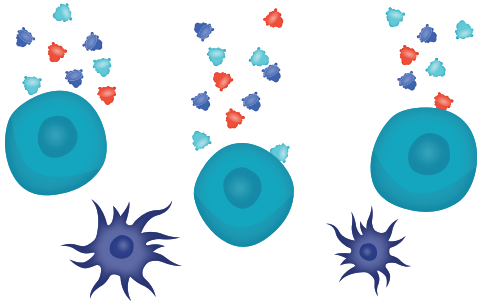


UNDERSTANDING ATOPIC DERMATITIS IN ADOLESCENTS

Atopic dermatitis (AD), a form of eczema, is a **chronic inflammatory disease** with symptoms often appearing as a rash on the skin¹⁻⁴



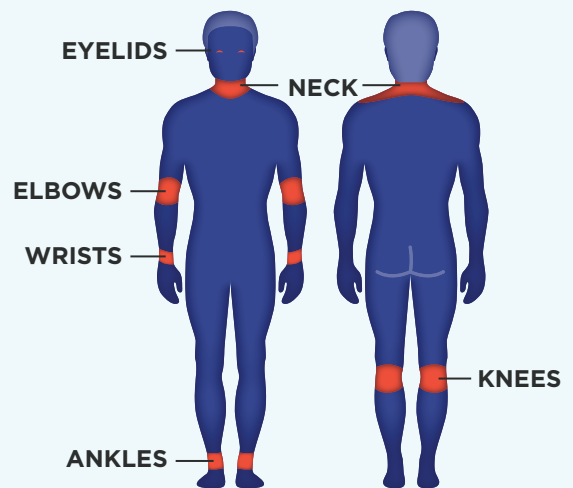
Despite common misconceptions that AD is “just” a skin condition, it is a **systemic inflammatory disease** that can significantly impact people with the condition^{5,6}

People with AD have a specific type of systemic inflammation called **Type 2 inflammation**, which is driven by an overactivity of the immune system and contributes to the inflammatory response in different ways⁷

People with inadequately controlled moderate-to-severe AD experience debilitating symptoms

The rashes that characterize moderate-to-severe AD often cover much of the body, and can include **intense, persistent itching** and **skin dryness, cracking, redness, crusting, and oozing**⁸

In adolescents, AD often manifests on the:⁹

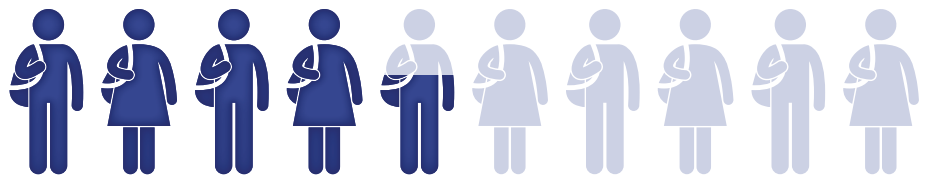


Moderate-to-severe AD can place a particularly significant burden on the daily lives of adolescents

AD flares have been shown to impact school life in

46%

of **14-17 year olds** with the disease¹⁰



During each flare, **teens 14-17 years** of age missed an average of

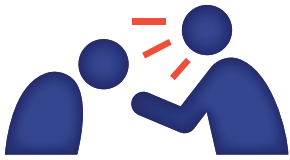


Per year, teens with AD aged **14-17 years** miss an average of



AD is significantly associated with self-reported mental distress for patients aged 13-19 years¹¹⁻¹⁵

IN ADOLESCENTS (AGED 14-17 YEARS) WITH AD,



39%

of adolescents (aged 14-17 years) reported being **bullied or teased** about their AD at some time in their life¹⁰

DURING AN AD FLARE,



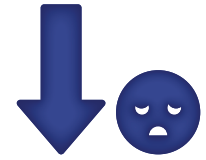
52%

of adolescents (aged 14-17 years) were **depressed**¹⁰



50%

of adolescents (aged 14-17 years) were concerned about being **seen in public**¹⁰



36%

of adolescents (aged 14-17 years) reported **decreased self confidence**¹⁰

AD also places substantial burden on caregivers of children and adolescents (aged 5-16 years) with this disease



36%

of caregivers to children and adolescents (aged 5-16 years) with AD report having **depression and/or anxiety**¹⁶

Sanofi and Regeneron are committed to supporting the unmet needs of all patients with moderate-to-severe AD

¹ Schneider et al, AAAI 2013, Practice Parameter Update, page 296. ² Eichenfield et al, AAD 2014, Guidelines of Care for Atopic Dermatitis, page 118. ³ European Dermatology Forum. Guidelines to treatment. <http://www.euroderm.org/edf/index.php/edf-guidelines/category/5-guidelines-miscellaneous?download=36:guideline-treatment-of-atopic-eczema-atopic-dermatitis>. Accessed December 23, 2016. ⁴ Gelmetti and Wollberg, BJD 2014, Atopic dermatitis- all you can do from the outside. Page 19. ⁵ Leung DYM, Boguniewicz M, Howell MD, Nomura I, Hamid QA. New insights into atopic dermatitis. J Clin Invest. 2004; 113:651-657. ⁶ DaVeiga SP. Epidemiology of atopic dermatitis: a review. Allergy Asthma Proc. 2012; 33:227-34. ⁷ Gandhi NA, BL Bennett, NM Graham, et al. Targeting key proximal drivers of type 2 inflammation in disease. Nat Rev Drug Discov 2016;15(1):35-50. ⁸ NIH "Handout on Health: Atopic Dermatitis (A type of eczema) 2013." [Online]. Available: http://www.niams.nih.gov/Health_Info/Atopic_Dermatitis/default.asp. [Accessed July 2017]. ⁹ Weidinger S, Novak N. Lancet. 2016;387:1109-1122. ¹⁰ Zuberbier T, Orlow SJ, Paller AS, et al. Patient perspectives on the management of atopic dermatitis. J Allergy Clin Immunol. 2006;118(1):226-232. ¹¹ Halvorsen JA, Lien L, Dalgard F, Bjertness E, Stern RS. Suicidal ideation, mental health problems, and social function in adolescents with eczema: a population-based study. J Invest Dermatol. 2014;134(7):1847-1854. ¹² Saunes M, Smidesang I, Holmen TL, Johnsen R. AD in adolescent boys is associated with greater psychological morbidity compared with girls of the same age: the Young-HUNT study. Br J Dermatol. 2007;156(2):283-288. ¹³ Yaghmaie P, Koudelka CW, Simpson EL. Mental health comorbidity in patients with AD. J Allergy Clin Immunol. 2013;131(2):428-433. ¹⁴ Hammer-Helmich L, Linneberg A, Obel C, Thomsen SF, Tang Møllehave L, Glumer C. Mental health associations with eczema, asthma and hay fever in children: a cross-sectional survey. BMJ Open. 2016;6(10):e012637. ¹⁵ Strom MA, Fishbein AB, Paller AS, Silverberg JI. Association between AD and attention deficit hyperactivity disorder in U.S. children and adults. Br J Dermatol. 2016;175(5):920-929. ¹⁶ Manzoni AP, Weber MB, Nagatomi AR, Pereira RL, Townsend RZ, Cestari TF. Assessing depression and anxiety in the caregivers of pediatric patients with chronic skin disorders. An Bras Dermatol. 2013;88(6):894-899.