Many opinions exist regarding the use of compounded topical medications in hospice and palliative care. But, what does the evidence say? Should these products be avoided or recommended? As the clinical literature on compounded medications continues to grow, we can begin to formulate answers to these questions.

When patients have difficulty swallowing, hospice nurses may have to be creative and use different routes of administration, such as rectal or sublingual, to relieve symptoms. Pharmacists are able to prepare or "compound" products into dosage forms that are not commercially available. However, not all compounded products are necessary, efficacious or safe, and in most cases the compounded products are costly.

Medications such as chlorpromazine, lorazepam, metoclopramide, morphine, diphenhydramine, haloperidol, and methadone have been compounded into topical gels individually and in combination products such as ABH (lorazepam, diphenhydramine, haloperidol) gel. Occasionally, very high doses are compounded into concentrated topical products in an attempt to ensure some level of bioavailability. This practice has the potential for skin irritation and considerable expense to the hospice. Recent studies have investigated these medications for effectiveness and absorption into the bloodstream.

Observational studies investigated patients’ perceptions of effectiveness of compounded topical medications such as ABH gel. These studies monitored symptom severity and rescue medication use during administration of topical compounds. One study reported topical administration of ABH gel decreased nausea and vomiting in 74% of patients with chemotherapy induced nausea and vomiting. A similar study reported a drop in the mean nausea and vomiting score after topical administration of ABH gel in patients receiving chemotherapy. According to these observational studies, compounded topical medications decrease the patient’s symptom severity and reduce the need for other rescue medications.

Studies investigating the absorption and bioavailability of medications after topical administration do not support the results of the observational studies. One study tested the cutaneous absorption of ABH gel in healthy adults. In this study, none of the lorazepam (A) or haloperidol (H) was absorbed into the blood stream and diphenhydramine (B) had insufficient quantities to be effective for nausea and vomiting. Another study examined the transdermal absorption of topically applied morphine in healthy adults. No quantifiable morphine plasma concentrations were detected. Sylvester, et al., studied the serum concentrations of methadone after oral and topical administration. Ninety percent of serum methadone concentrations after topical administration were considerably lower than the serum concentrations after oral methadone administration. Most recently, a study of chlorpromazine gel applied topically to healthy adults concluded that chlorpromazine was not absorbed and not quantifiable in any blood samples.

All of the results of the investigational studies are similar, stating the medications are not absorbed at levels to treat the patient’s symptoms. However, many patients continue to believe the

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**Table 1: When considering the use of compounded medications:**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Determine if all commercially available drugs, dosages, and routes have failed or are inappropriate.</td>
</tr>
<tr>
<td>2</td>
<td>Evaluate if all components of the compounded product are necessary for its effectiveness and if the added expense of compounding the product is justified.</td>
</tr>
<tr>
<td>3</td>
<td>Request evidence-based, supportive literature including bioavailability data, if available.</td>
</tr>
<tr>
<td>4</td>
<td>Always request written information on formulations including ingredients, dosages, beyond-use (expiration) dates, potential side effects, and rationale or indication for use.</td>
</tr>
</tbody>
</table>
topically applied medications help relieve their symptoms. There may be other factors contributing to the relief of the patient’s symptoms after topical application of these medications. These factors may be a placebo effect and a result of acupressure.

Typically, topical medications are applied to the patient’s inner wrist, which is an acupressure point on the body known as the master of the heart (MH6).7 Two studies examined acupressure with motion sickness bands (MSB) applied to the wrist to control nausea and vomiting in patients admitted to hospice. These studies demonstrated a decrease in reported nausea symptoms and less frequent dosing of rescue antiemetics.5,9

The placebo effect results from the patients’ expectancy of a response due to the health care team’s verbal suggestions and the patient’s past experiences.10 Patient awareness of treatment administration can positively influence their report of treatment effectiveness. This idea may explain the reason a normal lotion does not evoke the same beneficial result of a compounded topical medication.11

By nature, hospice and palliative care team members have a warm, friendly manner and use active listening with empathy during patient interactions. These techniques can improve the relationship between the patient and the team member. A study demonstrated that patients reported greater improvement in symptoms after treatment when these techniques were utilized.12

The current available evidence on compounded topical products shows the products relieve symptoms, but the relief is not related to the absorption of the medication. A trusting relationship between the patient and hospice/palliative care team may contribute to the perceived effectiveness of topical medications. Application of the gel may also involve an acupressure like response and assist in the relief of the patient’s symptom.

It is important to consider the individual patient when deciding if compounded topical medication is appropriate for use. Evaluating previously failed drug therapies, other potential treatment options, and the evidence based literature is essential to treating the patient’s symptoms effectively. Table 1 lists main points to address when considering the use of a compounded medication.13 The use of compounded topical medications may reduce symptoms, but better options may exist based on the current evidence.

An alternative to topical compounded medications is sublingual or rectal administration of commercially available dosage forms. Absorption can occur rapidly from these routes with a drug possessing the right properties. Although there is limited evidence to using the sublingual or rectal routes, recommendations can be made for certain medications based on the knowledge of the drug properties and physiology of the oral and rectal mucosa. There are key points to remember when administering medications sublingually and rectally to ensure adequate absorption and symptom relief. Please refer to Tables 2 and 3 for information regarding the sublingual and rectal routes of administration. Consult a clinical pharmacist for information on absorption and bioavailability of specific drugs.

### Table 2: For sublingual administration, consider the following:14, 15

- Keep liquid drug volume to 1 – 2mL or less; volumes greater than 2mL will likely result in leakage out of the sublingual cavity.
- Tablets can be wetted or crushed and mixed with 1 – 2mL of water to ease administration, especially if the patient has a dry mouth.
- Allow 5 – 10 minutes between SL doses or before eating or drinking to prolong drug exposure and promote maximum absorption.
- Do not crush enteric coated or controlled release tablets for SL administration. Only immediate release preparations should be given sublingually.
- Repeated instillations of alcoholic (elixirs) or glycol agents (parenteral drugs) can be irritating to oral mucosa.

### Table 3: For maximum rectal absorption, consider the following:14, 16, 17

- Ensure adequate hydration of dosage form, instilling 10mL of warm water to enhance absorption.
- Insert the dosage form no further than about a finger’s length into the rectum.
- Keep liquid drug volumes less than 60 – 80mL to decrease spontaneous expulsion.
- Rectal irritation may occur – monitor for signs and symptoms of patient discomfort.
- Repeated instillations of alcoholic (elixirs) or glycol agents (parenteral drugs) can be irritating to rectal tissues.
- Avoid use of enteric coated tablets as these require an acidic environment to be dissolved.

### REFERENCES:

Clinical Case Study: Hospice & Family Discussion for Discontinuing Medications

Kyna S. Collier, RN, BSN, CHPN, Clinical Nurse Educator, HospiScript Services, LLC

Patient: A.E., female, age 92, lives at home with son as caregiver

Diagnosis: Dementia

Past Medical History: Hypertension, dementia x 7 years, osteoarthritis, hyperlipidemia

Patient Case Background: Nurse-case manager reports Mrs. A.E.’s PPS 30%, FAST 7d, PAINAD score 0-1. She is non-ambulatory and incontinent of bowel and bladder. Her son (primary caregiver) reports she has increased difficulty swallowing and is refusing and spitting medications. He has been crushing medications and mixing with chocolate pudding, although most days she will refuse that as well. Her son asks for advice on getting the medications into the patient and if there are any other options available to help improve her dementia.

Current Medication List:
- Donepezil (Aricept) 10mg PO Daily
- Memantine (Namenda) 10mg PO BID
- Morphine oral conc 20mg/ML 2.5-5mg SL/PO Q2 hours PRN pain, dyspnea
- Lorazepam (Ativan) 0.25-0.5mg SL/PO Q4 hours PRN anxiety, dyspnea
- Haloperidol (Haldol) 0.25-0.5mg Q4 hours PRN nausea, vomiting, agitation
- Acetaminophen supp 650mg PR Q4 hours PRN mild pain or fever
- Dulcolax supp 10mg PR Daily PRN constipation
- Lisinopril 10mg PO Daily
- Multivitamin 1 tab PO Daily
- Calcium Carbonate + vit D 600mg-400IU 1 tab PO Daily
- Simvastatin (Zocor) 20mg PO Daily

Pharmacist Consultation:
A.E. appears to be comfortable without apparent pain or dyspnea, other than some agitation with personal care and at medication administration times. After reviewing the patient’s medical history and current status, the pharmacist and nurse agree that discontinuation of donepezil, memantine, multivitamin, calcium, and simvastatin is a reasonable approach to simplifying care of A.E. and easing the caregiver burden for her son. The nurse-case manager states the patient’s attending physician would like advice on simplifying A.E.’s medication profile and how to approach the family with these recommendations.

Guiding Decisions on Discontinuing Medications:
Advancements in medicine and technology in the last century have resulted in an increased lifespan. The longer a person lives, the more age-related diseases he will develop and subsequently the more medications prescribed for him. While we have evidence based information for deciding when to start a drug, few guidelines exist for determining when and how to discontinue medications. For example, cholesterol-lowering statin medications, such as simvastatin, are used for disease prevention and time to benefit may take years. Studies have shown an increased risk of adverse effects from statins at the end-of-life. Advocate better treatment, not over- or under-treatment of the elderly using a model evaluating medication appropriateness looking at four factors:
1) Patient’s life expectancy
2) Time until therapeutic benefit
3) Patient’s goals of care
4) Treatment target

As hospice practitioners, determining medication appropriateness is just the first step in the process for discontinuing a medication. Discussing it with the patient and family is often the greater challenge. Planned discussions may happen at the time of admission to hospice or at a nursing facility care conference. Impromptu discussions may occur when the time comes to refill a medication that may be non-essential to symptom management (e.g., memantine for dementia, simvastatin for hyperlipidemia). The hallmark of hospice care is its team approach. Interdisciplinary team updates on these conversations are critical. The son may need to process the information and decisions he needs to make with the social worker or spiritual care. The home hospice aide’s input about the changes that she observes in the patient while providing personal care provides valuable information for future discussions about disease progression. The challenge for the hospice clinician is not to determine if the patient is taking too many or too few medications, but that comfort and quality-of-life is optimized.

Approach to Family:
The skilled hospice clinician is continually alert to patient or family developing awareness that a medication is no longer as effective as it once was or, they begin to question the burden of taking it. This “window of opportunity” facilitates discussions with the family about discontinuing non-essential medications.
- “I’m not sure Mom even recognizes me anymore.” This is the window of opportunity to validate the son’s observation: “It sounds like even though she’s been taking the Aricept, her dementia has still progressed. Perhaps this is the time to consider discontinuing those medications”.
- “It takes 30 minutes to get her morning medication in her.” A useful response may be: “She does take quite a few medications. It’s important to prioritize which medications are essential for her comfort. Let’s review her medication list; if there are any medications that aren’t contributing to her comfort and quality-of-life, they could be eliminated.”

Talking points for planned family discussions:
- Validation of the family member is the beginning of building a trusting, respectful relationship. “You do a great job caring for your mother. She’s fortunate to have you advocating for her.”
- Determining if the family’s expectations of the medication are realistic to help guide your discussion and define the treatment target. “What is your understanding of how Name nda works?” or “What worked before may no longer work to delay the progression of her disease, but there are certain things we can do to provide comfort and quality-of-life in her final days.”
- Encouraging a patient or family member to draw their own conclusions about a medication’s effectiveness increases the likelihood that they will be agreeable to discontinuing the medication. “How does your mother look and function today compared to how she did when she started the Aricept?”
- Helping the family define goals. “Did your mother ever talk about what she would want in the event she was no longer able to care for herself or make her own decisions?”

REFERENCES:
IN THE SPOTLIGHT

Nurses and Pharmacists Who Make It Happen

Maureen L. Jones, PharmD, Clinical Pharmacist, HospiScript Services, LLC

Sally is 66 years old with end stage emphysema and a patient of Senior Independence Hospice. When Tammy, her hospice nurse, asked if there was anything she wanted to do before leaving this world, Sally told her she wanted to reconnect with a long lost friend, Ozzie Smith, National Baseball Hall of Fame Shortstop. Sally knew him years ago when he played for the St. Louis Cardinals and longed to see or speak with him again.

Senior Independence Hospice in Ohio has a program called Make It Happen to honor patients’ final wishes and celebrate their lives. During a weekly IDT meeting, Tammy brought up Sally’s request, but wasn’t quite sure how to “make it happen.” As the dedicated HospiScript Pharmacist on the team, I attended the meeting remotely and heard about the request. I called a good friend of mine who is an umpire for professional baseball and happened to be at the Cardinals training camp at that time. He provided me with contact information which I shared with the hospice right away.

One afternoon several days later, Tammy received a call from Sally who was crying tears of joy because Ozzie had just called her. In the preceding days, her autographed jersey, and she notes that she will always care about him that Ozzie was planning to contact his friend, but were secretive about the operation so that it would be a surprise to Sally. Sally related that they spoke for quite a long time. It was one of the happiest days of her life. He sent her an autographed jersey, and she notes that she will always care about him and still hopes to see him again.

Hospice is not only a time to provide comfort and caring, but also a time to reflect upon life and honor the relationships and accomplishments of the people we serve. Hospice programs that go above and beyond to celebrate their patients are making a difference in the final chapter of people’s lives. In this story, the stars aligned for Sally. We were all in the right place at the right time to “make it happen.”

Published Article Supports Use of Atropine Drops in Hospice Patients

HospiScript is delighted to announce that a recent research project lead by HospiScript Pharmacist, Bridget McCrate Protus, PharmD, CGP, on Atropine drops in hospice patients was recently published in the American Journal of Hospice and Palliative Medicine. “This is officially the first article published that looks at Atropine drops sublingually specifically in hospice patients. The article provides some additional support to our current recommendations and will be helpful to clients who run into issues with prescribers or facilities that do not want to use Atropine due to the lack of published articles” said Jason Kimbrel, PharmD, BCPS, Vice President of Clinical Services, HospiScript Services, LLC. Congratulations to Dr. Protus for leading the project and seeing it across the finish line. The online version of this article, titled Evaluation of Atropine 1% Ophthalmic Solution Administered Sublingually for the Management of Terminal Respiratory Secretions, can be found at: http://ajhp.sagepub.com/content/early/2012/07/20/1049939112453641.abstract.

HospiScript Regional Conference Register Today!

October 11th & 12th • Denver, Colorado

Have you registered yet for the most anticipated event of the year? If not, register today! The next HospiScript Regional Conference will be held at the Brown Palace Hotel & Spa in Denver Colorado on October 11-12, 2012. A discounted room rate of $189 for Classic Queen and $199 for Signature King and Signature Queen/Queen rooms is available. It is imperative that you make a hotel reservation before the September 10th cut-off date by calling 1-303-297-3111 or 1-800-321-2599 and referencing that you are attending the HospiScript Regional Conference.

This two-day event is sure to please with an information-packed lineup focused on hospice-specific topics and offering continuing educational credits for nurses. The conference is free of charge for our clients and we hope you and your staff members are able to attend. With 300 days of sunshine, a walkable downtown, thriving art and cultural scenes, and the Rockies as a backdrop, Denver offers affordable exploration of the world’s most spectacular playground. HospiScript extends to you an invitation to join us in the “Mile High City”. Please visit http://www.hospiscript.com/educate/event-registration to register. For more information visit http://www.hospiscript.com/docs/conference-materials/hs_reg_conf_10-2012-promo3.pdf or contact Kim Konczal at kkonczal@hospiscript.com.

On a Lighter Note…

Everybody can teach you something…

“I have learned silence from the talkative, toleration from the intolerant and kindness from the unkind.”

~Kahlil Gibran
Antibiotics Likely Do Prolong Life in Patients with Advanced Dementia, But Should We Be Prescribing Them?

Sean Marks, MD, Medical College of Wisconsin

The decision to use antibiotics in the treatment of lower respiratory infections such as pneumonia is a common clinical dilemma for clinicians caring for patients with advanced dementia. Pneumonia is a frequent cause of death among patients with dementia, and as they approach the end of life, it may be medically appropriate to manage their symptoms without the use of antibiotics. At this point, treating infections with antibiotics may not contribute to the patient’s comfort nor provide significant survival benefits. Potential burdens of antibiotic treatment, including allergic drug reactions, increased pill burden, diarrhea from *Clostridium difficile*, antibiotic resistance, or even prolongation of a dying process, all without improving quality of life. Studies evaluating the impact of the use of antibiotics for the treatment of lower respiratory infections in dementia patients with a limited life expectancy shed light on factors that affect clinician decision making.

In the United States, most advanced dementia patients do receive antibiotics for lower respiratory infections even at the very end of life, a clinical practice that is not adopted in many other national health systems. Some observational trials have lent some support to the US approach of a “default” antibiotic treatment course, including a study that showed a prolonged survival among nursing home residents with fever who were treated with antibiotics. However, other observational studies have not supported this “default” practice including a study among hospice patients which showed that death by infection was a more peaceful death than death without infection. In general, the effect of antibiotics on short and long term survival has not been thoroughly studied enough among advanced dementia patients with lower respiratory infections to allow clinicians to make evidence based decisions.

In a recently published prospective study of a US Department of Veterans Affairs nursing home, van der Steen et al compared the short and long term mortality of advanced dementia residents who were and were not treated with antibiotics for a lower respiratory infection. To do so, 94 consecutive residents with advanced dementia (as defined by a specific cut-off score on the Cognitive Performance Scale) who were diagnosed by a physician as having a lower respiratory infection were enrolled in the study. Preference for antibiotic treatment was determined in advance with family input. Data were collected on antibiotic treatment, mortality risk, illness severity, cognition and survival at 10 days and at 6 months.

The investigators found that in general, they had a very sick patient population in that 48% of all residents enrolled died within 10 days and 74% within 6 months. This suggests that this group of patients was more ill than other observational studies and may be more representative of dementia patients enrolled in hospice or palliative care units. Seventy-seven percent of the 109 episodes of lower respiratory infections were treated with antibiotics. Overall, antibiotics did significantly improve 10 day mortality (39% vs. 76%) but, the differences were marginally significant at 6 months (70% vs 88%). Mortality risk indexes and illness severity were stronger risk factors for mortality than antibiotics.

The authors conclude that antibiotics do prolong life among patients with advanced dementia and a lower respiratory infection, but in many cases only do so for a few days. The authors caution practitioners that instead of simply prolonging life, antibiotics may have prolonged the dying process in many of the subjects of this study.

To assist clinicians with this treatment dilemma, the authors recommend that accurate survival estimates, based on mortality risk indexes, be utilized when clinicians are engaging in shared-decision making with families regarding the use of antibiotics for the treatment of lower respiratory infections in end stage dementia.

**REFERENCES:**


Why do I need to contact HospiScript if a patient has passed away or is no longer under our hospice care?

It is important to contact HospiScript right away of a patient’s discharge, revocation or expiration in order to ensure the system information is updated and to prevent potential abuse. Many hospices have seen cases where relatives of a patient try to refill prescriptions for a family member who has passed. Many have seen pharmacies mistakenly bill a hospice for a discharged patient’s medications. By informing HospiScript of any terminations, you protect your hospice from being charged for medications that should not have been filled.

Of course, if your hospice is set up to use HospiDirect™ for patient eligibility management which is part of our unique package on online resources, your hospice can enter terminations online without having to contact HospiScript. For additional information about this service, please contact your Account Manager.

My hospice is always looking for ways to help educate our entire staff. Do you have anything that would be appropriate and help with our overall internal training?

Absolutely…Hospiscript is always striving to meet the educational needs of our clients and has invested heavily in our educational offerings available to our clients free of charge. We encourage you and your staff to take advantage of the plethora of programs and resources we provide. For example, our monthly teleconferences include topics of special interest to hospice staff as do our regional conferences. Simply visit www.hospiscript.com/educate/event-registration where you can view and register for upcoming programs.

In addition, the Hospi-U™ Resource Center located inside the client exclusive section provides our hospice partners with a tuition-free university and continuing education at their fingertips with access to:

- **Hospiscript Quarterly Newsletters** (current/archived) — Provides news that matters to hospice.
- **Guidelines for Effective Management of Symptoms (GEMS)** — Evidenced based, peer reviewed resources for managing common end-of-life symptoms. They are included within the Palliative Care Consultant publication, a comprehensive algorithm based resource that in combination with your hospice specific formulary, provides a powerful tool for cost effective clinical decision making.
- **Fast Facts and Concepts** — Peer reviewed outlines of key information on important end-of-life clinical topics for educators and clinicians.
- **Lexi-Comp® Online™ Drug Database** — Includes 14 clinical reference databases as well as:
  - Adult & Pediatric Patient Advisory Leaflets in up to 18 languages
  - Lexi-Interact™ for patient specific drug interaction screening
  - Lexi-Drug ID™ for pill identification
  - King® Guide to Parenteral Admixtures
  - Web Search to review other medically-based websites
  - Pharmacy Quick Links (New Drugs/Special Alerts/FDA Shortages & Recalls)
- **Recorded Series Seminars** — Informative educational programs that offer continuing education (CE) credit via independent study.
- **Hospilink™** (current/archived) — Hospice and palliative care specific abstracting service linking you to the newest medical literature allowing you to stay current by investing only ten (10) minutes every two weeks.
- **Hospiscript Clinical Library** — Clinical documents with information to keep you informed.

We suggest that you take some time to visit the Web site and review these resources. As always, please contact your Account Manager if you need assistance.

The “Ask Hospiscript” column shares information and updates about the Hospiscript program for our clients. Please forward your comments or questions to info@hospiscript.com.