required for such medications to take effect.

OSTEOPATHIC MANIPULATIVE TREATMENT (OMT)

The American Osteopathic Association's policy statement for EOL care states, "at end of life, the goal is comfort for the patient and psychosocial support of the family."[30] Osteopathic physicians are holistic in their approach to

patient care, and thus, well prepared to care for a patient at EOL. Currently, there are no specific guidelines regarding the use of OMT in this scenario.

Additionally, EOL care has improved with increased specialty training through hospice and palliative care fellowships and exposure in primary care residency training programs. The coinciding principles of treating the whole person as osteopathic physicians and addressing the many sources of suffering in palliative care, align in the goal to comprehensively address a person's EOL symptoms and quality of life.[31]

Despite the lack of evidence-based OMT specifically recommended for EOL, there are a handful of studies that evaluate OMT in clinical scenarios that may present in hospice care or at EOL. Recently, a 2025 study demonstrated that OMT may impact the efficacy of standard cancer pain management, reducing overall opioid use, and improving pain and symptom scores. Treatment techniques included indirect myofascial release, soft tissue pressure, and craniosacral techniques.[32] No high-velocity low-amplitude (HVLA) techniques were documented as being utilized in any of the studies reviewed for this article. Given the fragile nature of many patients at EOL, specifically the possible presence of pathologic fractures, bone metastases, anatomic instability, or physical conditions that make it difficult to precisely locate the joint where HVLA would be performed, or for the patient to tolerate it comfortably, HVLA may be contraindicated in many patients.

For dyspnea, a recent systematic review demonstrates OMT techniques of diaphragmatic stretching and manual diaphragm release may help patients with COPD, increasing diaphragm excursion, chest expansion, and exercise capacity.[33]

This is highly relevant as COPD was the fifth leading cause of death in the United States in 2023.[34] Additionally, a literature review on visceral techniques used on patients with irritable bowel syndrome (IBS) reflected reduction in symptoms and improvement in quality of life, especially for patients with constipation-predominant type.[35] Research is still needed in multiple areas; however, the trained osteopathic physician is well equipped to evaluate the impact of appropriate OMT techniques for patients under their care.

Regarding oropharyngeal secretions, anxiety, nausea, and vomiting there is little evidence of OMT for symptom relief in acute and chronic conditions, thus warranting additional research, specifically for EOL symptoms.

As palliative care grows as a specialty, there is an increase in interest in how osteopathic physicians will play a role in a field whose values closely align with osteopathic training and philosophy. In 2022, a small study evaluated the impact of adding OMT to standard palliative symptom management, demonstrating that OMT had a positive impact on patient symptoms, however, was not statistically significant, likely due to a very low sample size.[36]

CONCLUSION

Osteopathic family physicians play a critical role in the care of patients across the continuum of their medical journeys. Management of patients at the end of their life requires diligent observation and appropriate titration of medications for relief from symptoms as well as compassionate care extending to a patient's loved ones. The integration of OMT into care at EOL is a natural fit for the most holistic approach. This article serves as a general guide to common symptoms at EOL and acknowledges the continued need for research as to how OMT can best be integrated into this area of medicine.

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APPENDIX 1: PAIN-AD Scale

Behavior	0	1	2	Score
Breathing Independent of vocalization	Normal	• Occasional labored breathing • Short period of hyperventilation	• Noisy labored breathing • Hyperventilation • Cheyne-Stokes respirations	
Negative vocalization	None	• Occasional moan or groan • Low level speech with a negative or disapproving quality	• Repeated troubled calling out • Loud moaning or groaning • Crying	
Facial expression	Smiling or inexpressive	• Sad • Frightened • Frown	• Facial grimacing	
Body language	Relaxed	• Tense • Distressed pacing • Fidgeting	• Rigid • Fists Clenched • Knees pulled up • Pulling or pushing away	
Consolability	No need to console	• Distracted or reassured by voice or touch	• Unable to distract, console, or reassure	
Total				0 – 10

PAIN-AD scale is based on five observations of the patients, scored as 0, 1, or 2 up to a total of 10.
Higher scores suggest higher pain that is experienced by the patient.

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