

HOW TO WRITE AN ASTHMA ACTION PLAN FOR ADULTS



In a recent study conducted at Richmond Hospital, most patients admitted with an asthma flare-up did not have a written action plan. This is understandable given that finding and interpreting information on how to write an action plan is difficult. However, use of action plans (**for patients maintained on inhaled steroid**) have led to improved outcomes and decreased healthcare utilization¹. Action plans allow patients to recognize and treat worsening asthma symptoms (a flare-up) early so that progression to a severe asthma exacerbation may be avoided. This document shows the principles of 1) in response to either **a change in peak expiratory flow rate (PEFR) or appearance of yellow level symptoms 2) increase inhaled steroid (x 4 baseline dose)** for 1-2 weeks (until symptoms or PEFR back in green zone level) 3) increase beta-agonist. Pharmacists could help patients who have asthma by writing an action plan and call their physician to review/fax a record and obtain a prescription for a separate inhaled steroid, if needed.

1

PEFR VALUES AND OR YELLOW LEVEL SYMPTOMS

Identify PEFR values for each level (show patient how to use coloured indicators on peak flow meter) or **plan to rely on yellow level symptoms** to prompt patient action and review with patient. Document routine inhaler regimen for prevention (controller inhaler) and relief of symptoms (reliever inhaler).

2

INCREASE INHALED STEROID DOSE (BY 4 FOLD), MAY NEED TO ADD SEPARATE INHALED STEROID:

In example 1, the patient is using Advair 250/50 (fluticasone 250 micrograms with salmeterol 50mcg) TWICE daily. To achieve the steroid dose escalation recommended without excessive LABA dose, a **separate steroid inhaler** is required for **yellow level symptoms or PEFR 60 to 80%. Total daily inhaled steroid is increased by 4 fold for 1-2 weeks until symptoms or PEFR back in green zone level.**

In example 2, the patient is using Symbicort 200/6 (budesonide 200mcg with formoterol 6 mcg). A 4-fold increase in formoterol is permitted for 1-2 weeks until symptoms or PEFR back in green zone level, so this combination can be used for both regular prevention as well as escalation to treat yellow level symptoms or PEFR reduction. (If a patient is using budesonide/formoterol as both controller and reliever, increase reliever as needed to maximum 72mg formoterol per day. Ref. GINA 2018. <http://www.ginasthma.org/>)

In one study, high dose inhaled steroid has shown to be equally effective as oral steroid during acute deterioration. In a different study, patients who quadrupled their inhaled steroid were less likely to need oral steroids. (Usual maximum cited dose is expressed in 2000 mcg BDP equivalents, see below).

Approximate steroid equivalents: Often cited maximum is beclomethasone dipropionate (BDP) (CFC) 2000 mcg ; But recent recommendations suggest higher maximum to permit quadrupling dosage (in brackets)1 .Beclomethasone dipropionate HFA (QVAR) 800 mcg ; Budesonide 1600 (2400)mcg; ciclesonide 640 (1600) mcg; fluticasone furoate 400 (800)mcg; fluticasone propionate 1000 (2000) mcg; mometasone furoate 880mcg. Reference: 1. Kouri A, Boulet L-B, Kaplan A, Gupta S. An evidenced-based, point-of-care tool to guide completion of asthma action plans in practice. Eur Respir J;49:1602238

A short course of oral steroid (**prednisone 40-50mg/day x 5 to 7 days**) is needed if 1) patient fails to respond to an increase in reliever and controller medication for 2-3 days 2) deteriorate rapidly or who have PEF less than 60% of best/predicted or 3) have a history of sudden severe exacerbations

3

INCREASE DOSE OF BETA-AGONIST FOR YELLOW LEVEL.

In both examples, Q4H use of beta-agonist is used. Review YELLOW level symptoms with patient. In the template used, any amount of reliever is suggested while the patient is on route to hospital.

OTHER COMMON FINDINGS:

Intentional non-adherence: Many patients do not understand that the purpose of their controller inhaler is to both control **symptoms and prevent asthma flare ups**. This may have contributed to patients making the decision to not use them regularly (intentional non-adherence) especially *when their symptoms are controlled*.

Patients may not understand that despite good asthma symptom control they can still be at risk of an asthma exacerbation. Helping patients understand the consequences of not using inhalers for prevention (increased risk of exacerbation) and addressing any concerns they may have could alter their decision-making by increasing their perceived value of the treatment.

[Step-down and step-up of therapy is part of the dynamic approach to asthma management in response to asthma control (symptoms and exacerbation risk) but complete cessation of inhaled corticosteroids (ICS) in adults is not recommended (GINA 2018). **Intentional non-adherence, poor inhaler technique are independent risk factors for asthma exacerbation.**

Poor technique: Ask patients to show you how they use their inhaler. Assess and correct technique using a checklist. Ideally show them proper technique yourself (using a placebo). Ensure patients use a spacer if using a pMDI.

Response to flare-up: Patients either did not have or use a peak flow meter at the onset of symptoms and or did not respond to

IDENTIFYING AND IMPROVING INTENTIONAL NON-ADHERENCE:

Ask the patient open-ended questions, in a way that makes it easy for them to feel more comfortable to answer frankly (that may reveal an issue). Then review with them if they understand the **REASON** for taking the inhalers, how to know if the inhaler is **WORKING** or causing a **SIDE EFFECT**. E.g:

- **“I know it can be difficult to remember to use your inhaler, how do you manage with that?”** (Listen for confirmation that they need to use the controller when well. If needed you can ask, giving a specific % of doses taken e.g. **Thinking back to these past 2 weeks, what % of doses did you manage to take e.g. more than half?**)
- **“Sometimes, we don’t clearly explain how the inhaler helps you. Can you tell me why you need to use it?”** (Look for a response that reflects understanding of the need to use controller medications to both PREVENT asthma exacerbation as well as control asthma symptoms; listen for signs of the patient not quite accepting that they have asthma. If this is possible, mentioning that by using these inhalers they would reduce their risk of needing to go to hospital with an asthma flare up may be helpful).
- **“How will you know if the controller is working?”** Listen for the patient to describe green level symptoms and not extra use of reliever inhaler. Explore their goals of therapy and understanding of asthma (they may not have attributed some symptoms they experience to asthma so may not fully realize the potential benefit to be gained with improved symptom control). Can they correctly identify that they keep using their controller inhaler even when in green zone (step-down is always in consultation with their doctor)?
- **“Do you have any concerns about taking this inhaler?”** Address any concern about cost or side effects, review ways to prevent or manage them e.g. review rinsing of mouth to prevent oral candidiasis with inhaled steroids. But if this develops let your doctor know as this can be easily treated and we can help prevent this from happening again.(Improved technique

CONFIRMING PATIENT UNDERSTANDING OF ACTION PLAN (USING TEACH BACK):

- **“I just want to check that I’ve explained your action plan clearly”.** Can you tell me what are your yellow level symptoms and what will you do if you have them? When would you need to go to the hospital?
- **“How are you going to remember to follow this?”** (Listen to ideas the patient may have, like putting action plan in a place where they can find it, such as on the fridge.)

Make use of community resources to help support patient/family: In Richmond, if the patient would benefit and agrees to further support (e.g. 1 on 1 coaching from a Certified Respiratory Educator on device technique, understanding of action plan or respiratory condition), call the **Richmond Community Respiratory Program** at 604 369 7941.

