

A Lifestyle Medicine Approach to Medication Deprescribing: An Introduction

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DEFINITIONS

Medication deprescribing is an important concept and clinical skill in lifestyle medicine (LM) practice. While variation in definitions for the term “deprescribing” exist, one definition that can be found in the literature is “a process of medication withdrawal, supervised by a health-care professional, with the goal of managing polypharmacy and improving outcomes.”¹ This definition appears narrowly focused on medication deprescribing in terms of polypharmacy only. The definition that will be used for the purpose of this article is “the planned process of reducing or stopping medications that are no longer of benefit and may be causing harm. The goal is to reduce medication burden or harm while improving quality of life.”² Similarly, there is no standard definition for “polypharmacy”; however, the regular use of 5 or more medications without regard to appropriateness of medications is often considered to be polypharmacy.

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Need for Deprescribing in LM Practice

Conventional pharmacologic medicine is generally focused on when and how to initiate medication therapy, with less focus on when and how to appropriately remove medications when the need no longer exists. The practice of LM has a particular and specific need for deprescribing practices. With intensive, therapeutic lifestyle change interventions, the goal is much more specifically to avoid harm as positive lifestyle changes arrest and reverse disease. In cases where LM removes the underlying cause of the need for medication, the medication must be reduced or stopped to address potential safety concerns from overdosing.

Safety Concerns Specific to Lifestyle Treatment

Aggressive de-escalation of medications is frequently needed with intensive therapeutic lifestyle changes (LM treatments) to prevent adverse effects. With insulin-dependent type 2 diabetes, for example, intensive LM treatment can cause dangerous hypoglycemia unless the insulin dosing is aggressively reduced. A similar effect can occur with secretagogues (sulfonylureas and meglitinides). When beta blockers are being used to treat hypertension, intensive LM treatment can cause dangerous hypotension, leading to syncope, falls, and broken bones. Similar but lesser effects can also occur with diuretics.

The intensity, as well as type (nutritional, physical activity, stress management, etc) of planned lifestyle treatment(s) must be considered when establishing the deprescribing plan. Each type of lifestyle treatment or modification has its own weighted effect(s) on specific diseases. In addition, the intensity of LM treatment a patient might choose to incorporate into their daily routine has its own weighted impact. Treatment intensity for LM can be compared with intensity of treatment with medication. If the type of lifestyle change is the “drug,” then the inten-

sity of the change is the “dose, frequency, and duration.” A patient who agrees to eliminate fast food just 1 meal per week (low intensity, or low “dose”) will have different needs for medication changes compared to a patient who agrees to try a whole-food, plant-based diet for the next 30 days (high intensity, or high “dose”). The urgency and rate of medication deprescribing and follow-up with patients is determined by the intensity of the intervention.

LM practitioners report observing dramatic changes in need for medications among patients who are adherent to lifestyle interventions, necessitating early discussions about medication deprescribing. One example is a male patient who suddenly adopted a whole-food, plant-based diet on his own, before his first appointment with a dietitian, and without medical oversight of his blood glucose or medications. When he came into the appointment with the dietitian 1 week later, he had to be treated for hypoglycemia as his blood sugar was <40 mg/dL with glucometer testing in office. In this case, medication deprescribing efforts were a reactive response, rather than an established plan.

This example illustrates what may also happen if a patient with type 2 diabetes is adherent to dramatic dietary and lifestyle change and continues taking glucose-lowering medications at the same doses prescribed prior to the change. Many physicians who perform intensive LM treatments for patients taking medications with potentially dangerous overdosing effects routinely stop or greatly reduce the dosing as they begin therapeutic LM interventions to prevent those effects.

ADDITIONAL REASONS TO CONSIDER DEPRESCRIBING

Other examples of medication-induced negative consequences with reference to lifestyle changes include interfering with adherence to lifestyle treatments. Medications with gastrointestinal adverse effects could inhibit nutritional change (eg, reduction of appetite or increased nausea with glucagon-like peptide-1 receptor agonists). Medications causing hypoglycemia, hypotension, dizziness, myalgia, or fatigue could inhibit an increase in physical activity. A variety of medications have been implicated in sleep impairment; some examples include selective serotonin reuptake inhibitors, corticosteroids, and antihypertensives (eg, diuretics, beta blockers, and clonidine).³ Certain medications can also inhibit weight loss,^{4,5} cause weight gain, or worsen stress management efforts.⁶ Some patients may experience such adverse effects when deprescribing is inadequate, discouraging them from adopting healthy lifestyle behaviors.

Other scenarios that may lead to the need for medication deprescribing include ineffectiveness of the medication to achieve the desired outcome, interaction with other medi-

cations or diagnosed conditions, medication duplications, unsafe use of the medication, and remission or resolution of the condition or symptom(s) being treated.

Existing Recommendations and Guidelines

It is increasingly well recognized that *deprescribing* is an essential part of *prescribing*.⁷ Polypharmacy is widespread in patients >60 years of age, with nearly half of these patients taking 5 or more medications. The process of discontinuing medications that are no longer needed or appropriate, or in some cases are harmful and/or contributing to new problems, has been described in multiple clinical publications.^{7,8} The process for resolving polypharmacy is a deliberate, measured, 4-step approach⁸ (see “4-Step Deprescribing Process,” page eS102). Similarly, when patients of any age with lifestyle-related chronic disease make intensive lifestyle changes to address and remove the underlying causes of their disease (eg, adopting a healthy diet, getting regular exercise, replacing ultra-processed foods with unprocessed whole foods), the need for aggressive reductions in medications used to reduce serum glucose and blood pressure is typically quite urgent and must be part of the lifestyle change process.^{9,10}

A significant barrier to deprescribing is the lack of evidence and guidelines for the deprescribing of many medications.¹¹⁻¹³ The majority of pharmaceutical research focuses on the benefits of medication addition, in contrast to the paucity of guidance outlining how and when medications should be stopped. Most research relevant to deprescribing is observational or retrospective; there is a lack of more rigorous randomized controlled trials. The lack is even greater when considering medication deprescribing in relation to LM treatment. Typically, deprescribing studies have been conducted in relation to polypharmacy, adverse drug reactions, or the advanced age of patients.⁷ There is a need for more research in this field, particularly addressing the effects of therapeutic lifestyle interventions on specific medications. The American College of Lifestyle Medicine has identified this need and is encouraging and supporting research in this area.

Expert guidelines within traditional medicine may recommend a cross taper when switching from one medication to another (as with specific antidepressants, for example^{9,10}), to avoid adverse or withdrawal events. A cross taper means that there would be a gradual reduction of the medication planned to be discontinued with a simultaneous gradual initiation of the new medication. With LM treatment, it may be necessary to utilize a treatment cross taper by replacing a medication with a lifestyle intervention, not another medication, to avoid overdosing effects as described above.

Most, if not all, providers have experienced scenarios that led to medication deprescribing, such as development

of an allergy, adverse effect, or patient-specific intolerance. Decisions to deprescribe for these types of events are typically encountered as a reactive response to the occurrence. Although this would be deemed appropriate and timely medical care, a proactive decision-making approach to care would be superior to a reactive response.

Considerations for Successful Deprescribing

The following approaches used by the authors and their colleagues have resulted in the best possible patient outcomes.

1. Schedule a visit specifically for medication review. This visit should involve a joint patient-provider discussion of what each medication is for and what lifestyle changes could be made to allow the patient to potentially reduce medication dosing.

2. Plan ahead for medication deprescribing in conjunction with lifestyle treatment to support patient safety (see “Planning for Medication Deprescribing in Lifestyle Medicine”), and communicate clearly to the patient that lifestyle changes must be continued for the reduction or elimination of medication dosing to be sustained.

3. Review the patient’s current disease status and symptom levels, as this may affect how quickly to begin medication deprescribing. Medication reductions may not always be needed in conjunction with lifestyle change; consider, for example, a patient with diabetes who is currently uncontrolled with a glycated hemoglobin (A1c) of 10%. Lifestyle treatment may bring such a patient within normal limits. However, in a patient who is well controlled with an A1c of 7% on medication that could produce hypoglycemia, a plan to reduce or stop the medication upon initiation of lifestyle treatment may be needed to prevent hypoglycemia. Intensive lifestyle interventions usually require rapid cessation of medications with potential for hypoglycemia or hypotension.

Assessment of current medication adherence may reveal that there are medications that the patient is no longer taking, medications that the patient is taking differently than prescribed, or medications that the patient is taking that were previously unknown. If nonadherence to a specific medication is identified before initiation of lifestyle treatments, that medication may be discontinued early in treatment. Just as with medication, treatment outcomes differ dramatically based upon adherence vs nonadherence to lifestyle treatments.

4. Develop deprescribing goals that take into account risks and benefits. Goals may include avoidance of adverse events, such as hypotension or hypoglycemia.

5. Take a proactive approach with medication prescribing to assist with medication deprescribing later. Identify and communicate the duration of therapy planned for each medication, the time(s) when effectiveness will be assessed,

4-STEP DEPRESCRIBING PROCESS⁸

- Review all current medications
- Identify any inappropriate, unnecessary, or harmful medications
- Plan deprescribing with the patient
- Regularly re-review medications

PLANNING FOR MEDICATION DEPRESCRIBING IN LM

- Review all medications and adherence prior to deprescribing
- Consider patient values, goals, and motivating factors
- Review current disease status and symptom control
- Identify intensity of lifestyle intervention planned
- Consider involving a clinical pharmacist for additional support
- Establish expectations for patient self-monitoring
- Communicate expectations for patient follow-up

and reason(s) that a medication may be discontinued before completion of the established duration of therapy.

6. Consider using a medication trial before making a permanent decision regarding indefinite prescribing when new medications are needed during treatment.

7. Be attentive to logistics. Medication formulation and packaging can affect the deprescribing process as well. The patient may be on dosage forms that do not easily allow for individual medication dosage reduction, such as an oral formulation that cannot be cut or split or an injectable formulation that is single-use (without the ability to measure a lower dosage). The only options for such medications may be to reduce dosing frequency or to discontinue the medication if dosage reduction is not possible. Some patients may also be taking a combination medication (2+ medications combined into 1 tablet). In this instance, some LM practitioners transition the patient to the separate medication formulations as individual orders to provide more individualized dosing and allow for the discontinuation of one medication while continuing the other.

8. Monitor patients over the long term to assess for sustained adherence over time (whether it be lifestyle or medication). Providing a clear expectation for follow-up assessment includes addressing why routine assessment and follow-up are necessary, who will be involved from the provider care team with deprescribing support (provider, nurse, or other care team members), how the follow-up will be conducted (face-to-face visit, virtual visit, phone visit, electronic medical

record messaging, etc), what will be assessed to determine if a medication can be deprescribed, and when follow-up assessments will occur. The frequency of the follow-up assessment plan may be time dependent (daily, weekly, or monthly), self-monitoring dependent (as an example, having fasting blood sugars <100 mg/dL for 1 week), or symptom dependent. The frequency may also be dictated by a patient’s cognitive ability to follow instructions for self-management (deprescribing on the basis of an established set of symptoms or monitoring data points in between follow-up touchpoints).

ROLE OF PHARMACISTS

When navigating situations of uncertainty, consider involving a consultant pharmacist for assistance in structuring the medication deprescribing plan. Clinical pharmacists have specific knowledge and training regarding best deprescribing practices on the basis of available medication dosing, pharmacokinetics, and potential interactions affecting concurrent therapy (eg, reduced or enhanced elimination of other medications may occur when an interacting medication is discontinued or a lifestyle behavior is changed). Clinical pharmacists may also be able to help support patient monitoring and implementation of the deprescribing plan. If there is no direct access to a pharmacist through a clinician’s hospital or clinic setting, it may be possible to create a partnership with a local community pharmacist.

PATIENT PREFERENCES AND PRIORITIES

When a patient’s values, goals, and motivating factors are determinants of treatment adherence, taking these into account when deciding which medications to deprescribe first can be helpful. The focus of deprescribing efforts may vary based on preferences expressed by the patient (TABLE 1).

The power of LM treatment can provide renewed hope, as the patient is given some level of control over a dependence on medication, thus improving their quality of life.

PATIENT ENGAGEMENT AND PARTNERSHIP

Patient self-monitoring is critical when deprescribing. Monitoring may include identification of symptoms (eg, dizziness) that may serve as a signal that a medication dose may need to be reduced or stopped. When available, data from self-monitoring devices can be used to guide medication deprescribing. Examples include blood glucose monitors (glucometers or continuous glucose monitors) or blood pressure monitors. Self-monitoring devices not only improve the safety of deprescribing efforts but may also serve as a source of motivation for patients, as the data from these devices can provide direct and timely insights into the impact of lifestyle treatment(s). Patients will need

TABLE 1. Considerations for commencing deprescribing based on patient preferences

Patient Experience With Medication	Possible Deprescribing Priority
Low perceived benefit	Medications devalued by patient as a source of motivation
Cost reduction	Most expensive medications first to save money for patient
Daily pill burden feels high	Medication with multiple doses per day to reduce pill burden
Negative side effects	Medications with negative side effects to improve quality of life

education on both symptom identification and monitoring, as well as on the symptom-triggered action plan.

Patient engagement is necessary for safe and effective medication deprescribing. Patient communications typically include instructions on how to taper medication, when and what to monitor, what to report to their provider urgently, frequency of follow-up assessment, and what will be assessed. Patients should have the opportunity to ask questions during visits and between encounters. Not only should patients verbalize their understanding, but using techniques such as teach-back, where the patient is asked to repeat the instructions in their own words, is also helpful to verify understanding.

Another valuable technique could be to give patients a symptom or data point (such as a specific blood pressure) included in the deprescribing plan and ask them how they would adjust a medication on the basis of that symptom or data point, if encountered. Testing the ability of patients to follow the instructions may identify the need for modifications or additions to the plan before it is put into action. As part of this process, it is also important to reassure patients that setbacks may occur due to a lesser degree of lifestyle change than was initially planned, but that this should not be viewed as a failure; adjustments to the original plan can be made to meet the patient where they are.

TO LEARN MORE

The American College of Lifestyle Medicine offers resources on this topic and others at <https://www.lifestylemedicine.org/>. ●

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