



Xolair® (omalizumab)

When requesting Xolair® (omalizumab), the individual requiring treatment must be diagnosed with an FDA-approved indication and meet the specific coverage guidelines and applicable safety criteria for the covered indication.

FDA-approved Indications

Asthma

Xolair is indicated for patients 6 years of age and older with moderate to severe persistent asthma who have a positive skin test or *in vitro* reactivity to a perennial aeroallergen and whose symptoms are inadequately controlled with inhaled corticosteroids.

Chronic Idiopathic Urticaria

Xolair is indicated for the treatment of adults and adolescents 12 years of age and older with chronic idiopathic urticaria who remain symptomatic despite H1 antihistamine treatment.

Nasal Polyps

Xolair is indicated for the treatment of nasal polyps in adults 18 years of age and older with an inadequate response to nasal corticosteroids.

Coverage Guidelines

Asthma

Initial authorization:

The individual must meet **all** of the following criteria approval:

- Has a baseline immunoglobulin E (IgE) level greater than or equal to 30 IU/mL;
- Has a baseline positive skin test or *in vitro* test (i.e., a blood test) for allergen-specific IgE for one or more perennial aeroallergens and/or for one or more seasonal aeroallergens;
- Has received at least 3 consecutive months of the following combination therapy:
 - o An inhaled corticosteroid (ICS) [i.e., Flovent Diskus/HFA, Arnuity, Ellipta, Qvar/Qvar RediHaler]; AND an anti-interleukin-4/13 therapy (i.e., Dupixent)

OR

- o An inhaled corticosteroid (ICS) [i.e., Flovent Diskus/HFA, Arnuity, Ellipta, Qvar/Qvar RediHaler]; AND at least one additional asthma controller/maintenance medication (i.e., inhaled long-acting beta₂ agonist (LABA) [i.e., Serevent Diskus]; inhaled long-acting muscarinic antagonist (LAMA) [i.e., Spiriva]; leukotriene receptor antagonist (LTRA) [i.e., montelukast, zafirlukast]; theophylline)

OR

- o A combination inhaler containing both an inhaled corticosteroid and a long-acting beta₂ agonist (i.e., Symbicort, Advair, Dulera);
- Asthma is uncontrolled defined by ONE of the following:
 - o Has experienced two or more asthma exacerbations requiring treatment with systemic corticosteroids in the previous year; OR
 - o Has experienced one or more asthma exacerbations requiring hospitalization or an Emergency Department (ED) visit in the previous year; OR
 - o Has a forced expiratory volume in 1 second (FEV₁) less than 80% predicted; OR
 - o Has an FEV₁/forced vital capacity (FVC) less than 0.80; OR
 - o Asthma worsens upon tapering of oral corticosteroids therapy;
- Is 6 years of age or older; AND
- Xolair is prescribed by or in consultation with an allergist, immunologist, or pulmonologist.

Reauthorization:

The individual must meet **all** of the following criteria for approval:

- Has already received at least 4 months of Xolair therapy (*NOTE: Patients who have received less than 4 months of therapy or those who are restarting therapy with Xolair should be considered under initial criteria*);
- Continues to receive therapy with one inhaled corticosteroid (ICS) or one ICS-containing combination inhaler (i.e., Flovent Diskus/HFA, ArmonAir RespiClick, Arnuity); AND
- Has responded to Xolair therapy (i.e., decreased asthma symptoms or exacerbations; decreased hospitalizations, emergency room visits, or physician visits due to asthma; decreased reliever/rescue medication use; increased lung function parameters).

Chronic Idiopathic Urticaria (Chronic Spontaneous Urticaria)

Initial authorization:

The individual must meet **all** of the following criteria for approval:

- Has/had urticaria for greater than 6 weeks, with symptoms present for more than 3 days per week despite daily non-sedating H₁ antihistamine therapy (i.e., cetirizine, desloratadine, fexofenadine, levocetirizine, loratadine) with doses that have been titrated up to a maximum of four times the standard FDA-approved dose;
- Is 12 years of age or older; AND
- Xolair is prescribed by or in consultation with an allergist, immunologist, or dermatologist.

Reauthorization:

The patient must meet **all** of the following criteria for approval:

- Has already received at least 4 months of Xolair therapy (*NOTE: Patients who have received less than 4 months of therapy or those who are restarting therapy with Xolair should be considered under initial criteria*); AND
- Has responded to Xolair therapy (i.e., decreased severity of itching, decreased number and/or size of hives).

Nasal Polyps

Initial authorization:

The individual must meet **all** of the following criteria for approval:

- Has a baseline IgE level greater than or equal to 30 IU/mL;
- Has chronic rhinosinusitis with nasal polyposis as evidenced by direct examination, endoscopy, or sinus computed tomography (CT) scan; AND
- Has experienced two or more of the following symptoms for at least 6 months: nasal congestion, nasal obstruction, nasal discharge, and/or reduction/loss of smell; AND
- Has received at least 3 months of therapy with an intranasal corticosteroid and will continue to receive therapy with an intranasal corticosteroid concomitantly with Xolair; AND
- Meets one of the following:
 - o Has received treatment with a systemic corticosteroid for chronic rhinosinusitis with nasal polyps for 5 days for more within the previous 2 years; OR
 - o Has a contraindication to systemic corticosteroid therapy; OR
 - o Has had prior surgery for nasal polyps;
- Is 18 years of age or older; AND
- Xolair is prescribed by or in consultation with an allergist, immunologist, or otolaryngologist (i.e., ear, nose, and throat [ENT] physician specialist).

Reauthorization:

The individual must meet **all** of the following criteria for approval:

- Has already received at least 6 months of Xolair therapy (*NOTE: Patients who have received less than 6 months of therapy or those who are restarting therapy with Xolair should be considered under initial criteria*)
- Continues to receive therapy with an intranasal corticosteroid; AND
- Has responded to Xolair therapy (i.e., reduced nasal polyp size, improved nasal congestion, reduced sinus opacification, decreased sino-nasal symptoms, and/or improved sense of smell).

Approval duration (initial): Nasal polyps 6 months, other indications 4 months

Approval duration (renewal): 12 months

Dosing Guidelines

Asthma

Approve up to a maximum dose of 375 mg administered subcutaneously no more frequently than once every 2 weeks.

Urticaria

The recommended dose of Xolair is 150 mg or 300 mg administered subcutaneously once every 4 weeks.

Nasal Polyps

Approve up to a maximum dose of 600 mg administered subcutaneously no more frequently than once every 2 weeks.

References

1. Xolair® subcutaneous injection [prescribing information]. South San Francisco, CA and East Hanover, NJ: Genentech and Novartis; November 2020.
2. Busse W, Corren J, Lanier BQ, et al. Omalizumab, anti-IgE recombinant humanized monoclonal antibody, for the treatment of severe allergic asthma. *J Allergy Clin Immunol.* 2001;108(2):184-190.
3. Finn A, Gross G, van Bavel J, et al. Omalizumab improves asthma-related quality of life in patients with severe allergic asthma. *J Allergy Clin Immunol.* 2003;111(2):278-284.
4. Lanier BQ, Corren J, Lumry W, et al. Omalizumab is effective in the long-term control of severe allergic asthma. *Ann Allergy Asthma Immunol.* 2003;91:154-159.
5. Bousquet J, Wenzel S, Holgate S, et al. Predicting response to omalizumab, an anti-IgE antibody, in patients with allergic asthma. *Chest.* 2004;125(4):1378-1386.
6. Solèr M, Matz J, Townley R, et al. The anti-IgE antibody omalizumab reduces exacerbations and steroid requirement in allergic asthmatics. *Eur Respir J.* 2001;18:254-261.
7. Buhl R, Solèr M, Matz J, et al. Omalizumab provides long-term control in patients with moderate-to-severe allergic asthma. *Eur Respir J.* 2002;20:73-78.
8. Buhl R, Hanf G, Solèr M, et al. The anti-IgE antibody omalizumab improves asthma-related quality of life in patients with allergic asthma. *Eur Respir J.* 2002;20:1088-1094.
9. Holgate S, Chuchalin A, Herbert J, et al. Efficacy and safety of a recombinant anti-immunoglobulin E antibody (omalizumab) in severe allergic asthma. *Clin Exp Allergy.* 2004;34:632-638.
10. Kulus M, Hebert J, Garcia E, et al. Omalizumab in children with inadequately controlled severe allergic (IgE-mediated) asthma. *Curr Med Res Opin.* 2010;26:1285-1293.
11. Milgrom H, Berger W, Nayak A, et al. Treatment of childhood asthma with anti-immunoglobulin E antibody (omalizumab). *Pediatrics.* 2001;108(2).
12. Saini SS, Bindslev-Jensen C, Maurer M, et al. Efficacy and safety of omalizumab in patients with chronic idiopathic/spontaneous urticaria who remain symptomatic on H1 antihistamines: a randomized, placebo-controlled study. *J Invest Dermatol.* 2015;135:67-75.
13. Maurer M, Rosen K, Hsieh HJ, et al. Omalizumab for the treatment of chronic idiopathic or spontaneous urticaria. *N Engl J Med.* 2013;368:924-935.
14. Gevaert P, Omachi TA, Corren J, et al. Efficacy and safety of omalizumab in nasal polyposis; 2 randomized phase 3 trials. *J Allergy Clin Immunol.* 2020;146(3):595-605.
15. Global Initiative for Asthma. Global strategy for asthma management and prevention. Updated 2020. Available at: <http://www.ginasthma.org>. Accessed on: February 3, 2021.
16. Chung KF, Wenzel SE, Brozek JL, et al. International ERS/ATS guidelines on definition, evaluation and treatment of severe asthma. *Eur Respir J.* 2014;43:343-373.
17. Holguin F, Cardet JC, Chung KF, et al. Management of severe asthma: a European Respiratory Society/American Thoracic Society Guideline. *Eur Respir J.* 2020;55:1900588.
18. Zuberbier T, Aberer W, Asero R, et al. EAACI/GA²LEN/EDF/WAO guideline for the definition, classification, diagnosis, and management of urticaria. *Allergy.* 2018;73:1393-1414.
19. Joint Task Force on Practice Parameters: American Academy of Allergy, Asthma and Immunology; the American College of Allergy, Asthma and Immunology; and the Joint Council of Allergy, Asthma and Immunology. The diagnosis and management of acute and chronic urticaria: 2014 update. *J Allergy Clin Immunol.* 2014;133(5):1270-1277.e66.
20. Peters AT, Spector S, Hsu J, et al. Diagnosis and management of rhinosinusitis: a practice parameter update. *Ann Allergy Asthma Immunol.* 2014;347-385.
21. Joint Task Force on Practice Parameters: American Academy of Allergy, Asthma and Immunology; the American College of Allergy, Asthma and Immunology; and the Joint Council of Allergy, Asthma and Immunology. The diagnosis and management of rhinitis: An updated practice parameter. *J Allergy Clin Immunol.* 2008;122(2):S1-S84.
22. Dykewicz MS, Wallace DV, Baroody F, et al. Treatment of seasonal allergic rhinitis: an evidenced-based focused 2017 guideline update. *Ann Allergy Asthma Immunol.* 2017;119(6):489-511.
23. Joint Task Force on Practice Parameters: American Academy of Allergy, Asthma and Immunology and the American College of Allergy, Asthma and Immunology. Rhinitis 2020: a practice parameter update. *J Allergy Clin Immunol.* 2020;146:721-767.
24. Rosenfeld RM, Piccirillo JF, Chandrasekhar SS, et al. Clinical practice guideline (update): adult sinusitis. *Otolaryngol Head Neck Surg.* 2015;152(2S):S1-S39.
25. Chan S, Cornelius V, Cro S, et al. Treatment effect of omalizumab on severe pediatric atopic dermatitis: the ADAPT randomized clinical trial. *AMA Pediatr.* 2019;174(1):29-37.
26. Holm JG, Agner T, Sand C, et al. Omalizumab for atopic dermatitis: case series and a systematic review of the literature. *Int J Dermatol.* 2017;56(1):18-26.
27. Wang HH, Li YC, Huang YC, et al. Efficacy of omalizumab in patients with atopic dermatitis: a systematic review and meta-analysis. *J Allergy Clin Immunol.* 2016;138(6):1719-1722.

28. Sidbury R, et al. Guidelines of care for the management of atopic dermatitis Section 3. Management and treatment with phototherapy and systemic agents. *J Am Acad Dermatol*. 2014;71(2): 327-349.
29. Wollenberg A, Barbarot S, Bieber T, et al. Consensus-based European guidelines for the treatment of atopic eczema (atopic dermatitis) in adults and children: part II. *J Eur Acad Dermatol Venereol*. 2018;32(6):850-878.
30. Altman MC, Lenington J, Bronson S, et al. Combination omalizumab and mepolizumab therapy for refractory allergic bronchopulmonary aspergillosis. *J Allergy Clin Immunol Pract*. 2017;5(4):1137-1139.
31. Han D, Lee JK. Severe asthma with eosinophilic gastroenteritis effectively managed by mepolizumab and omalizumab. *Ann Allergy Asthma Immunol*. 2018;121(6):742-743.
32. Dedaj R, Unsel L. Case study: a combination of mepolizumab and omalizumab injections for severe asthma. *J Asthma*. 2019;56(5):473-474.
33. Foroughi S, Foster B, Young Kim N, et al. Anti-IgE treatment of eosinophil-associated gastrointestinal disorders. *J Allergy Clin Immunol*. 2007;120(3):594-601.
34. Clayton F, Fang JC, Gleich GJ, et al. Eosinophilic esophagitis in adults is associated with IgG4 and not mediated by IgE. *Gastroenterology*. 2014;147:602-609.
35. Fang JC, Hilden K, Gleich GJ, et al. A pilot study of the treatment of eosinophilic esophagitis with omalizumab. *Gastroenterology*. 2011;140(5):S-235.
36. Dellon ES, Gonsalves N, Hirano I, et al. ACG clinical guideline: evidenced based approach to the diagnosis and management of esophageal eosinophilia and eosinophilic esophagitis. *Am J Gastroenterol*. 2013;108(5):679-692.
37. Hirano I, Chan ES, Rank MA, et al. AGA Institute and Joint Task Force on Allergy-Immunology Practice Parameters Clinical Guidelines for the Management of Eosinophilic Esophagitis. *Gastroenterology*. 2020;158(6):1776-1786.
38. Leynadier F, Doudou O, Gaouar H, et al. Effect of omalizumab in health care workers with occupational latex allergy [letter]. *J Allergy Clin Immunol*. 2004;113(2):360-361.
39. Sampson HA, Leung DYM, Burks AW, et al. A phase II, randomized, double-blind, parallel-group, placebo-controlled oral food challenge trial of Xolair (omalizumab) in peanut allergy. *J Allergy Clin Immunol*. 2011;127:1309-1310.e1.
40. Schneider LC, Rachid R, LeBovidge J, et al. A pilot study of omalizumab to facilitate rapid oral desensitization in high-risk peanut-allergic patients. *J Allergy Clin Immunol*. 2013;132(6):1368-1374.
41. Nadeau KC, Schneider LC, Hoyte L, et al. Rapid oral desensitization in combination with omalizumab therapy in patients with cow's milk allergy. *J Allergy Clin Immunol*. 2011;127(6):1622-1624.
42. Nilsson C, Nordvall L, Johansson SGO, et al. Successful management of severe cow's milk allergy with omalizumab treatment and CD-sens monitoring. *Asia Pac Allergy*. 2014;4:257-260.
43. Takahashi M, Taniuchi S, Soejima K, et al. Successful desensitization in a boy with severe cow's milk allergy by a combination therapy using omalizumab and rush oral immunotherapy. *Allergy Asthma Clin Immunol*. 2015;11(1):18.
44. Wood RA, Kim JS, Lindblad R, et al. A randomized, double-blind, placebo-controlled study of omalizumab combined with oral immunotherapy for the treatment of cow's milk allergy. *J Allergy Clin Immunol*. 2016;137(4):1103-1110.
45. Begin P, Domingues T, Wilson SP, et al. Phase 1 results of safety and tolerability in a rush oral immunotherapy protocol to multiple foods using omalizumab. *Allergy Asthma Clin Immunol*. 2014;10(1):7.
46. Andorf S, Purington N, Kumar D, et al. A phase 2 randomized controlled multisite study using omalizumab-facilitated rapid desensitization to test continued vs discontinued dosing in multifood allergic individuals. *EClinicalMedicine*. 2019;7:27-38.
47. Boyce JA, Assa'ad A, Burks AW, et al. Guidelines for the diagnosis and management of food allergy in the United States: summary of the NIAID-sponsored expert panel report. *J Allergy Clin Immunol*. 2010;126:1105-1118.
48. Joint Task Force on Practice Parameters: American Academy of Allergy, Asthma and Immunology; the American College of Allergy, Asthma and Immunology; and the Joint Council of Allergy, Asthma and Immunology. Food allergy: a practice parameter update – 2014. *J Allergy Clin Immunol*. 2014.
49. Bachert C, Han JK, Wagenmann, et al. EUFOREA expert board meeting on uncontrolled severe chronic rhinosinusitis with nasal polyps (CRSwNP) and biologics: definitions and management. *J Allergy Clin Immunol*. 2021;147(1):29-36.