

# PLAQUE PSORIASIS

## Group 3

Sabrina Fisico  
Ayesha Javed  
Yumna Makda  
Kritika Seth  
Reda Siddiqui

*Canadian  
Psoriasis  
Network*



*Réseau  
canadien  
du psoriasis*

# OVERVIEW

2

- » 1. Case Study
- » 2. Introduction
- » 3. Epidemiology
- » 4. Signs & Symptoms
- » 5. Diagnosis
- » 6. Etiology
- » 7. Pathophysiology
- » 8. Treatment & Management
- » 9. Prognosis
- » 10. Case Study Reveal
- » 11. Conclusion

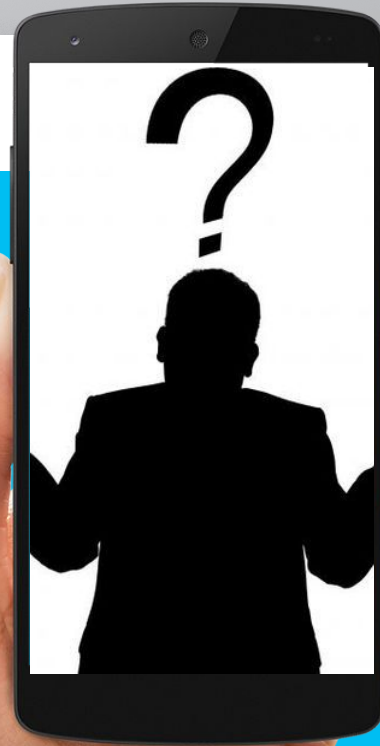
# 1.

## **CASE STUDY**

# CASE STUDY

4

*“People don't understand the pressure on me to look perfect... When I gain a pound, it's in the headlines. Imagine what the tabloids would do to me if they saw all these spots?”*



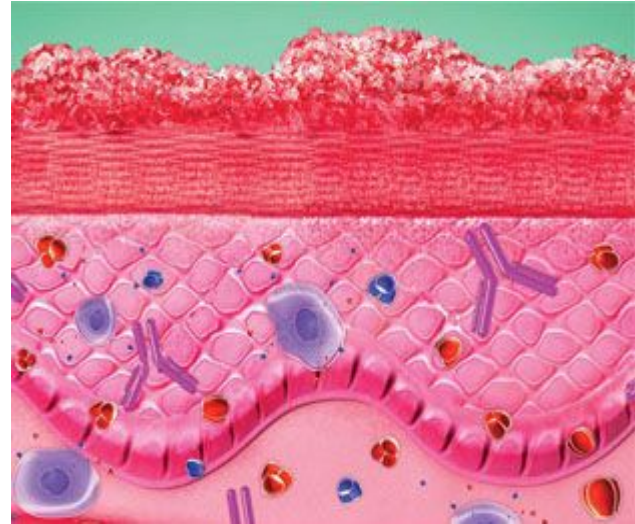
# 2.

## **INTRODUCTION**

# PSORIASIS [*suh-rah-yuh-sis*]

6

- » Chronic inflammatory autoimmune skin disorder
- » First described by Robert Willan
- » Physical, emotional, and psychosocial effects





# 3.

## **EPIDEMIOLOGY**

# 125,000,000

Individuals are affected worldwide



# FUN FACTS

9

- » **Worldwide prevalence** of psoriasis is estimated to be approximately **2–3%**.
- » Higher prevalence in the **polar regions** of the world
- » Similar frequency in males vs. females
- » More common in **adults** than children



# 4.

## **SIGNS & SYMPTOMS**

# COMMON SYMPTOMS

11

**1. Red or silver scaly lesions on the body**



**2. Scalp patches**



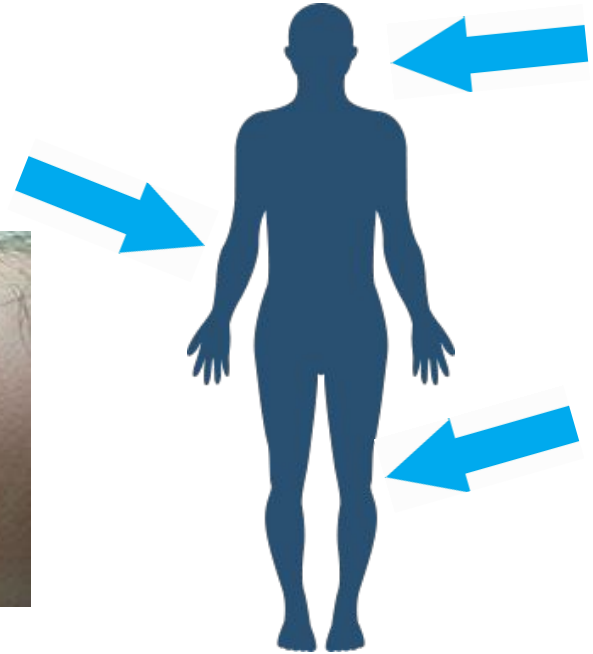
**3. Itching, burning, or soreness of skin**



# THE 'PLAQUE' IN PLAQUE PSORIASIS<sup>12</sup>

- » Hyperproliferation of the epidermal layer
- » Raised lesions
- » Commonly on scalp, back, and extensor surfaces

**Silvery plaque  
inflamed with a red  
border**



# 5.

## **DIAGNOSIS**



# DIAGNOSING PSORIASIS

14

» **Dermatologist  
appointment**



**Psoriasis  
or  
Eczema?**

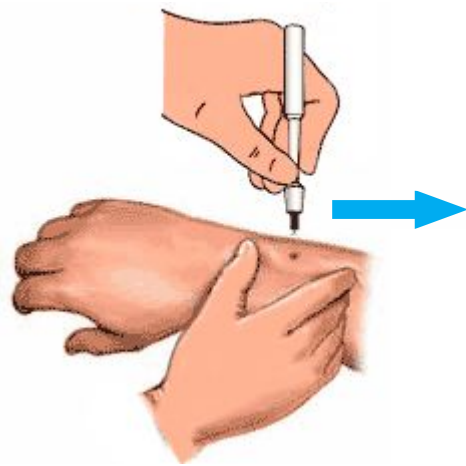




# DIAGNOSING PSORIASIS

15

## » Skin biopsy



# PSORIASIS AREA AND SEVERITY INDEX (PASI)

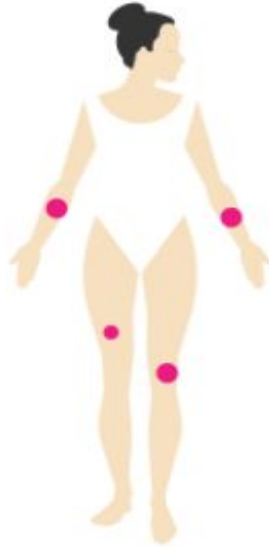
16



**Mild**

$<3$

percent of  
the body



**Moderate**

3–10

percent of  
the body



**Severe**

$>10$

percent of  
the body

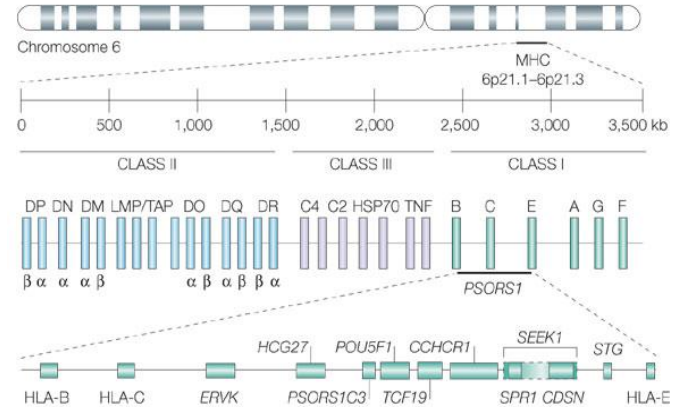
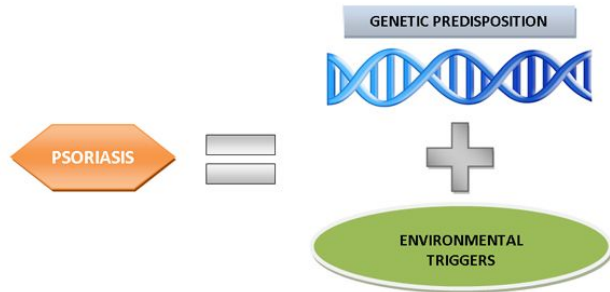
# 6.

## **ETIOLOGY**

# ETIOLOGY OF PSORIASIS

18

Psoriasis: A **multifactorial** disease



Copyright © 2005 Nature Publishing Group  
Nature Reviews | Immunology

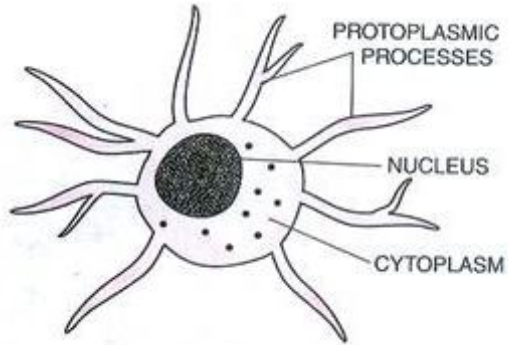
# 7.

## **PATHOPHYSIOLOGY**

# INTRODUCTION TO IMMUNE CELLS

20

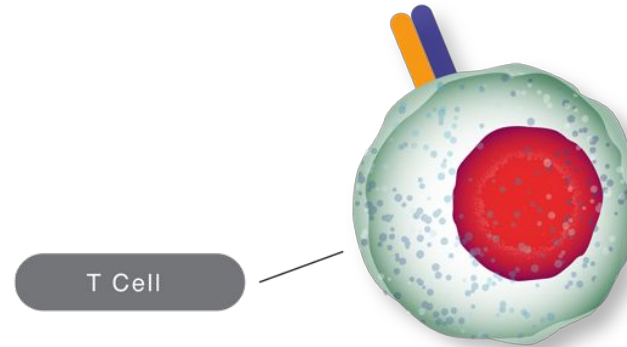
## Dendritic Cell



Dendritic Cell.

Antigen Presenting Cell

## T-Cell

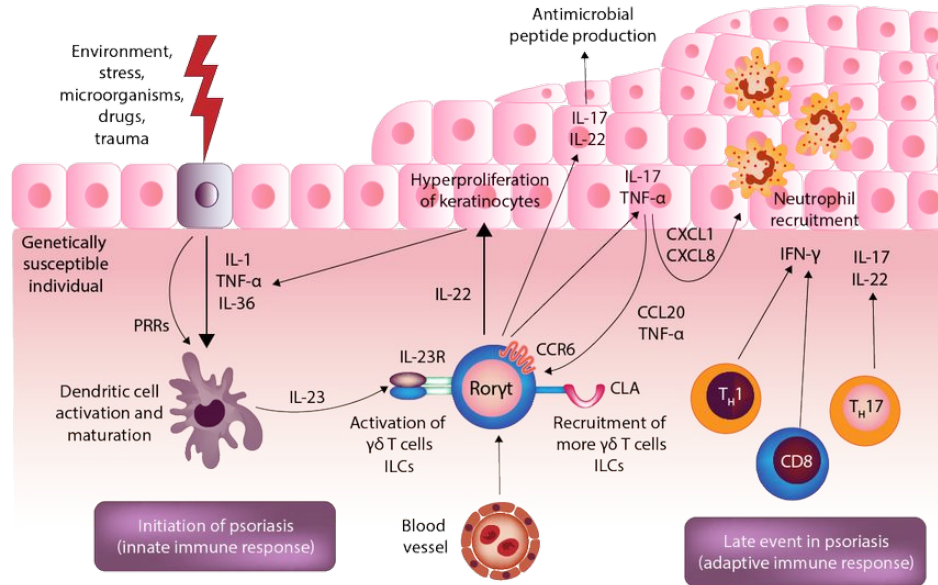


Important in cell-mediated immunity.



# PATHOPHYSIOLOGY EXPLAINED

21



# 8.

## **TREATMENT & MANAGEMENT**

# Treatment: Topical Agents

23

- » **Corticosteroids**
- » **Dithranol**
- » Coal tars
- » Vitamin D analogs
- » Topical retinoids
- » Salicylic acid



From: <http://www.drugsdepot.com/catalog.php/drugsdepot/>

# Corticosteroids vs. Dithranol (Lowe et al.)

24

- » Compared diflurasone diacetate and anthralin
- » Found both to be equally effective in reducing plaques
- » **Anthralin** - better for *long-term*
- » **Diflurasone diacetate** - better for *short-term*

# Treatment: Systemic Agents

25

» Methotrexate



From: <https://edc2.healthtap.com>

» Retinoids



From: <http://drugline.org>

» Cyclosporine



From: <https://edc2.healthtap.com>



# Phototherapy

26

- » Ancient Egyptian practice
- » Photochemotherapy - PUVA
- » Ultraviolet B (UVB)

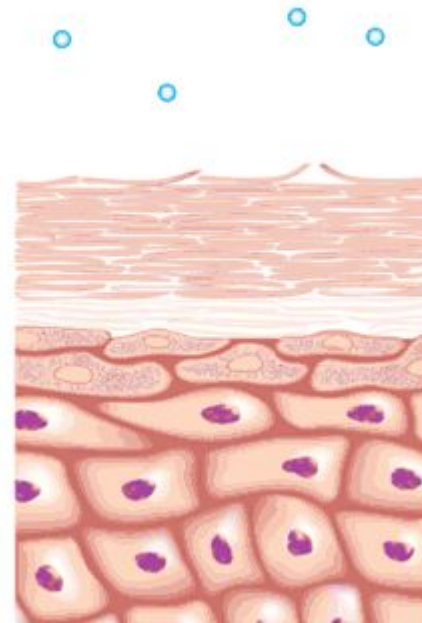




# Moisturizers/Emollients

27

- Hydration of dry skin
- Barrier repair
- Anti-inflammatory effect
- Increased water-binding ability of skin layer



# Balneotherapy

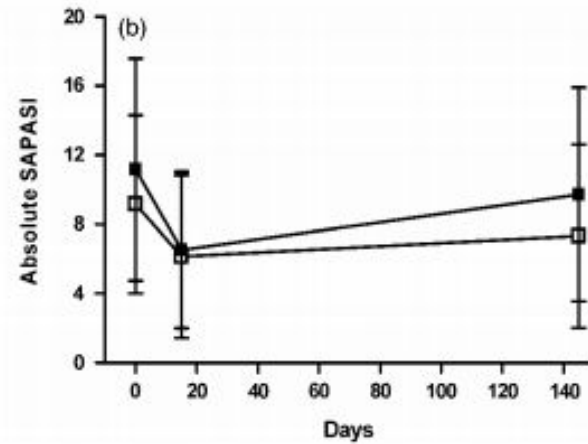
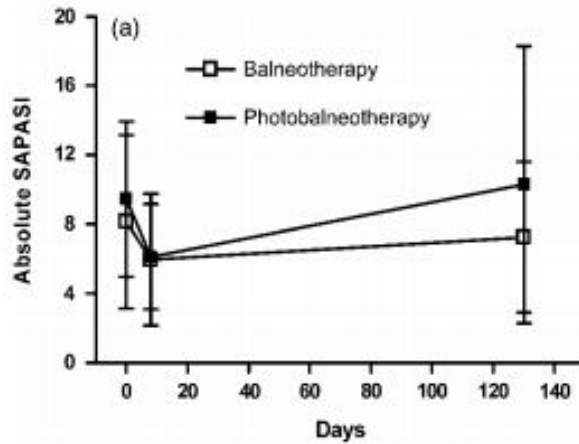
28



From: <http://www.jpbsonline.org/article.asp?issn=0975-7406;year=2013;volume=5;issue=1;spage=30;epage=38;auiast=Bhatia>

# Balneotherapy (Peroni et al., 2008)

29



# Diet

30

- » Omega-3 Fatty Acids
- » Activated Vitamin D3



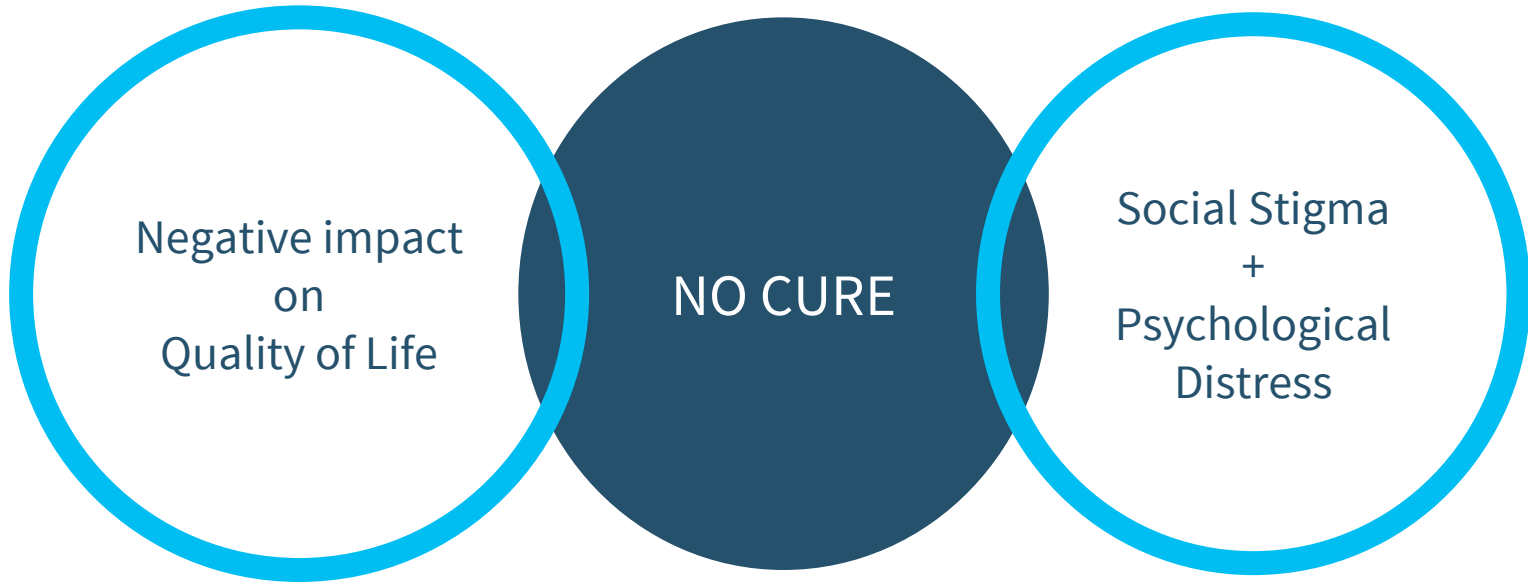
# 9.

## **PROGNOSIS**



# Prognosis

32





# 10.

## **CASE STUDY REVEAL**

# CASE STUDY REVEAL

34

## KIM KARDASHIAN

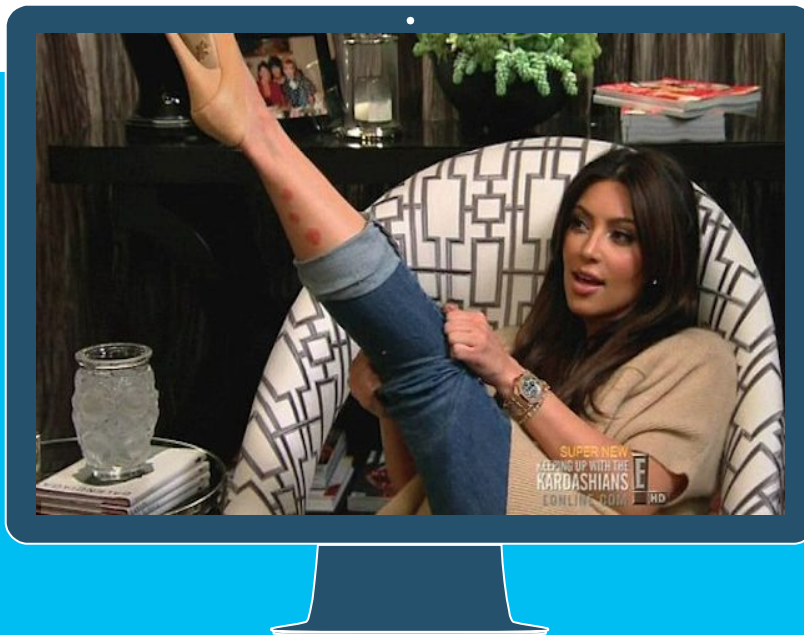
“I'd heard of psoriasis before because my mom has always had it, but she didn't have red flaky dots all over her.

People don't understand the pressure on me to look perfect... When I gain a pound, it's in the headlines. Imagine what the tabloids would do to me if they saw all these spots?”



## VIDEO CLIP:

Kim gets diagnosed  
by her dermatologist,  
Dr. Lancer





## REFERENCES

37

### Image references:

<http://nopsoriasis.net/wp-content/uploads/2016/09/psoriasis.plaque-psoriasis.-scalp-psoriasis-300x212.png>

<http://nopsoriasis.net/wp-content/uploads/2016/07/Scalp-Psoriasis.nopsoriasis.nopsor-300x188.png>

<http://diseasespictures.com/wp-content/uploads/2016/06/Nighttime-Itching-2.jpg>

<http://www.cowleyweb.com/muse/anatomy/images/human.png>, <https://en.wikipedia.org/wiki/Psoriasis#/media/File:Psoriasis2010.JPG>

<http://www.oakviewderm.com/images/Sammons26.jpg>,

[http://www.nhs.uk/Conditions/Eczema-\(discoid\)/PublishingImages/discoid-eczema\\_342x198\\_E5RG4J.jpg](http://www.nhs.uk/Conditions/Eczema-(discoid)/PublishingImages/discoid-eczema_342x198_E5RG4J.jpg),

<http://healthh.com/wp-content/uploads/2014/05/plaque-psoriasis-pictures-2.jpg>

[http://www.aboutkidshealth.ca/En/Assets/IMD\\_skin\\_biopsy\\_excision\\_EN\\_72.jpg](http://www.aboutkidshealth.ca/En/Assets/IMD_skin_biopsy_excision_EN_72.jpg), [http://paradiseteams.org/LIP/2010/Pictures/skin\\_biopsy.gif](http://paradiseteams.org/LIP/2010/Pictures/skin_biopsy.gif),

[http://www.microscope.com/media/catalog/product/cache/2/image/9df78eab33525d08d6e5fb8d27136e95/o/m/omano\\_139b\\_infinity\\_corrected\\_coupound\\_binocular\\_microscope\\_main\\_1.png](http://www.microscope.com/media/catalog/product/cache/2/image/9df78eab33525d08d6e5fb8d27136e95/o/m/omano_139b_infinity_corrected_coupound_binocular_microscope_main_1.png)

<http://www.healthline.com/health/plaque-psoriasis-pictures#Severity2>

<http://www.biologydiscussion.com/antigens/antigens-in-body-definition-types-and-structure/1437>

<http://ca.beckman.com/coulter-flow-cytometry/reagents/area-of-biology/t-cells?geolocation=ca>

<http://www.galderma.com/Focus-on-the-Skin/Psoriasis/Scalp-psoriasis>

<https://naturesgist.com/2017/02/14/causes-symptoms-naturally-treat-psoriasis/>

<http://peacelogs.com/the-role-of-the-immune-system-in-the-pathogenesis-of-psoriasis/>

<https://alevelsociology.files.wordpress.com/2016/10/kim-kardashian-feminist.jpg>

<https://cdn29.elitedaily.com/content/uploads/2016/08/31171515/Kim-Kardashian-psoriasis.png>

### Video references:

<http://www.dailymotion.com/video/x42bsma>



- Boros, M., Kemény, Á., Sebők, B., Bagoly, T., Perkecz, A., Petőházi, Z., ... & Helyes, Z. (2013). Sulphurous medicinal waters increase somatostatin release: it is a possible mechanism of anti-inflammatory effect of balneotherapy in psoriasis. *European Journal of Integrative Medicine*, 5(2), 109-118.
- Burke, A. (2017). Plaque Psoriasis. Retrieved from <http://jamanetwork.com/journals/jama/fullarticle/1104805>
- Dogra, S., & Mahajan, R. (2016). Psoriasis: Epidemiology, clinical features, co-morbidities, and clinical scoring. *Indian Dermatology Online Journal*, 7(6), 471.
- Fluhr, J. W., Cavallotti, C., & Berardesca, E. (2008). Emollients, moisturizers, and keratolytic agents in psoriasis. *Clinics in dermatology*, 26(4), 380-386.
- Gudjonsson, J. E., Johnston, A., Sigmundsdottir, H., & Valdimarsson, H. (2004). Immunopathogenic mechanisms in psoriasis. *Clinical & Experimental Immunology*, 135(1), 1-8.
- Guerra, I., & Gisbert, J. P. (2013). Onset of psoriasis in patients with inflammatory bowel disease treated with anti-TNF agents. *Expert review of gastroenterology & hepatology*, 7(1), 41-48.
- Jain, S. (2012). *Dermatology: illustrated study guide and comprehensive board review*. Springer Science & Business Media.
- Kemeny, L., Ruzicka, T., & Braun-Falco, O. (1990). Dithranol: a review of the mechanism of action in the treatment of psoriasis vulgaris. *Skin Pharmacology and Physiology*, 3(1), 1-20.
- Langley, R. G., Krueger, G. G., & Griffiths, C. E. M. (2005). Psoriasis: epidemiology, clinical features, and quality of life. *Annals of the rheumatic diseases*, 64(suppl 2), ii18-ii23.
- Lew, W., Bowcock, A. M., & Krueger, J. G. (2004). Psoriasis vulgaris: cutaneous lymphoid tissue supports T-cell activation and 'Type 1' inflammatory gene expression. *Trends in immunology*, 25(6), 295-305.
- Lowe, N. J., Ashton, R. E., Koudsi, H., Verschoore, M., & Schaefer, H. (1984). Anthralin for psoriasis: Short-contact anthralin therapy compared with topical steroid and conventional anthralin. *Journal of the American Academy of Dermatology*, 10(1), 69-72.
- Loves, M. A., Bowcock, A. M., & Krueger, J. G. (2007). Pathogenesis and therapy of psoriasis. *Nature*, 445(7130), 866-873.
- Mak, R. K. H., Hundhausen, C., & Nestle, F. O. (2009). Progress in understanding the immunopathogenesis of psoriasis. *Actas dermo-sifiliograficas*, 100, 2-13.
- Mason, A. R., Mason, J., Cork, M., Dooley, G., & Edwards, G. (2009). Topical treatments for chronic plaque psoriasis. *The Cochrane Library*.
- Matz, H. (2010). Phototherapy for psoriasis: what to choose and how to use: facts and controversies. *Clinics in dermatology*, 28(1), 73-80.
- Menter, A., Gottlieb, A., Feldman, S. R., Van Voorhees, A. S., Leonardi, C. L., Gordon, K. B., ... & Beutner, K. R. (2008). 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. *Journal of the American Academy of Dermatology*, 58(5), 826-850.

## Text References (cont'd)

- Nestle, F., Kaplan, D., & Barker, J. (2009). Psoriasis. *New England Journal Of Medicine*, 361(5), 496-509. <http://dx.doi.org/10.1056/nejmra0804595>
- Ouyang, W. (2010). Distinct roles of IL-22 in human psoriasis and inflammatory bowel disease. *Cytokine & growth factor reviews*, 21(6), 435-441.
- Palfreeman, A. C., McNamee, K. E., & McCann, F. E. (2013). New developments in the management of psoriasis and psoriatic arthritis: a focus on apremilast. *Drug Des Devel Ther*, 7, 201-210.
- Parisi, R., Symmons, D. P., Griffiths, C. E., & Ashcroft, D. M. (2013). Global epidemiology of psoriasis: a systematic review of incidence and prevalence. *Journal of Investigative Dermatology*, 133(2), 377-385.
- Parrish, L. (2012). Psoriasis: symptoms, treatments and its impact on quality of life. *British journal of community nursing*, 17(11), 524-528.
- Peroni, A., Gisondi, P., Zanoni, M., & Girolomoni, G. (2008). Balneotherapy for chronic plaque psoriasis at Comano spa in Trentino, Italy. *Dermatologic therapy*, 21(s1), S31-S38.
- "Plaque Psoriasis Pictures". Healthline. Retrieved 2017-03-29.
- "Psoriasis Symptoms and Triggers". WebMD. Retrieved 2017-03-29.
- Raychaudhuri, S. K., Mavarakis, E., & Raychaudhuri, S. P. (2014). Diagnosis and classification of psoriasis. *Autoimmunity reviews*, 13(4), 490-495.
- Raut, A. S., Prabhu, R. H., & Patravale, V. B. (2013). Psoriasis clinical implications and treatment: a review. *Critical Reviews™ in Therapeutic Drug Carrier Systems*, 30(3).
- Smith, C. H., & Barker, J. N. W. N. (2006). Psoriasis and its management. *BMJ: British Medical Journal*, 333(7564), 380.
- Ucak, S., Ekmekci, T. R., Basat, O., Koslu, A., & Altuntas, Y. (2006). Comparison of various insulin sensivity indices in psoriatic patients and their relationship with type of psoriasis. *Journal of the European Academy of Dermatology and Venereology*, 20(5), 517-522.
- Uva, L., Miguel, D., Pinheiro, C., Antunes, J., Cruz, D., Ferreira, J., & Filipe, P. (2012). Mechanisms of action of topical corticosteroids in psoriasis. *International journal of endocrinology*, 2012.
- Wolters, M. (2005). Diet and psoriasis: experimental data and clinical evidence. *British Journal of Dermatology*, 153(4), 706-714