



## **Position Statement: Appropriate Use of Oral Corticosteroids in Asthma**

**It is time to protect people with asthma from oral corticosteroids (OCS) overuse and to recognize overuse for what it is: a warning sign that it is time to improve asthma management.**

For decades, OCS have been an important treatment for the management of severe asthma, uncontrolled asthma, and acute asthma exacerbations in children and adults. However, overwhelming evidence shows that OCS can carry serious health risks. Today, OCS use needs to be recognized as a potential red flag warning sign that a person's asthma may be poorly controlled, requiring reassessment by a qualified professional to optimize asthma management. Management strategies may include support to improve medication adherence, device technique, and/or an updated treatment plan. Where OCS treatment is needed, the aim for treatment should be short-term with the lowest effective dose. If long-term OCS use is required, it should be at the lowest possible dose with an aim to discontinue or provide alternative treatment.

### **Recommendations**

- 1. Invest in the education of healthcare professionals, including allergists/immunologists, respirologists, certified respiratory educators, primary care providers, emergency care providers, and pharmacists, to adopt OCS-sparing strategies while respecting the values and preferences of people with asthma through shared decision-making.**
- 2. Invest in the education of and tools for primary and emergency care providers to identify and rapidly refer people with asthma who are prescribed OCS, to a specialist and/or certified respiratory educator to improve management.**
- 3. Plan for and invest in asthma specialists, including respirologists and allergists/immunologists, primary care providers, and certified respiratory educators to optimize asthma management and improve asthma control.**
- 4. Create or update standards, policies, care pathways, rapid referral mechanisms, and other relevant materials and interventions to reflect OCS-sparing interventions.**
- 5. Plan for and invest in the full array of asthma treatment options, both pharmacological and non-pharmacological, to support the ability of people with asthma to achieve control.**

### **About Asthma**

Every day, over 300 Canadians are diagnosed with asthma, and every week four families lose a loved one to asthma.<sup>i</sup> Asthma is a chronic inflammatory disease of the airways that causes symptoms of shortness of breath, chest tightness, coughing, and wheezing. It affects more than 3.8 million Canadians, including approximately 850,000 children under the age of 14. In Canada, asthma is one of the most common chronic diseases. There is currently no cure for asthma but, with proper treatment, it can be controlled and well-managed. By using daily controller therapy and having appropriate environmental control measures, most individuals with asthma can completely avoid OCS.

The mainstay of asthma therapy is inhaled corticosteroids (ICS) with add-on therapy as asthma severity increases. Compared to those with controlled asthma, people with uncontrolled asthma use more of their rescue inhaler and OCS.<sup>ii</sup> For people whose asthma remains uncontrolled despite otherwise optimal treatment, targeted biologic therapy is now possible.

Severe asthma accounts for five to 10 percent of the asthma population, but is responsible for up to 50 percent of direct asthma costs. Compared to controlled asthma, uncontrolled asthma leads to more school and workplace absenteeism, limitations of daily activities, decreased quality of life, and more frequent emergency department visits and hospitalizations.

### **Adverse Effects of OCS**

When treating severe asthma, uncontrolled asthma, and acute exacerbations, the use of OCS in the management of asthma is associated with an increased risk of adverse effects and increased healthcare use and cost. It is important to recognize that the risk of adverse effects increases as OCS dosage, including cumulative dosage, is increased. The good news is there are recognized guidelines on asthma management, including the appropriate use of OCS, from the Global Initiative for Asthma (GINA). There are also established models for tapering OCS use.<sup>iv</sup>

It is recommended that OCS be reserved for situations where asthma is severe and/or uncontrolled and the shortest possible course of treatment be used. Other asthma medications should be optimized to the greatest possible extent. Self-management plans for people with asthma can include when and how to use OCS for acute exacerbations. However, the risk of adverse effects must always be considered and effective corticosteroid-sparing strategies should be implemented.<sup>v</sup>

OCS overuse is common and can substantially benefit from a multidisciplinary approach towards asthma, including improving adherence to prescribed maintenance therapy, removing exposures to known triggers, improving poor inhaler technique, and treating untreated co-morbidities. OCS overuse may also result from misdiagnosis of symptoms not necessarily caused by asthma.

### **INHALED VERSUS ORAL CORTICOSTEROIDS<sup>vi</sup>**

Conventional medications often include inhaled corticosteroids, which are not the same as OCS and result in much lower overall steroid exposure than even one course of OCS.

### **SHORT TERM ADVERSE EFFECTS OF OCS<sup>iii</sup>**

Even short-term low-dose use of OCS (under 30 days) can result in serious health problems, including:

- Fluid retention
- High blood pressure
- Problems with mood swings, memory, behavior, and other psychological effects
- Upset stomach
- Weight gain

### **ADVERSE EFFECTS ASSOCIATED WITH OCS IN THE SYSTEMIC REVIEW BY VOLMER ET AL. (2018)**

CLINICAL CATEGORY	DISEASE STATES INCLUDED IN THE CATEGORY
Adrenal	Cushing's syndrome
Bone and muscle	Avascular necrosis, muscle weakness, osteoporosis, back pain, and fractures
Cardiovascular	Atrial fibrillation, flutter, hypertension, and myocardial infarction
Dermatologic	Bruising, impaired wound healing, striae, and skin thinning
Gastrointestinal	Nausea, vomiting, GI bleeds, ulcers, and dyspepsia
Infections	Fungal, pneumonia, sepsis, tuberculosis, urinary tract, varicella, and bursitis
Metabolic	Hyperglycaemia, dyslipidemia, obesity, diabetes mellitus, and metabolic syndrome
Ophthalmic	Cataracts and glaucoma
Psychiatric	Bipolar disorder, depression, sleep disturbances, and steroid psychosis
Various	Bladder cancer, epistaxis, and non-Hodgkin's lymphoma

i [Asthma Facts and Statistics, Asthma Canada.](#)  
 ii [Cataldo et al. \(2020\)](#)  
 iii [Prednisone and other corticosteroids \(2020\)](#)  
 iv [Bourdin et al. \(2020\)](#)  
 v [Volmer et al. \(2018\)](#)  
 vi [Oral Corticosteroid Stewardship Statement \(2018\)](#)

The following representatives served as thought partners in the assembly of this statement: Sue Balkovec, Vibhas Bapat, Sarah Butson, Dr. Samuel Campbell, Dr. Andrew Cave, Dr. Charles Chan, Dr. Anne Ellis, Vanessa Foran, Penny Grant, Dr. Alan Kaplan, Dr. Jason Lee, Dr. Irvin Mayers, Stacey McNeilly, Jenna Reynolds, Dr. Cheryl Sadowski, Leah Stephenson, Kristin Valois, Dr. Susan Wasserman.