

**Strategies for the management
of severe type 2 asthma:
Expert insight into optimizing care**



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Expert panel



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Agenda

Severe asthma: What are the daily challenges for patients and their families?

The role of biologics in severe type 2 asthma: How do patients benefit?

**Optimizing long-term management of patients with severe type 2 asthma:
Evidence and clinical practice guidelines**

Defining severe asthma

Difficult-to-treat asthma

- GINA¹ definition:

Asthma that is uncontrolled despite prescribing of medium- or high-dose ICS with a second controller or with maintenance OCS, or that requires high-dose treatment for good symptom control²

- Asthma is often difficult to treat due to modifiable factors¹
- Approximately 17% of patients with asthma have difficult-to-treat asthma¹

Severe asthma

- GINA¹ definition:

Asthma that is uncontrolled despite good adherence with optimized use of high-dose ICS-LABA and management of contributory factors; or asthma that worsens when high-dose treatment is tapered down²

- Approximately 4–10% of patients with asthma have severe asthma^{2,3}

GINA; Global Initiative for Asthma; ICS, inhaled corticosteroids; LABA, long-acting beta agonists; OCS, oral corticosteroids.

1. GINA. 2021. Available at: www.ginasthma.org/wp-content/uploads/2021/05/GINA-Main-Report-2021-V2-WMS.pdf (accessed 22 November 2021);

2. Chung KF, et al. *Eur Respir J*. 2014;43:343–73; 3. Hekking P-PW, et al. *J Allergy Clin Immunol*. 2015;135:896–902.

The clinical and socioeconomic burden of severe asthma



Symptoms and physical functioning

- 89% report daily wheeze, 56% cough and 39% shortness of breath¹
- Up to 94% report fatigue and poor sleep quality¹
- 69% report physical activity limitations¹
- Comorbidities more common in severe vs mild–moderate asthma²



Patient social and economic burden

- Lower employment rates with severe vs mild asthma²
- Frequent job changes²
- 73% report decreased productivity at work¹
- Significant social restrictions³



Treatment burden

- Can require self-management of a complex treatment regimen with multiple devices¹
- Initial improvements in QoL with long-term OCS can be diminished by side effects⁴

OCS, oral corticosteroids; QoL, quality of life.

1. McDonald VM, et al. *Med J Aust.* 2018;209(Suppl. 2):S28–33; 2. Chen S, et al. *Curr Med Res Opin.* 2018;34:2075–88; 3. Foster JM, et al. *Eur Respir J.* 2017;50:1700765;

4. Volmer T, et al. *Eur Respir J.* 2018;52:1800703.

Barriers and facilitators to managing severe asthma

Barriers^{1,2}

Healthcare system and clinicians	Patients
Unfamiliar/disagreement with recommendations	Low health literacy
Resistance to change	Insufficient understanding of asthma and its management
Lack of time and resources	Lack of agreement with recommendations
Delays in referrals and follow-up visits	Cultural and economic barriers
Lack of access to diagnostic testing	Attitudes, beliefs, preferences, fears and misconceptions

Facilitators

Clinical guidelines and recommendations

- GINA¹
- ERS/ATS³
- EAACI⁴
- NAEPP⁵
- Japanese Guidelines for Adult Asthma⁶

High-impact interventions¹

- Individualized asthma action plans for self-management education
- Early treatment with ICS
- Guided self-management
- Improved access to asthma education

ATS, American Thoracic Society; EAACI, European Academy of Allergy and Clinical Immunology; ERS, European Respiratory Society; GINA, Global Initiative for Asthma; ICS, inhaled corticosteroids; NAEPP, National Asthma Education Prevention Program.

1. GINA. 2021. Available at: www.ginasthma.org/wp-content/uploads/2021/05/GINA-Main-Report-2021-V2-WMS.pdf (accessed 26 November 2021);

2. Paggiaro P, et al. *J Allergy Asthma*. 2021;14:481–91; 3. Holguin F, et al. *Eur Respir J*. 2020;55:1900588; 4. Agache I, et al. *Allergy*. 2021;76:14–44; 5. NAEPP. 2020.

Available at: www.nhlbi.nih.gov/health-topics/all-publications-and-resources/2020-focused-updates-asthma-management-guidelines (accessed 07 December 2021);

6. Nakamura Y, et al. *Allergol Int*. 2020;69:519–48.

Approved add-on biologics for severe asthma

Biologic	Indications and administration ¹
Benralizumab (anti-IL-5R α)	<ul style="list-style-type: none"> Add-on, severe eosinophilic asthma, ≥ 12 years* Subcutaneous
Dupilumab (anti-IL-4R α)	<ul style="list-style-type: none"> Add-on, severe/OCS-dependent, eosinophilic/T2 asthma, ≥ 6 years^{2,3†} Add-on for patients with CRSwNP, ≥ 18 years^{2,3} Subcutaneous
Mepolizumab (anti-IL-5)	<ul style="list-style-type: none"> Add-on, severe eosinophilic asthma, ≥ 6 years Add-on for patients with EGPA, ≥ 18 years[‡] Subcutaneous
Omalizumab (anti-IgE)	<ul style="list-style-type: none"> Add on, severe[§] allergic asthma, ≥ 6 years Add-on for patients with CRSwNP, ≥ 18 years⁴ Subcutaneous
Reslizumab (anti-IL-5)	<ul style="list-style-type: none"> Add-on, severe eosinophilic asthma, ≥ 18 years Intravenous

*Benralizumab is not approved by the EMA for patients aged <18 years;⁵ †Dupilumab is not approved by the EMA for patients aged <12 years;² ‡Mepolizumab is not approved by the EMA for the treatment of EGPA;⁶ §Omalizumab is also approved by the FDA for the treatment of moderate allergic asthma for patients aged ≥ 6 years;⁷ ||Omalizumab is not approved by the FDA for the treatment of CRSwNP.⁷ CRSwNP, chronic rhinosinusitis with nasal polyps; EGPA, eosinophilic granulomatosis with polyangiitis; EMA, European Medicines Agency; FDA, US Food and Drug Administration; IgE, immunoglobulin E; IL, interleukin; OCS, oral corticosteroids; R α , receptor alpha subunit; T2, type 2.

1. GINA. 2021. Available at: www.ginasthma.org/wp-content/uploads/2021/05/GINA-Main-Report-2021-V2-WMS.pdf (accessed 26 November 2021); 2. EMA. Dupilumab summary of product characteristics. 2021. Available at: www.ema.europa.eu/en/documents/product-information/dupixent-epar-product-information_en.pdf (accessed 26 November 2021); 3. FDA. Dupilumab prescribing information. 2018. Available at: www.accessdata.fda.gov/drugsatfda_docs/label/2018/761055s007lbl.pdf (accessed 26 November 2021); 4. EMA. Omalizumab summary of product characteristics. 2021. Available at: www.ema.europa.eu/en/documents/product-information/xolair-epar-product-information_en.pdf (accessed 26 November 2021); 5. EMA. Benralizumab summary of product characteristics. 2021. Available at: www.ema.europa.eu/en/documents/product-information/fasenra-epar-product-information_en.pdf (accessed 26 November 2021); 6. EMA. Mepolizumab summary of product characteristics. 2021. Available at: www.ema.europa.eu/en/documents/product-information/nucala-epar-product-information_en-0.pdf (accessed 26 November 2021); 7. FDA. Omalizumab prescribing information. 2016. Available at: www.accessdata.fda.gov/drugsatfda_docs/label/2016/103976s225lbl.pdf (accessed 26 November 2021).

Asthma endotypes and phenotypes



Asthma is an **umbrella term** for a number of distinct diseases



Asthma endotypes describe distinct pathophysiological mechanisms underlying the clinical symptoms

- Classified as **T2-high** or **T2-low**



Asthma phenotypes describe the clinical presentation and observable characteristics

- **T2-high phenotypes:** early-onset allergic asthma, late-onset eosinophilic asthma, aspirin-exacerbated respiratory disease
- **T2-low phenotypes:** obesity associated, smoking associated, very late onset