NOWPATIENT

[Date]

Dr. [Doctor’s Name]

[Doctor’s Address]

[City, State, Post/Zip Code]

Dear Dr. [Doctor’s Name],

**Re: Referral for Deprescribing Consultation – [Patient’s Full Name. D.O.B]**

{Patient Name}, who is registered as your patient, recently undertook a deprescribing assessment using NowPatient’s virtual care platform.

After a thorough review of the patient’s medical history, current medication regimen, and health goals, I believe they may benefit from a targeted deprescribing plan to reduce polypharmacy and improve their overall quality of life.

The specific medications under consideration for deprescribing include:

* {{meds\_list}}

To support this referral, I am providing you with the following information, for your consideration, which is set out in the appendices to this letter:  
  
Appendix A - Information explaining the deprescribing service that your patient engaged with and detailed information about the evidence bases used to qualify the patient’s medication(s) for deprescribing.

Appendix B - A deprescribing protocol including evidence-based recommendations for tapering and discontinuing medications safely, as well as strategies to monitor the patient for withdrawal effects or symptom recurrence.

Deprescribing, when carefully implemented, can minimize the risk of adverse drug reactions, riks of unplanned hospital admissions and improved patient outcomes.

Please do not hesitate to contact NowPatient, if you require additional information, records, or specific details about the patient’s case. I look forward to your feedback and greatly appreciate your support in optimizing [Patient’s First Name]’s care.

Thank you for your attention to this matter.

Kind regards,

NowPatient

enc.

**Appendix A**  
  
**What is Deprescribing?**

It is common for people to be prescribed many medications and also to take over-the-counter treatments, vitamins, or supplements. Medications are often started for a good reason, but sometimes they are continued when they are no longer helpful and may cause adverse effects. Slowly and carefully cutting down on unnecessary medications with the help of a health care service is called deprescribing.

**How has your patient used the NowPatient AI Deprescribing service?**

The NowPatient AI deprescribing service is a chat interface that is highly trained on rigorous clinical deprescribing protocols. It communicates with your patient in natural language to evaluate if their medication is a suitable candidate to be deprescribed. If the AI Deprescribing Advisor recommends that the patient's medication is suitable for deprescribing, it will generate a referral to you. The report explains the rationale for the deprescribing protocol and can guide you as to if and how the medication can be safely deprescribed. Under NO circumstances is the patient advised by the service to STOP or WITHDRAW their medication, until they have discussed the report with you.

**What are the benefits of Deprescribing?**

Taking fewer medications could help your patient for several reasons:

* Lowering the number of medications being taken and reducing polypharmacy.
* Saving the health system money.
* Increasing the patient’s ability to reliably take the medications that do provide benefits.
* Decreasing the risk of dangerous adverse effects and improving quality of life.

**Is it safe to Deprescribe medications?**

The decision to deprescribe a medication ultimately rests with you as the patient’s primary care provider. You may decide that some medications can be safely stopped immediately, whereas others need to be slowly decreased, or “tapered,” a bit at a time.

Our report to you contains important information that uses evidence protocols to guide you on how to safely and effectively withdraw or stop the medication identified as a suitable deprescribing candidate.

{% if medication == "AC" %}  
  
**Evidence bases for the** **Anticholinergics (AC) Deprescribing Report**

The NowPatient AI Deprescribing report utilises AI that has been developed and trained using the following evidence-based deprescribing guidelines:

* ACB calculator Available at https://www.acbcalc.com/pages/about
* NSW Therapeutic Advisory Group which is an initiative of NSW clinical pharmacologists & pharmacists
* Anticholinergic burden 253 – 2.0| PrescQIPP C.I.C Available at:  
  https://www.prescqipp.info/our-resources/bulletins/bulletin-253- anticholinergic-burden/
* Kiesel, E. K., Hopf, Y. M., & Drey, M. (2018). An anticholinergic burden score for German prescribers: Score development. BMC Geriatrics, 18 available at https://doi.org/10.1186/s12877-018-0929-6
* An anticholinergic burden score for German prescribers: score development - BMC Geriatrics available at https://doi.org/10.1186/s12877-018-0929-6
* Lisibach, A., Benelli, V., Ceppi, M.G. et al. Quality of anticholinergic burden scales and their impact on clinical outcomes: a systematic review. Eur J Clin Pharmacol 77, 147–162 (2021) available at https://doi.org/10.1007/s00228-020-02994-x

Understanding ACB Scoring

Anticholinergic medications are used to block the neurotransmitter acetylcholine. Anticholinergics have systemic effects on smooth muscle function including the lungs, gastrointestinal system and urinary tract. Anticholinergic drugs are therefore prescribed to treat a variety of medical conditions including Parkinson’s disease, allergies, chronic obstructive pulmonary disease, depression and urinary incontinence.

Medications with anticholinergic properties can be associated with Adverse Drug Reactions (ADRs). Examples of such ADRs include dry eyes, urinary retention, dizziness, cognitive impairment and falls. The anticholinergic effect increases if a stronger anticholinergic is used, or if different anticholinergics are used in combination. Older patients are more likely to have multiple co- morbidities, and therefore to be on multiple medications. As the body ages, its ability to metabolize medications declines, the permeability of their blood-brain barrier increases and therefore older patients are more susceptible to the anticholinergic effects of their medications1-3 (https://www.acbcalc.com/pages/about#ref1).

Anticholinergic burden scales were created in an attempt to quantify the effects of these medications, and provide a practical tool for optimizing prescribing for older patients4 (https://www.acbcalc.com/pages/about#ref4).

Longitudinal studies have shown an association between the use of Anticholinergics and the risk of developing cognitive impairment and of death5 (https://www.acbcalc.com/pages/about#ref5).

Research also indicates that there is a dose-dependent association between long term use of Anticholinergics and the risk of developing Dementia6 (https://www.acbcalc.com/pages/about#ref6).

There is a plethora of literature on anticholinergic burden, including 22 different published scales. These scales are generally formulated by an expert team combining results of research into anticholinergic properties of medications along with their own clinical expertise. We are keen to provide reliable information and therefore have chosen to combine the scores of 2 different scales which we believe to be of the highest quality. These include the anticholinergic cognitive burden scale (ACB)4 (https://www.acbcalc.com/pages/about#ref4) and the German anticholinergic burden scale (GABS)7(https://www.acbcalc.com/pages/about#ref7).

Many medications that have anticholinergic properties are prescribed on the basis of robust clinical evidence. It is therefore appropriate that these be continued. The purpose of the Anticholinergic Burden Calculator is to aid the clinician in their decision-making during a medication review, and to offer alternatives with a lower Anticholinergic burden, which may or may not be appropriate for that patient.

How ACB Scores are calculated

The score for each medication is taken directly from the ACB calculator table. If a patient takes more than one medication, the cumulative ACB score is calculated by adding the scores for each medication together.

# Appendix B: Deprescription instructions for the Anticholinergics (AC) Report

Deprescribing Anticholinergics is based on the ACB score of the medication. If a patient is taking a medication with an individual ACB score of 2 or 3, OR the cumulative ACB score of all their medications is 3 or more then the patient should be considered for deprescribing according to the algorithms.

When deprescribing anticholinergics, the patient’s medication should be tapered down and then eventually stopped. When weaning the patient off anticholinergics, the patient should also be advised on the use of relevant non-pharmacological therapy.

The patient should be weaned gradually, by 25-50 percent of their daily dose, every 1-4 weeks. If the patient is being deprescribed due to serious adverse effects, consider weaning them down faster. Provide advice to the patient or their carer on how to self-monitor and what to do if the symptoms re-occur.

Continue to wean the patient off the anticholinergics according to their response to reducing their medication. If no withdrawal symptoms occur, continue to wean the patient and then stop. If the patient shows worsening confusion when weaning, discontinue the medication immediately.

Consider weaning the patient slower, by 12.5%, when reducing to the final lowest dose and end treatment 2 weeks after administering the lowest dose. If dosage forms are limited, consider alternate day dosing to help with the weaning process. If the patient has recurrent withdrawal symptoms, revert to the previous lowest tolerated dose and recommence weaning after 6-12 weeks at the lower weaning rate (5 -12.5% of the total daily dose each month) then stop.

Sources:

* Anticholinergic (AC) Deprescribing – NSW Therapeutic Advisory Group which is an initiative of NSW clinical pharmacologists & pharmacists.
* Anticholinergic burden 253 – 2.0| PrescQIPP C.I.C Available at: <https://www.prescqipp.info/our-resources/bulletins/bulletin-253-> anticholinergic-burden/
* ACB calculator Available at: <https://www.acbcalc.com/pages/about>
* Kiesel, E. K., Hopf, Y. M., & Drey, M. (2018). An anticholinergic burden score for German prescribers: Score development. BMC Geriatrics, 18.
* doi:
* [An anticholinergic burden score for German prescribers: score development - BMC Geriatrics](https://doi.org/10.1186/s12877-018-0929-6)
* Lisibach, A., Benelli, V., Ceppi, M.G. et al. Quality of anticholinergic burden scales and their impact on clinical outcomes: a systematic review. Eur J Clin Pharmacol 77, 147–162 (2021).
* doi: <https://doi.org/10.1007/s00228-020-02994-x>

{% endif %}

{% if medication == "PPI" %}

**Evidence bases for the Proton Pump Inhibitors (PPI) Deprescribing Report**

The NowPatient AI Deprescribing Advisor report utilizes AI that has been developed and trained using the following evidence-based deprescribing guidelines:

* B, Pottie K, Thompson W, Boghossian T, Pizzola L, Rashid FJ, et al. Deprescribing proton pump inhibitors. based clinical practice guideline. Can Fam Physician 2017;63:354-64 (Eng), e253-65 (Fr)

# Appendix B: Deprescription instructions for the Proton Pump Inhibitors (PPI) Report

If the patient has been taking a PPI for 4 to 8 weeks to treat mild to moderate esophagitis or GERD, there is a strong recommendation (from Systematic Review and GRADE approach) to decrease their medication to a lower dose or to stop and use only when needed. Evidence suggests there is no increased risk for the return of symptoms, when compared to continuing on a higher dose. 1/10 patients may however have a return of their symptoms.

The patient should be monitored at intervals of 4 and 12 weeks. If the patient reports symptoms of heartburn, dyspepsia, regurgitation, epigastric pain, shows signs of loss of appetite or agitation, offer the patient lifestyle advice, such as to avoid meals 2-3 hours before bedtime, to elevate the head of their bed, address the need for weight loss if required, and to avoid dietary triggers.

Occasional symptoms may be managed using over-the-counter medications, such as antacids, H2RAs, PPI’s, and alginates, when required (Tums, Rolaids, Zantac, Olex, Gaviscon). If symptoms return, or if symptoms persist for 3 to 7 days and interfere with normal activity, test and treat the patient for H. pylori or consider returning the patient to their previous dose.

Sources:

* Proton Pump Inhibitor (PPI) Deprescribing – B, Pottie K, Thompson W, Boghossian T, Pizzola L, Rashid FJ, et al. Deprescribing proton pump inhibitors. based clinical practice guideline. Can Fam Physician 2017;63:354-64 (Eng), e253-65 (Fr).

{% endif %}

{% if medication == "AHG" %}

**Evidence bases for the Antihyperglycemics Deprescribing Report**

The NowPatient AI Deprescribing Advisor report utilizes AI that has been developed and trained using the following evidence-based deprescribing guidelines:

* Farrell B, Black C, Thompson W, McCarthy L, Rojas-Fernandez C, Lochnan H, et al. Deprescribing antihyperglycemic agents in older people. Evidence-based clinical practice guidelines. Can Fam Physician 2017;63:832-43 (Eng), e452-65 (Fr)

# Appendix B: Deprescription instructions for the Antihyperglycemics Report

When deprescribing antihyperglycemics, set individualized A1C and blood glucose (BG) targets for patients. For patients who are otherwise healthy with 10+ years life expectancy, A1C < 7% is appropriate. Patients of advancing age, frailty, comorbidities and time-to benefit A1C < 8.5% and BG < 12mmol/L may be acceptable. For patients at end-of life, BG < 15mmol/L may be acceptable.

Reduce the dose or stop medications most likely to contribute to hypoglycemia or other adverse effects, such as sulfonylurea or insulin and switch to an agent with a lower risk of hypoglycemia (e.g. switch from glyburide to gliclazide or non-sulfonylurea; change NPH or mixed insulin to detemir or glargine insulin to reduce nocturnal hypoglycemia). Reduce doses of renally eliminated antihyperglycemics such as metformin or sitagliptin.

Monitor the patient daily for 1-2 weeks after each change in dose (for TZD monitor the patient for up to 12 weeks) for signs of hyperglycemia (excessive thirst or urination, fatigue), or signs of hypoglycemia and/or resolution of adverse effects related to antihyperglycemic(s). Increase the frequency of blood glucose monitoring if needed. A1C changes may not be seen for several months.

If hypoglycemia continues and/or adverse effects do not resolve, reduce the dose further or try another deprescribing strategy. If symptomatic hyperglycemia or blood glucose exceeds individual target, return to the previous dose or consider alternate drugs with a lower risk of hypoglycemia.

Sources:

* Antihyperglycemics Deprescribing – Farrell B, Black C, Thompson W, McCarthy L, Rojas-Fernandez C, Lochnan H, et al. Deprescribing antihyperglycemicagents in older persons. Evidence-based clinical practice guideline. Can Fam Physician 2017;63:832-43 (Eng), e452-65 (Fr).

{% endif %}

{% if medication == "AP" %}

**Evidence bases for the Antipsychotic (AP) Deprescribing Report**

The NowPatient AI Deprescribing Advisor report utilises AI that has been developed and trained using the following evidence-based deprescribing guidelines:

* Bjerre LM, Farrell B, Hogel M, Graham L, Lemay G, McCarthy L, et al. Deprescribing antipsychotics for behavioural and psychological symptoms of dementia and insomnia: Evidence-based clinical practice guideline. Can Fam Physician 2018;64:17-27 (Eng), e1-e12 (Fr).

# Appendix B: Deprescription instructions for the Antipsychotic (AP) Report

Antipsychotics should be tapered and stopped slowly, in collaboration with the patient and/or the patients caregiver. Tapering should be a 25%-50% dose reduction every 1-2 weeks. The patient should be monitored every 1-2 weeks duration tapering. The expected benefits include an improvement in alertness, gait and a reduction in falls and extrapyramidal symptoms.

Adverse drug withdrawal symptoms include, psychosis, aggression, agitation, delusions and hallucinations.

If behavioral and psychological symptoms of dementia return, consider non-drug approaches, such as music therapy or behavioral management strategies, or restart the antipsychotics at the lowest dose possible, with a re-trial of deprescribing in 3 months. At least 2 attempts to stop taking antipsychotics should be made. Alternate treatments to antipsychotics include risperidone, olanzapine, or aripiprazole.

If insomnia relapses, advise the patient to minimize the use of substances that worsen insomnia (e.g. caffeine, alcohol), or to use non-drug behavioral approaches. Other medications have been used to manage insomnia, but assessment of their safety and effectiveness is beyond the scope of this deprescribing algorithm.

Sources:

* Antipsychotic (AP) Deprescribing – Bjerre LM, Farrell B, Hogel M, Graham L, Lemay G, McCarthy L, et al. Deprescribing antipsychotics for behavioural and psychological symptoms of dementia and insomnia: Evidence-based clinical practice guideline. Can Fam Physician 2018;64:17-27 (Eng), e1-e12 (Fr).

{% endif %}

{% if medication == "BZRA" %}

**Evidence bases for the Benzodiazepine & Z-Drug (BZRA) Deprescribing Report**

The NowPatient AI Deprescribing Advisor report utilises AI that has been developed and trained using the following evidence-based deprescribing guidelines:

* Evidence-based clinical practice guideline for deprescribing benzodiazepine receptor agonists. Can Fam Physician 2018;64:339-51 (Eng), e209-24 (Fr)

# Appendix B: Deprescription instructions for the Benzodiazepine & Z-Drug (BZRA) Report

Patients should be engaged for the deprescribing of BZRA’s by discussing the potential risks, benefits, withdrawal, symptoms, and duration of treatment of BZRA’s. For patients over the age of 65, there is a strong recommendation, while for patients between the age of 18-64 there is a weak recommendation from the systematic review and GRADE approach.

BZRA’s should be tapered slowly, with a 25% reduction every two weeks, and if possible, 12.5% reductions near the end, with planned drug-free days. Patients should be monitored every 1-2 weeks for the duration of tapering.

The expected benefits of deprescribing include improved alertness, cognition, daytime sedation, and a reduction in falls for the patient.

Patients should be offered behavioral sleeping advice, such as CBT if available, minimising the use of sleep-disrupting substances and using alternative approaches to manage insomnia.

Withdrawal symptoms include insomnia, anxiety, irritability, sweating and gastrointestinal symptoms. These are all usually mild and last for a few days to a few weeks. If symptoms relapse, consider maintaining the patient on their current BZRA dose for 1-2 weeks, and to then continue tapering at a slower rate, or using other medications to manage insomnia.

Assessment of the safety and effectiveness of other drugs is however beyond the scope of this deprescribing algorithm. Please see the BZRA deprescribing guideline for details.

Sources:

* Benzodiazepine & Z-Drug (BZRA) Deprescribing – Evidence-based clinical practice guideline for deprescribing benzodiazepine receptor agonists. Can Fam Physician 2018;64:339-51 (Eng), e209-24 (Fr)

{% endif %}

{% if medication == "CHEI" %}

**Evidence bases for the Cholinesterase Inhibitor (ChEI) and Memantine Deprescribing Report**

The NowPatient AI Deprescribing Advisor report utilises AI that has been developed and trained using the following evidence-based deprescribing guidelines:

* Reeve E, Farrell B, Thompson W, at al Evidence-based Clinical Practice Guideline for Deprescribing Cholinesterase Inhibitors and Memantine. 2018.ISBN-13: 978-0-6482658-0-1

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# Appendix B: Deprescription instructions for the Cholinesterase Inhibitor (ChEI) and Memantine Report

To engage patients and caregivers, determine their values and preferences and discuss the potential risks and benefits of continuation and discontinuation of cholinesterase inhibitor (ChEI) and memantine treatment.

To taper the patient's medication, halve the dose or step down through available dose forms every 4 weeks to the lowest available dose, followed by discontinuation.

Plan this in collaboration with the individual/carer and any other relevant healthcare professionals, such as geriatrician or psychiatrist.

Conduct close periodic monitoring (e.g. every 4 weeks) of cognition, function and neuropsychiatric symptoms. You are advised to consider other causes of changes, such as delirium.

Sources:

* Cholinesterase Inhibitor (ChEI) and Memantine Deprescribing – Reeve E, Farrell B, Thompson W, at al Evidence-based Clinical Practice Guideline for Deprescribing Cholinesterase Inhibitors and Memantine. 2018.ISBN-13: 978-0-6482658-0-1

{% endif %}