

Management of Asthma During Winter



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Asthma is a heterogeneous disease, usually characterized by chronic airway inflammation defined by the history of respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough that vary over time and in intensity, together with variable expiratory airflow limitation (GINA, 2021).

Asthma affects over 380,000 people in Ireland. 7.1% of Irish adults have asthma with 890,000 likely to experience it sometime in their lifetime. One person continues to die from asthma in Ireland every 6 days despite advances in the knowledge of the mechanisms of asthma and pharmacology. In 2019, the Asthma Society of Ireland published *Easing the Economic Burden of Asthma – The Impact of a Universal Asthma Self-Management Programme*. The report, for the first time, publishes confirmation of the enormity of the burden of asthma and contains, up-to-date figures on the number of people affected by asthma in Ireland. Previous estimates

grossly under-estimated the number of people with asthma in Ireland. The annual economic burden of asthma is a staggering €472million. 2017 saw 2.4 million GP and 625,000 practice nurse asthma consultations respectively, 421,000 specialist visits, 133,000 emergency department visits and 8,000 hospital admissions. One person dies every 5 days from an acute asthma attack and there is one attendance at emergency departments every 4 minutes by a person with asthma.

The exact cause of asthma remains unknown. There are numerous triggers which can cause symptoms and these differ from person to person. Winter time can be particularly challenging for people with asthma due to cold air and common viruses being common triggers.

The clinical features of asthma (wheeze, cough, shortness of breath and chest tightness) result from changes in the airways as a result of abnormal sensitivity called bronchial hyper-reactivity. The muscle of the bronchial walls becomes hypertrophied causing occlusion of the airway resulting in contraction of the muscle causing bronchospasm. Secondly, in the

mucosal, submucosa and smooth muscle layers of the bronchi and bronchioles inflammatory cells infiltrate. Eosinophils, neutrophils, macrophages, mast cells and plasma cells are found in varying numbers. All of these cells contain chemical mediators that produce the “asthmatic response”. With the increase in secretions, plugging of the smaller airways result. Asthma is a condition where not only bronchospasm occurs but muscle constriction, mucosal swelling and an increase in secretions in the lumen in the airways (Figure 1).

Asthma Phenotypes

Other phenotypes include: exercise-induced, neutrophilic, severe, fixed-obstruction, aspirin-induced, and occupational

Assessing Asthma

The Asthma Control Test (ACT) is a useful tool for assessing asthma control. The maximum score is 25. If the patient scores 19 or below, this indicates that the patient’s asthma is not controlled and should be advised to attend their GP for review of their asthma. The ACT can be downloaded from <https://www.asthmacontroltest.com/>.

Asthma Management

Gina (2021) provides a stepwise approach to managing with the emphasis on symptom management and control. Patients can move through the steps based on the level of asthma control. It is not uncommon for some patients to require an increase in their medication during the winter months which can be deescalated in the spring/summer months. Track 1 is the preferred option with low dose ICS-formoterol as the reliever and controller being the medication of choice. Using ICS-formoterol as reliever reduces the risk of exacerbations compared with using a SABA reliever, with similar symptom control and similar lung function. Track 2 offers an alternative option with SABA as the reliever option. Inhaled corticosteroids should be taken when SABA is used. This track should be used if Track 1 is not possible, or is not preferred by a patient with no exacerbations on their current controller therapy. Before considering a regimen with SABA as a reliever, consider whether the patient is likely to be adherent with daily controller – if not, they will be exposed to the risks of SABA-only treatment

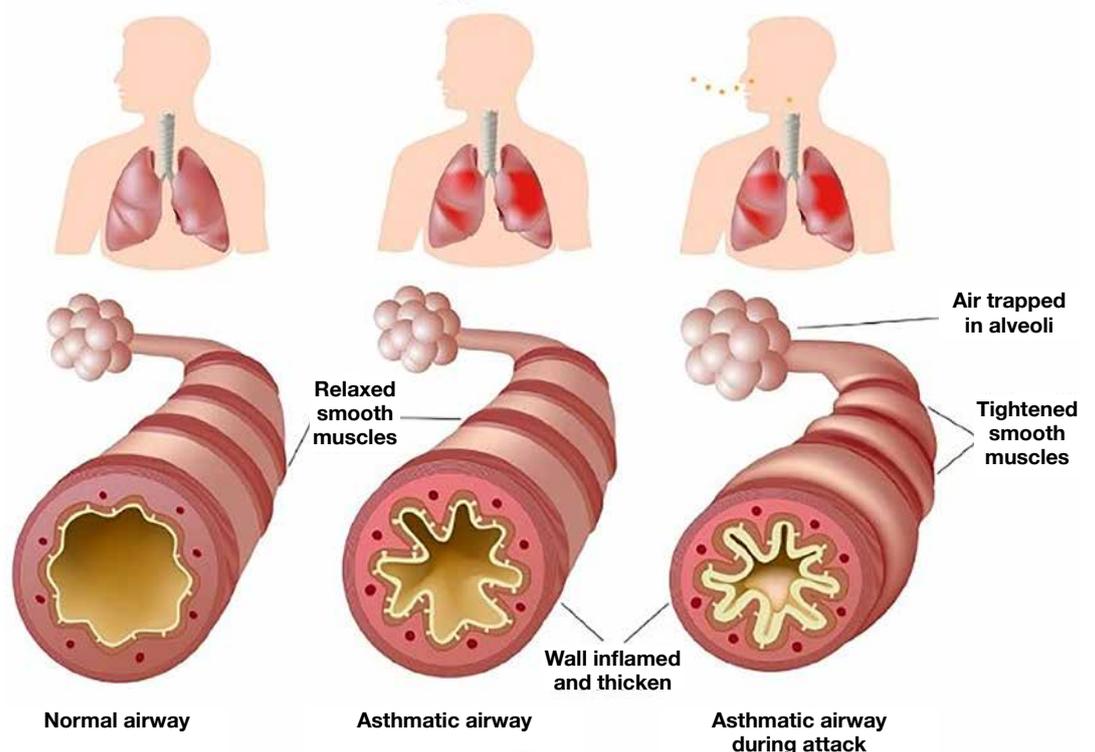


Figure 1: Pathology of asthma



Eosinophilic Asthma/T2 asthma/Allergic asthma	Non-eosinophilic asthma/non-T2 asthma/non-allergic asthma
Triggers – House dust mite, pollen, feathers, fluff, animal dander, foods	Triggers- cold air, exercise, smoking, hormones
Atopy	Non-atopic
Usually diagnosed in children	Usually diagnosed in over 40s
Responds well to inhaled corticosteroids	Requires high doses of inhaled corticosteroids to gain control

ie the risk of severe asthma exacerbations and asthma-related death. Both tracks offer additional treatment options to optimise control of symptoms which includes Montelukast, sublingual immunotherapy, Tiotropium and biological therapies.

Six Tips for managing Asthma to follow during the colder months:

1. Put an Asthma Action Plan in place (Figure 3). An Asthma Action Plan contains all the information a person with asthma needs to keep their condition in control. Every person with asthma should be offered a plan. It should be reviewed frequently and any time medication is changed. These can be downloaded for free from asthma.ie and should be filled out with the person's healthcare professional.
2. Immunisation with influenza and pneumococcal vaccine should be encouraged in people with asthma. Pneumococcal vaccine can be administered at any time throughout the year while influenza vaccine can be administered up until the end of April. Immunisation against COVID 19 should also be encouraged if not already done.
3. Follow the HSE's advice on preventing the spread of COVID-19. This highly contagious illness can be very problematic for people with asthma, especially those with severe asthma. Information on keeping well with asthma during COVID19 can be found here: <https://www.asthma.ie/keeping-well-with-asthma-and-copd-during-covid-19>
4. Asthma medication should be taken as prescribed and the reliever inhaler carried at all times. This is especially important during the winter months as respiratory triggers are so prevalent. If the reliever inhaler is being used more than twice a week, this may indicate that the person's asthma is not controlled and may be at risk of an asthma flare-up.
5. Check inhaler technique: it is extremely important to ensure correct use asthma devices correctly to optimise deposition of medication to the lungs and to reduce the risk of side effects. Inhaler technique for asthma inhalers on the Irish market can be viewed here: <https://www.asthma.ie/about-asthma/resources/inhaler-technique-videos>
6. Cold air can trigger asthma – take precautions to reduce the risk of cold air triggering an asthma flare-up. To help reduce symptoms which are triggered by cold air, it can be helpful to cover the mouth with a snood or scarf on colder days. This heats the air before it enters the lungs making it easier to breathe. Another tip is to exercise indoors during bouts of cold weather if at all possible. It's important to stay warm during the winter months but make sure the home is well ventilated. If wind and rain trigger asthma symptoms, keep windows closed, particularly on bad days. The Asthma Society Winter Wellness Guide can be access here: <https://www.asthma.ie/winter-wellness-guide>

WORRIED ABOUT YOUR ASTHMA?

Freephone the Asthma Adviceline or send a WhatsApp message to speak with an Asthma Nurse Specialist about your asthma

ASTHMA ADVICELINE
1800 44 54 64
BEATING BREATHLESSNESS
 WHATSAPP MESSAGE
086 059 0132

FIGHTING ASTHMA WITH EVERY BREATH

asthma.ie

People who have questions about managing their asthma are encouraged to send a WhatsApp message to the Sláintecare-funded Asthma WhatsApp service on 086 059 0132 or freephone the Asthma

Society's HSE-funded Asthma Adviceline on 1800 44 54 64. Both services are free and allow users to communicate directly with an asthma nurse specialist.