Evaluating Medication Appropriateness in Hospice: Targeted Drug Classes for Discontinuation

The purpose of the document is to identify classes of medications that may no longer be appropriate or palliative for hospice patients. When reviewing a patient’s medication profile and determining the individualized plan of care, it is important to always evaluate medications according to the following principles: 1. What is the medication treating? 2. What are the patient’s goals of care and do the medications support those goals? 3. What is the time until benefit compared with the patient’s life expectancy? 4. What is the risk versus benefit of the medication? 5. Is the patient swallowing?

Disclaimer: Hospice Pharmacia’s intention is not to infer certain medication classes should not be covered, rather instead our goal is to help ensure patients’ symptoms are controlled, improve quality of life, reduce pill burden and side effects, and provide hospices with a framework for medication evaluation.

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<tr>
<th>Condition</th>
<th>Medication Class</th>
<th>Rationale for Discontinuation</th>
<th>Clinician Talking Points</th>
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| ALS       | Rilutek® (riluzole) | ● The benefits and risks of riluzole in patients with ALS who meet the criteria for hospice enrollment have not been fully evaluated.  
● Though riluzole may slow disease progression and prolong survival, it does not restore any lost function, and there is no available evidence that riluzole improves ALS symptoms including fasciculations, spasticity, or psychological changes. | ● Decisions regarding whether a patient enrolled in hospice should receive riluzole should be made by the hospice interdisciplinary team, with participation from the patient, family/caregiver(s), and the patient’s attending physician.  
● The decision-making process includes, but is not limited to, determining: 1) how efficacious and safe the therapy would be in improving the patient’s symptoms, 2) the time until benefit of the therapy, and 3) the patient’s remaining life expectancy. |
| Anemia    | Erythropoiesis-Stimulating Agents (ESAs): Epogen®, Procrit® (epoetin alfa); Aranesp® (darbepoetin alfa). Granulocyte Colony Stimulating Factors(G-CSF): Neupogen® (filgrastim) | ● The 2010 American Society of Clinical Oncology / American Society of Hematology and the National Comprehensive Cancer Network guidelines recommend the use of ESAs in cancer patients to treat chemotherapy induced anemia, not in relieving anemia symptoms.  
● There is an FDA black box warning that ESAs may cause harm and increase mortality in patients not receiving chemotherapy. | ● Discontinuing will eliminate injections and frequent blood monitoring that requires needlesticks and/or physician visits, and the concomitant use of iron supplementation which can cause constipation or diarrhea. |
| Cancer    | Hormone: Nolvadex® (tamoxifen)  
Non-Hormone: Xeloda® (capecitabine), Temodar® (temozolamide), Tarceva® (erlotinib),  
Aromatase Inhibitor: Arimidex® (anastrazole)  
Androgen Receptor Inhibitor: Casodex® (bicalutamide) | ● Due to the lack of studies in patients with poor performance status and prognosis, high costs, pill burden, and adverse effects, chemotherapeutic agents should be considered for discontinuation, and patients near the end of life may not benefit from initiating treatment. | ● Cancer treatment medications at the EOL requires careful assessment prior to or during admission, a focus on the patient’s goals of care, and a balancing of perspectives of the patient, family and clinician.  
● Patients are unlikely to benefit from cancer drugs when they have failed first line standard regimens, have poor performance status, and otherwise have a poor prognosis.  
● Cancer treatment medications produce adverse effects, precipitates hospitalization and emergency department visits, precludes entry |
### Dementia

**Cholinesterase Inhibitors:**
- Aricept® (donepezil), Exelon® (rivastigmine), Razadyne® (galantamine)

**NMMA Receptor Antagonists:**
- Namenda® (memantine)

- Galantamine is approved for mild to moderate dementia, while donepezil and rivastigmine are indicated for moderate to severe dementia. Memantine is FDA-approved in treating moderate to severe Alzheimer’s disease only.\(^1\)
- Currently, there is no evidence of any benefit in using Memantine in the hospice population. Alzheimer’s patients who are typically considered to be hospice appropriate are usually considered to have a score of 7 or higher using the Functional Assessment Staging (FAST) assessment tool. Memantine has not been studied in patients that are above a 6c in AD severity.\(^2\)
- Other medications and non-pharmacotherapy options may be more beneficial in treating the behavioral symptoms of dementia.

- Consider a dose reduction rather than an immediate discontinuation.
- Recommend decreasing the dose by 25-50% and monitoring the patient for positive and negative changes.
- Consider discontinuing if the patient has difficulty swallowing or is NPO.

### Hypercholesterolemia

**HMG-COA Reductase Inhibitors (Statins):**
- Lipitor® (atorvastatin), Zocor® (simvastatin), Pravachol® (pravastatin)

**Bile Acid Sequestrants:**
- Prevalite® (cholestyramine), Welchol® (colesevelam hydrochloride)

**Nicotinic Acid:**
- Niaspan® (nicacin)

**Fibric Acid Derivatives:**
- Lopid® (gemfibrozil)

**Cholesterol Absorption Inhibitors:**
- Zetia® (ezetimibe)

- Statins are contraindicated in patients with active liver disease and hepatic insufficiency which can increase the risk for rhabdomyolysis.\(^1\)
- The side effects and drug-to-drug interactions of cholesterol medications may be varied and significant. For the patient on hospice, the benefit of these types of medications may be far less meaningful than the possible side effects.\(^27\)
- There is no evidence that stopping statins in patients with chronic cardiac disease increases mortality or any other outcome except higher LDLs.\(^14\)
- The best study that showed possible early benefit of a statin after a heart attack excluded patients who were likely to die within 2 years.\(^15\-16\)

- Most of the data on the benefits of statin use come from larger studies that looked at adults of varying ages. The results do not conclusively establish the benefits of using statins for elderly patients.
- There is evidence of harm linked to statin use in elderly patients including muscle aches, liver toxicity and gastrointestinal distress. Additionally, there is growing evidence of impaired memory and a heightened risk of diabetes.\(^1,27\)
- These medications can be stopped without any dose tapering.
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<th>Hypertension</th>
<th>Antihypertensive Medications</th>
<th>While guidelines recommend antihypertensives post-CVA for secondary stroke or other cardiac event prevention, hypertension is largely asymptomatic, and there is inconclusive evidence that blood pressure control palliates symptoms associated with end-stage CVA.(^\text{22-23})</th>
<th>If the patient is taking multiple agents discontinue one at a time; the final goal may be to reduce the number of antihypertensives rather than eliminate all medications.</th>
<th>Prognosis, blood pressure control, and number of antihypertensive drugs are important factors in the clinical decision to discontinue drug treatment, and patients should continue to be monitored.</th>
<th>Some antihypertensives require tapering over 7 to 10 days to prevent rebound hypertension, angina, and tachycardia.</th>
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| Osteoporosis | Bisphosphonates: Fosamax\(^\text{a}\) (alendronate); Actonel\(^\text{a}\) (risedronate); Boniva\(^\text{a}\) (ibandronate)  
Others: Micacalcin\(^\text{a}\) (calcitonin); Evista\(^\text{a}\) (raloxifene) | Indicated to treat and prevent bone fractures in patients with or at risk of osteoporosis.\(^1\)  
Bisphosphonates have a complicated administration regimen and are renally-eliminated, therefore, they require dose reduction or avoidance in kidney impairment.\(^1\)  
Raloxifene may cause venous thromboembolism and peripheral edema and should be avoided in patients with cardiac disease; these factors limit its use and safety in hospice patients.\(^1\)  
Calcitonin has also been used to help relieve bone pain caused by metastatic cancer. Some people may get relief, but the research done so far does not prove that calcitonin works for bone pain.\(^22-25\)  
If alleviation of bone pain with calcitonin occurs, it may take 2-8 weeks after therapy starts when given IM or subcutaneously.\(^1\) | Long half-life of these medications may provide benefit long after discontinuation and may help alleviate concern about the risk of fracture. | Due to an increased risk of erosive esophagitis, bisphosphonates must be taken on an empty stomach before any other food, beverage, or medication of the day with a full glass of water and remain upright for 30 minutes after administration. | The benefits of calcitonin for bone pain often go away soon after the medicine is stopped. |
| Pulmonary Disease | Metered-Dose Inhalers (MDIs): Atrovent HFA\(^\text{a}\) (ipratropium bromide), Ventolin HFA\(^\text{a}\) (albuterol), Xopenex HFA\(^\text{a}\) (levalbuterol), Combivent Respimat\(^\text{a}\) (ipratropium bromide/Albuterol), QVAR\(^\text{a}\) (beclomethasone dipropionate), Flovent HFA\(^\text{a}\) (Fluticasone propionate), Symbicort\(^\text{a}\) (budesonide/formoterol), Advair HFA\(^\text{a}\) (Fluticasone/Salmeterol), Dulera\(^\text{a}\) (mometasone furoate/formoterol)  
Simplifying regimens may eliminate therapeutic duplications and decrease the inhaler burden on the patient and family.  
In hospice patients, oral rather than inhaled steroids may be preferred due to their benefits in relieving pain and stimulating appetite and energy in addition to dyspnea relief.  
While Daliresp modestly improves FEV1, it has little to no impact on improving respiratory symptoms and quality of life.\(^2\)  
Adverse effects including weight loss and psychiatric changes | Despite the wide range of MDI's and DPI's available, improper technique is common and increases the risk of treatment failure, overuse of rescue medications, and patient perception that the medication is ineffective.\(^6-8\)  
Even with proper teaching, patients often do not correctly manipulate the inhaler nor breathe in or hold breath per instructions.\(^9-11\)  
End stage respiratory patients often have insufficient inspiratory flow to effectively deliver the medication to the lungs.\(^6\)  
Advancing age resulting in decreased cognitive and physical abilities are also barriers to symptom control.\(^6,12\)  
Patients may have inhalers and nebulizer | Nebulizers are often preferred due to ease of use. | To ease anxiety associated with medication and device changes, a gradual drug and inhaler switch is recommended. | While Daliresp modestly improves FEV1, it has little to no impact on improving respiratory symptoms and quality of life.\(^2\)  
Adverse effects including weight loss and psychiatric changes |
**Vitamin Deficiency**

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<th>Dry Powder Inhalers (DPIs):</th>
<th>Multivitamins/Herbal Supplements</th>
<th>solutions with duplicate mechanisms of action, further complicating their medication regimen.</th>
<th>further limit its use in palliative care.²</th>
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<td>Spiriva® (tiotropium bromide), Foradil® (formoterol), Serevent Diskus® (salmeterol), Advair Diskus® (fluticasone/salmeterol), Pulmicort® (budesonide), Flovent® (Fluticasone propionate) Phosphodiesterase-4 (PDE4) inhibitor: Daliresp® (roflumilast)</td>
<td>There is no evidence regarding the efficacy of multivitamins and other supplements used in hospice patients. ²⁰</td>
<td>Patients on herbal supplements and certain vitamins run the risk of drug-to-drug interactions. Consider the size of the pill(s) the patient is taking as well as the number of pills. Many of them are vitamins with little or no benefit. ²⁰</td>
<td>Potential side effects include constipation, nausea, and upset stomach. ²⁰</td>
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