

# Psoriasis

## What is Psoriasis?

Psoriasis is a widely prevalent, chronic, systemic immune-mediated disease. Up to 90% of patients with psoriasis have psoriasis vulgaris or plaque psoriasis, which is characterized by distinct, round or oval plaques typically covered by silvery white scales.<sup>1-8</sup> Both psoriasis and plaque psoriasis substantially impair patients' physical health, quality of life and work productivity.<sup>1</sup>



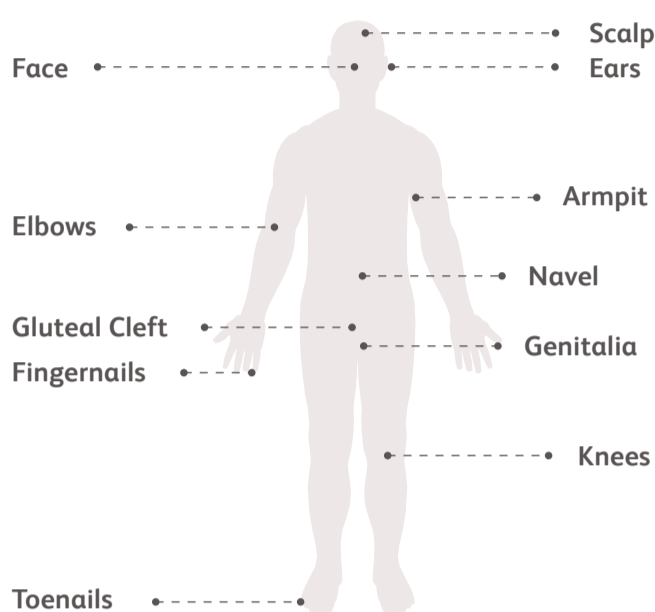
## Symptoms

Psoriasis can include a number of different symptoms including:<sup>9</sup>

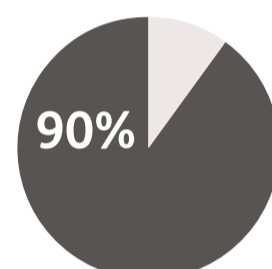
- Itching, pain, stinging, burning or skin tightness
- Skin dryness, cracking, scaling, shedding or flaking, redness, lesions or bleeding

Psoriasis is associated with multiple comorbidities that may impact patients' well-being, including psoriatic arthritis, cardiovascular disease, metabolic syndrome, obesity, diabetes, inflammatory bowel disease and others.<sup>1,9,10</sup>

Common Locations of Psoriasis



Psoriasis has been reported to impact emotional well-being in almost 90% of patients, straining both personal and professional relationships, causing a reduced quality of life and work productivity.<sup>1</sup>



## Prevalence

Psoriasis is a serious global problem, with at least **100 MILLION** people worldwide impacted by some form of the disease.<sup>1</sup>

Psoriasis affects **both sexes equally** and can initially present at **any age**.<sup>1,2,11</sup>

## Treatment

Psoriasis treatments can reduce signs and symptoms of the disease, but cannot eradicate the disease altogether. In psoriasis, treatment decisions are personalized and based on disease severity, lesion location, disease presentation and individual patient needs.<sup>12-15</sup>



Current available treatments for moderate to severe psoriasis include:<sup>1</sup>

- Topical Therapy
- Conventional Systemics
- Phototherapy
- Biologics

Despite an increasing number of treatment options, psoriasis often remains undertreated or untreated due to low adoption of treat-to-target practices and a reluctance to initiate newer systemic therapies.<sup>16-18</sup>



There is a significant need for new therapeutic options as many patients with moderate to severe psoriasis are dissatisfied with current treatments and cycle through alternative therapies, eventually exhausting available options.<sup>19,20</sup>

Bristol Myers Squibb is committed to identifying and pursuing new treatment options to help deliver life-changing medicines for patients with psoriasis and other immune-mediated diseases.

1. Michalek, I. M., Loring, B., & John, S. M. Global report on psoriasis. (2016). Geneva, Switzerland: World Health Organization.  
 2. Langley, R. et al. Psoriasis: epidemiology, clinical features, and quality of life. *Ann Rheum Dis.* 2005;64(Suppl II):ii18-ii23. doi: 10.1136/ard.2004.033217.  
 3. Pariser, D. et al. A multicenter, non-interventional study to evaluate patient-reported experiences of living with psoriasis. *J Dermatolog Treat.* 2015;27(1):19-26. doi: 10.3109/09546634.2015.1044492.  
 4. Kimball, A.B. et al. Psoriasis: is the impairment to a patient's life cumulative? *J Eur Acad Dermatol Venereol.* 2010 Sep;24(9):989-1004. doi:10.1111/j.1468-3083.2010.03705.x  
 5. Griffiths, C., & Barker, J. Pathogenesis and clinical features of psoriasis. *Lancet.* 2007 Jul 21;370(9583):263-271. doi: 10.1016/S0140-6736(07)61128-3.  
 6. Alwan, W. et al. Pathogenesis and treatment of psoriasis: exploiting pathophysiological pathways for precision medicine. *Clin Exp Rheumatol.* Sep-Oct 2015;33(5 Suppl 93):S2-6.  
 7. Mahil, S., Capon, F., & Barker, J. Update on psoriasis immunopathogenesis and targeted immunotherapy. *Semin Immunopathol.* 2016 Jan;38(1):11-27. doi: 10.1007/s00281-015-0539-8.  
 8. Menter, A. et al. Guidelines of care for the management of psoriasis and psoriatic arthritis: Section 1. Overview of psoriasis and guidelines of care for the treatment of psoriasis with biologics. *J Am Acad Dermatol.* 2008 May;58(5):826-50. doi: 10.1016/j.jaad.2008.02.039.  
 9. Oliveira, M., Rocha, B., & Duarte, G. V. Psoriasis: classical and emerging comorbidities. *Anais brasileiros de dermatologia.* Jan-Feb 2015; 90(1), 9-20. https://doi.org/10.1590/abd1806-4841.20153038.  
 10. Neimann, A. et al. Prevalence of cardiovascular risk factors in patients with psoriasis. *J Am Acad Dermatol.* 2006;55(5), 829-835. https://doi.org/10.1016/j.jaad.2006.08.040.  
 11. Queiro, R. et al. *Rheumatology.* 2014;53:1178-1185. 5. Helmick CG et al. *Am J Prev Med.* 2014;47:37-45.  
 12. Feldman, S. et al. The Challenge of Managing Psoriasis: Unmet Medical Needs and Stakeholder Perspectives. *Am Health Drug Benefits.* 2016 Dec;9(9):504-513.  
 13. Menter, A. et al. Guidelines of care for the management of psoriasis and psoriatic arthritis: section 6. Guidelines of care for the treatment of psoriasis and psoriatic arthritis: case-based presentations and evidence-based conclusions. *J Am Acad Dermatol.* 2011 Jul;65(1):137-74. doi: 10.1016/j.jaad.2010.11.055.  
 14. Vaidya, T. et al. Patient-Centered Approach to Biologics in the Treatment of Psoriasis. *Dermatol Online J.* 2015 Sep 17;21(9):13030/qt1dc037qk.  
 15. Tan, E. et al. Nail psoriasis: a review. *Am J Clin Dermatol.* 2012 Dec;13(6):375-88.  
 16. Armstrong, A. et al. Under-Treatment of Patients with Moderate to Severe Psoriasis in the United States: Analysis of Medication Usage with Health Plan Data. *Dermatol Ther (Heidelb).* 2017 Mar; 7(1): 97-109. Published online 2016 Nov 30. doi: 10.1007/s13555-016-0153-2  
 17. Armstrong, A. et al. Undertreatment, Treatment Trends, and Treatment Dissatisfaction Among Patients With Psoriasis and Psoriatic Arthritis in the United States. *JAMA Dermatol.* 2013 Jan;149(1):84-91. doi: 10.1001/2013.jamadermatol.406.  
 18. Horn, E. et al. Association of patient-reported psoriasis severity with income and employment. *J Am Acad Dermatol.* 2007 Dec;57(6):963-71. doi: 10.1016/j.jaad.2007.07.023.  
 19. Doshi, J.A. et al. *J Am Acad Dermatol.* 2016;74:1057-1065.  
 20. Kerdel, F. et al. *Dermatol Ther.* 2015;28:390-403.