# PSORIASIS: PRESENTATION, EXACERBATORS, AND TREATMENT

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# Disclosures

No relevant commercial relationships to disclose.

# Learning Objectives

At the conclusion of this session, participants should be able to:

- Recognize types of psoriasis and describe distinguishing factors
- Identify factors, including psychological and occupational, that can flare psoriasis
- Assess the need for a multidisciplinary approach to manage comorbid conditions
- Compare the variety of treatment options for psoriasis

# Pre Test!

# Over ____ Americans have psoriasis

A: 1 million

B: 2 million

C: 5 million

D: 8 million

# Of people with Psoriasis ___ will develop psoriatic arthritis.

A: 15%

B: 30%

C: 50%

D: 90%

# Severe Psoriasis is associated with increased risk of

A: Infection

B: Kidney Disease

C: Depression/Suicidality

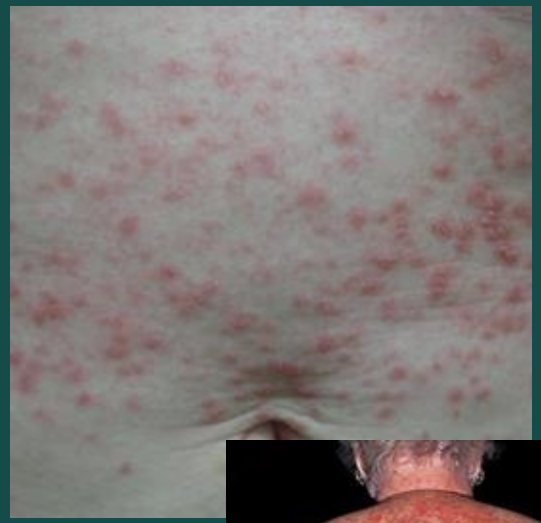
D: All of the above

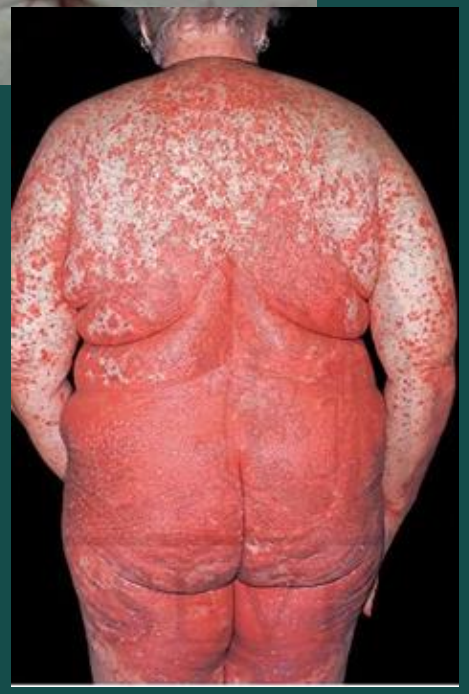
# Psoriasis

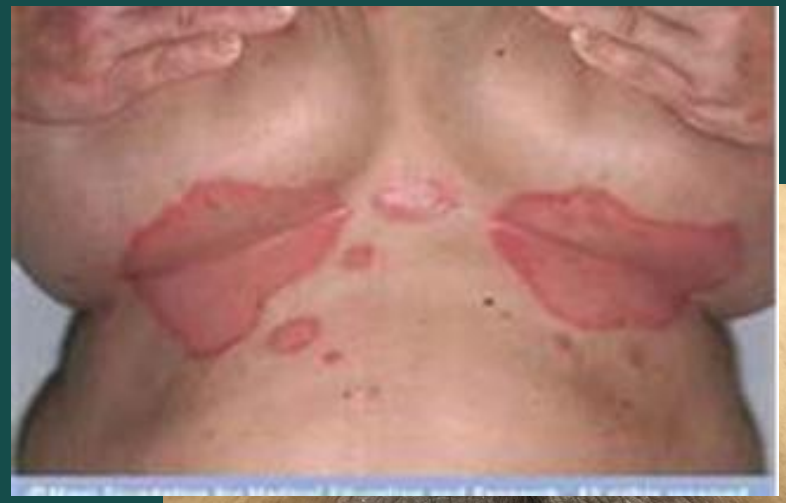
•previously an immune mediated skin disease , more recent research supports that psoriasis is a multisystem chronic inflammatory disorder

- Itchy, symmetric papules and plaques with white silvery scale
- Associated with other conditions: diabetes, metabolic syndrome, heart disease, depression
- Can develop at any age
- Men and women can develop psoriasis in equal rates, all races

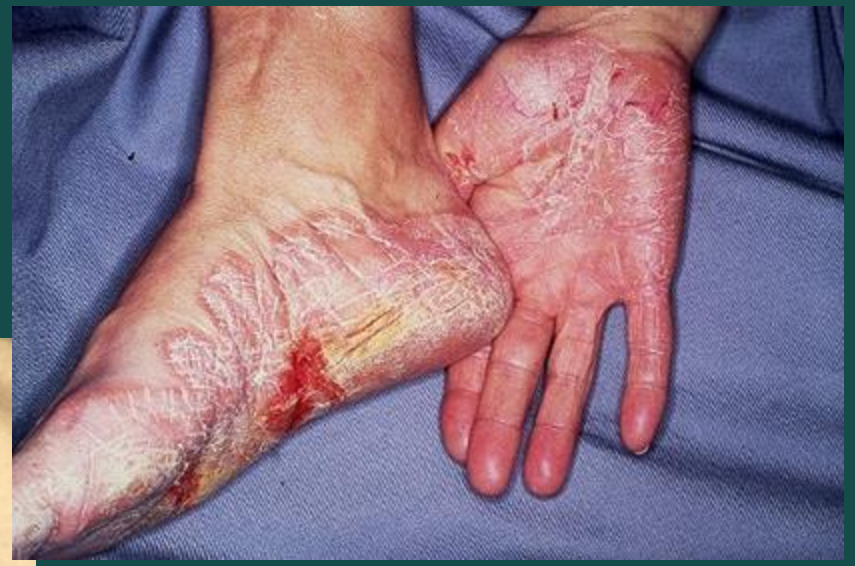
# Types of Psoriasis

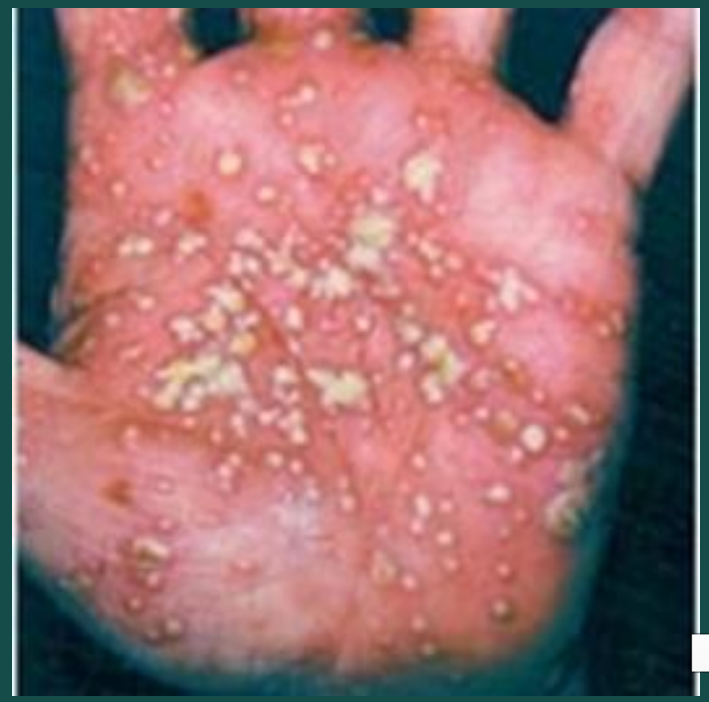




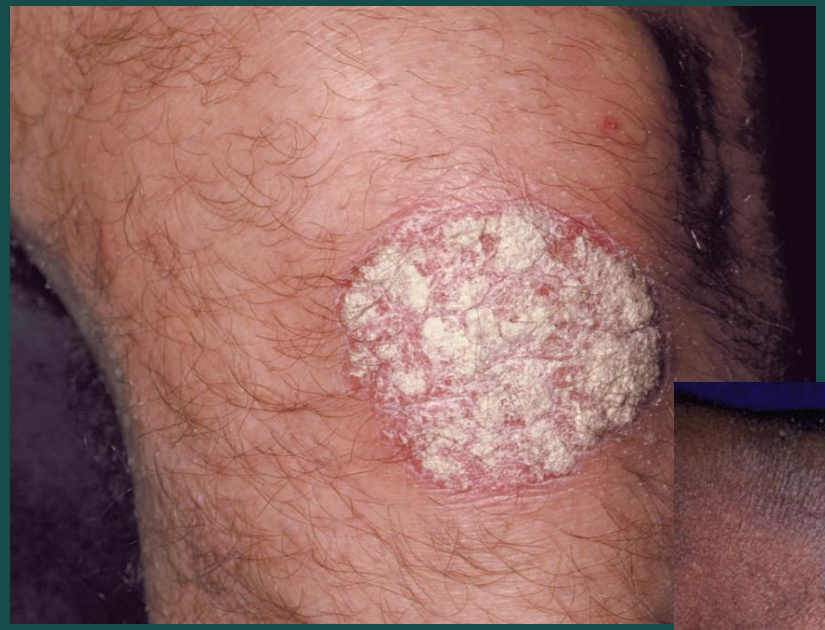


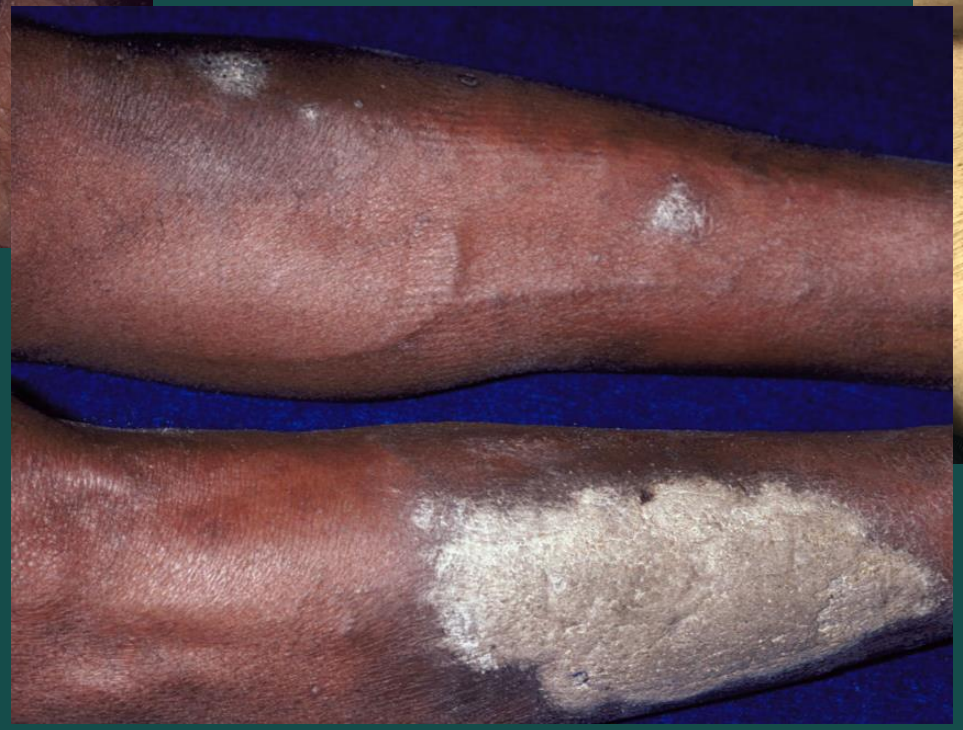


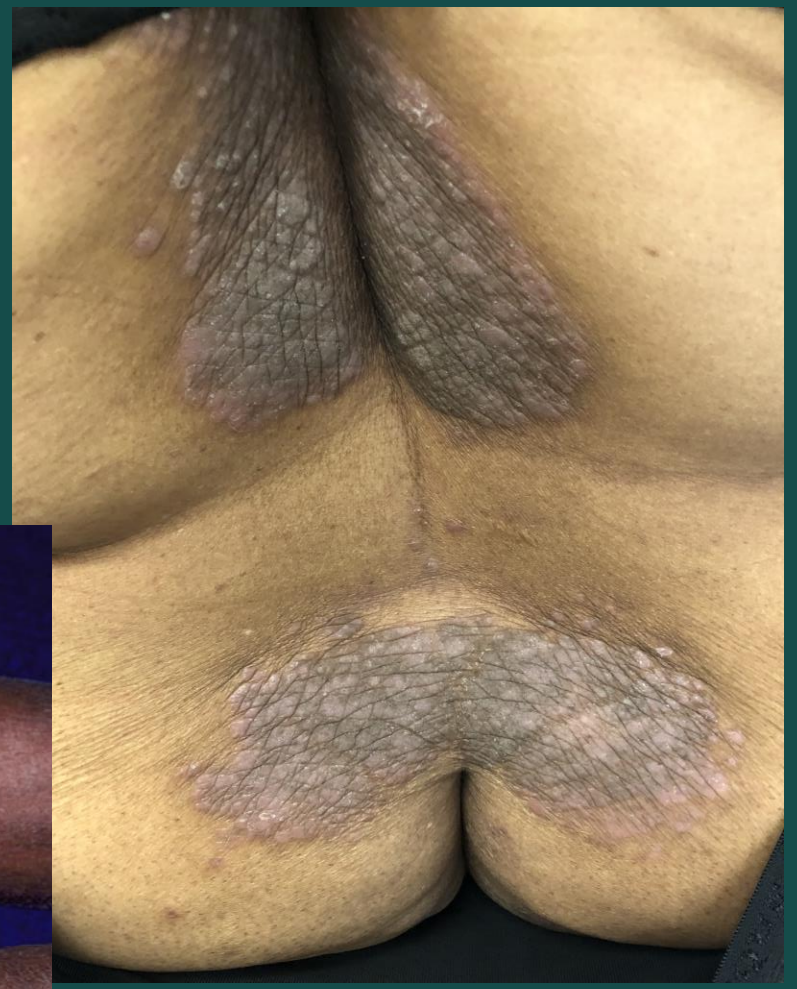




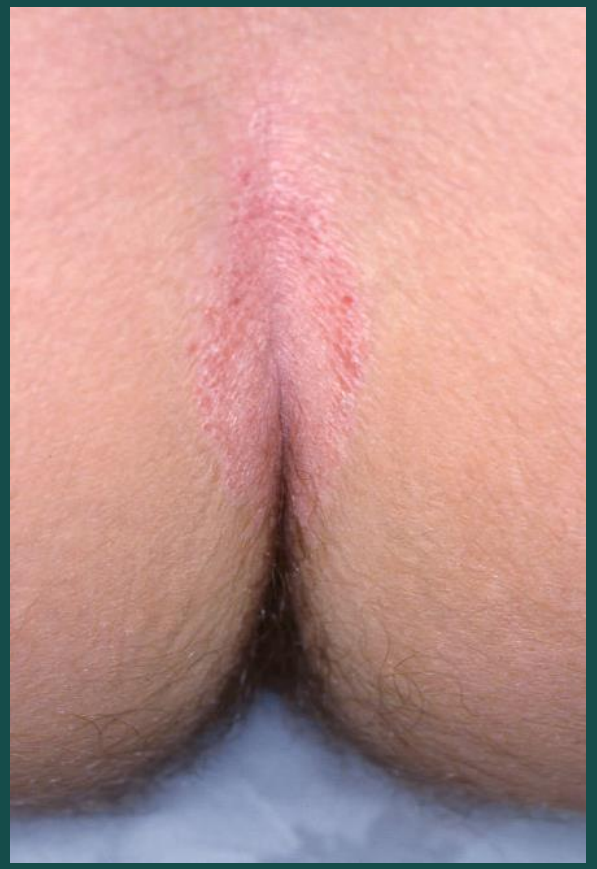
# Plaque Psoriasis

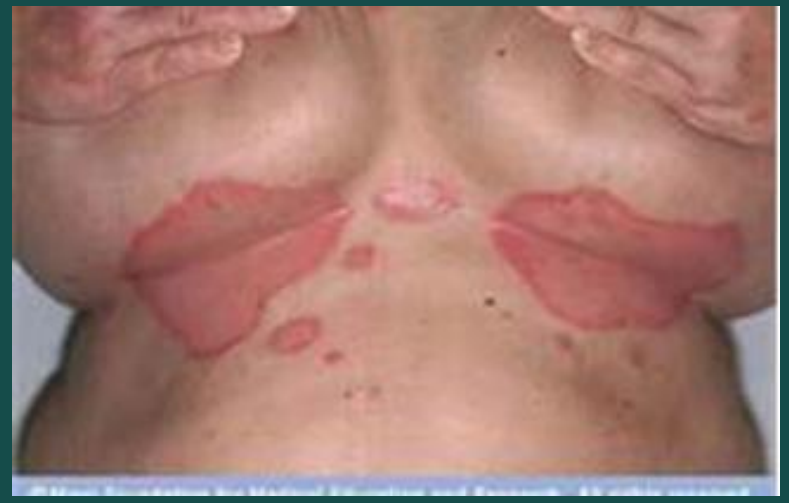


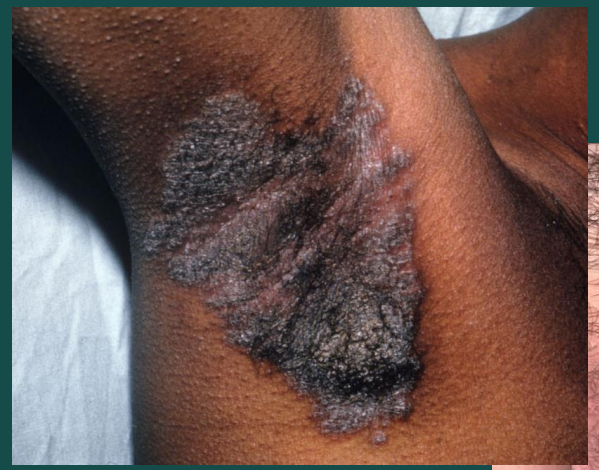


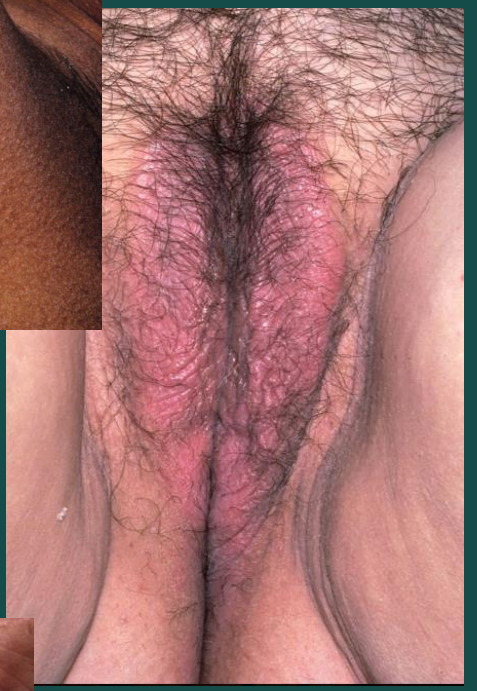


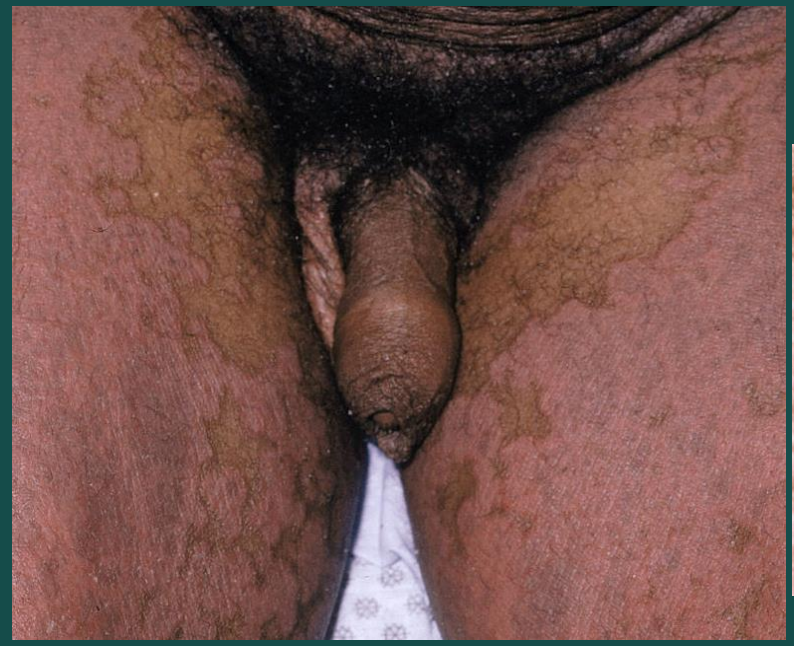
# Inverse Psoriasis

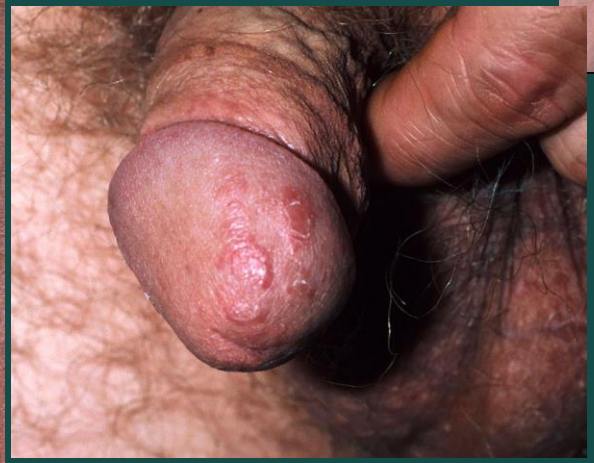




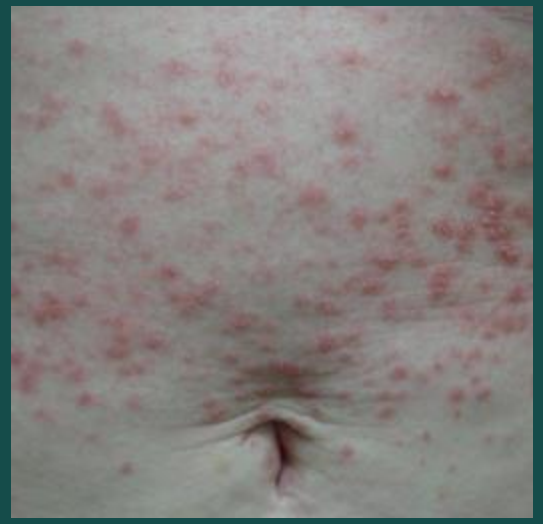


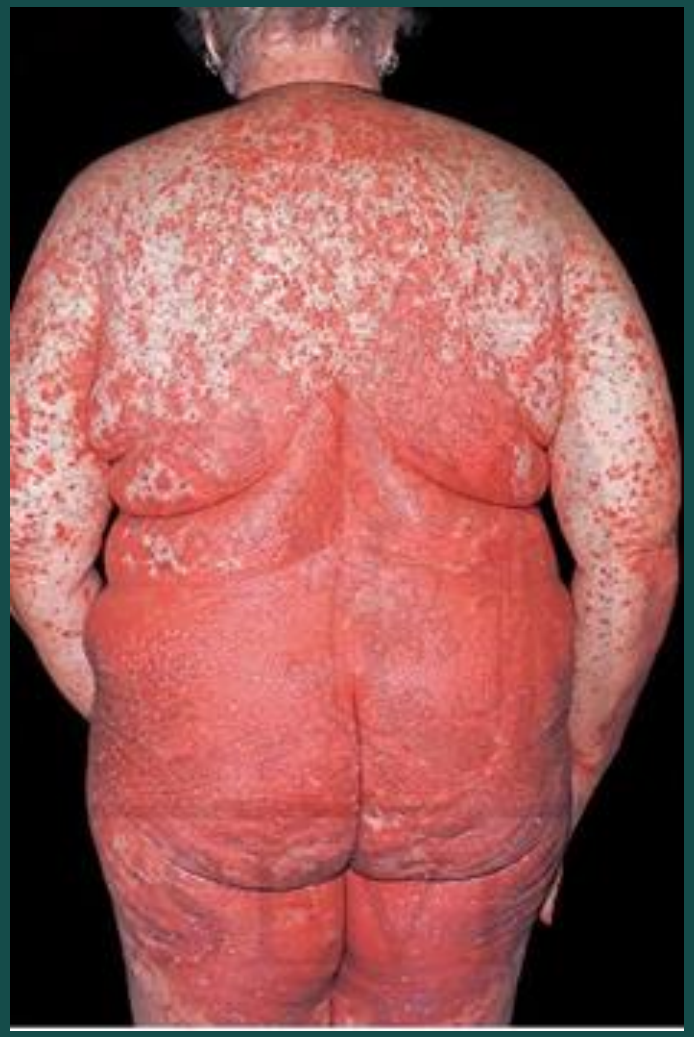


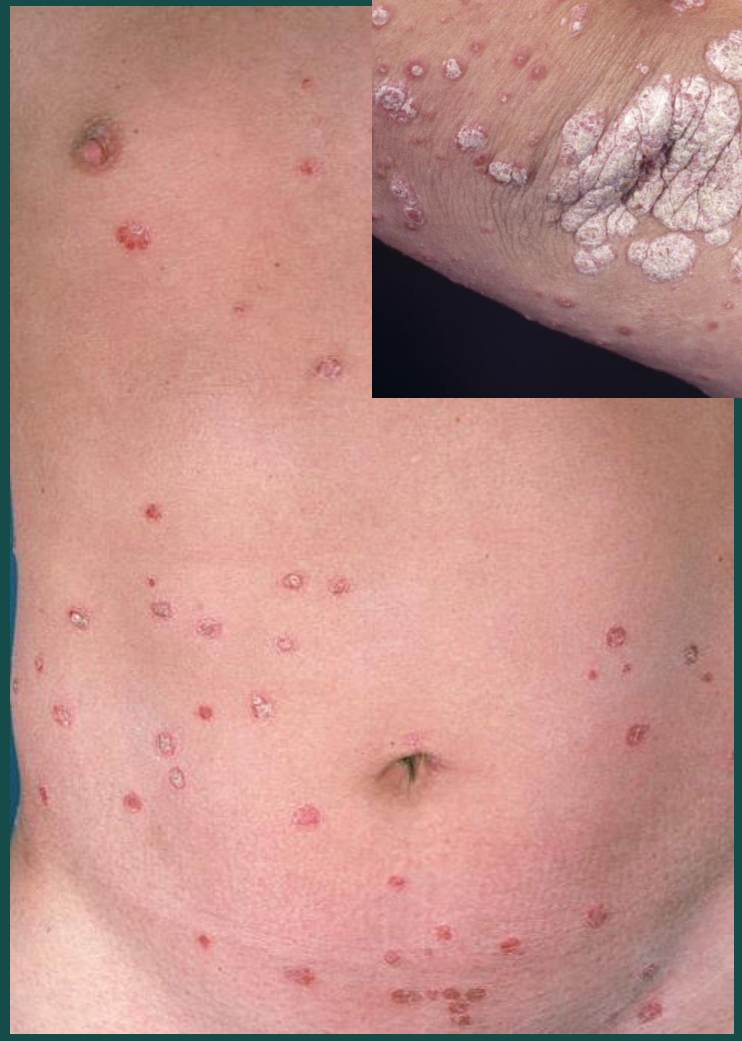


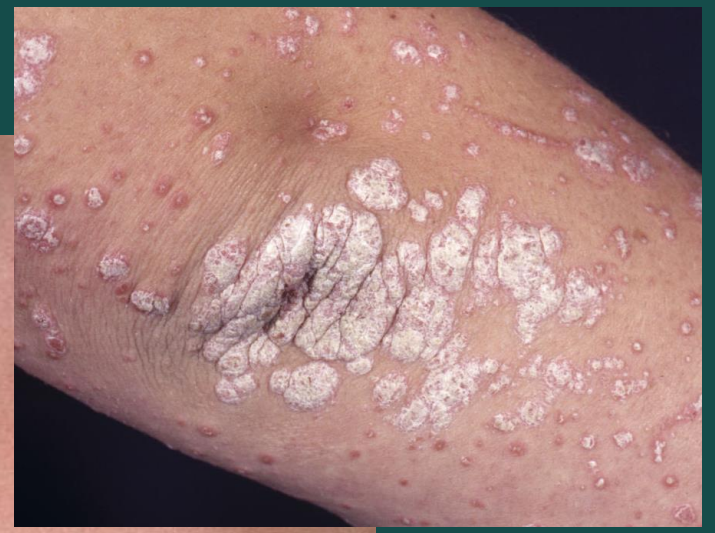


# Guttate Psoriasis

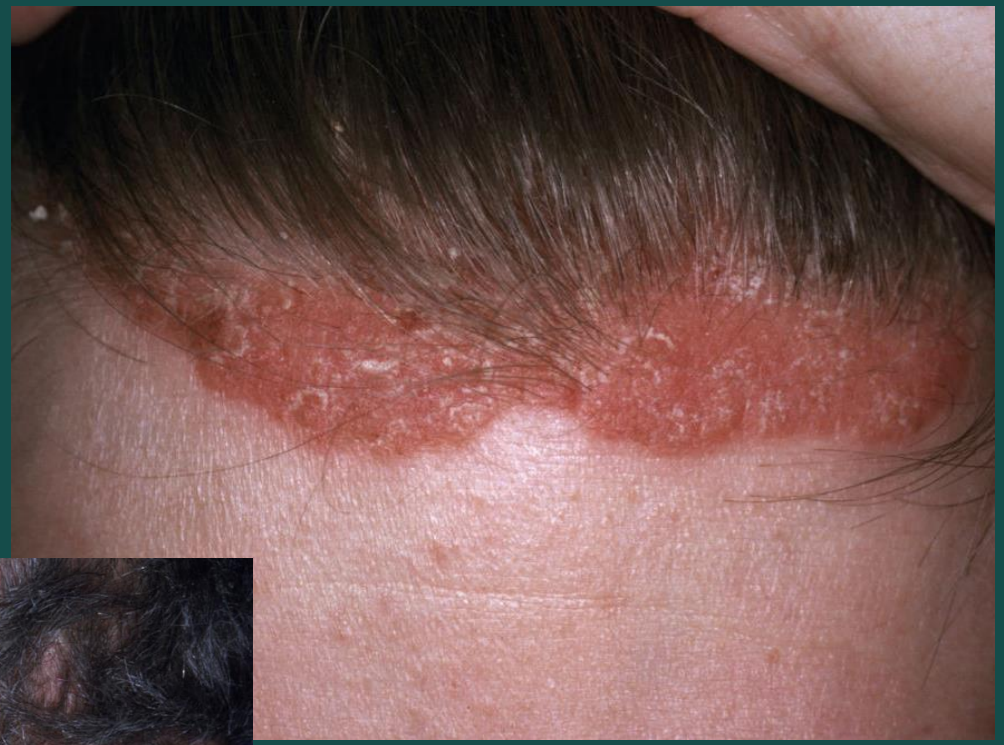


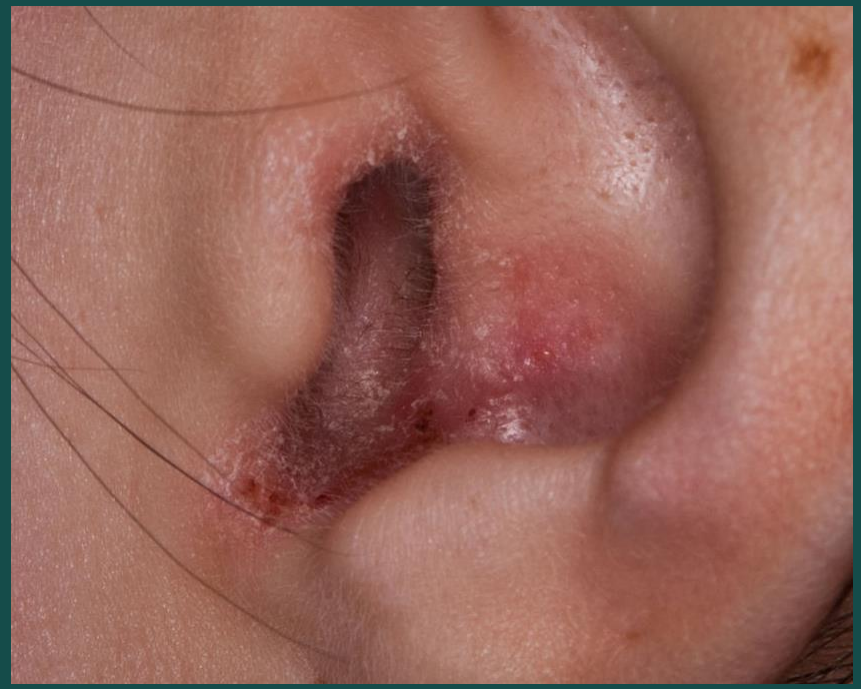


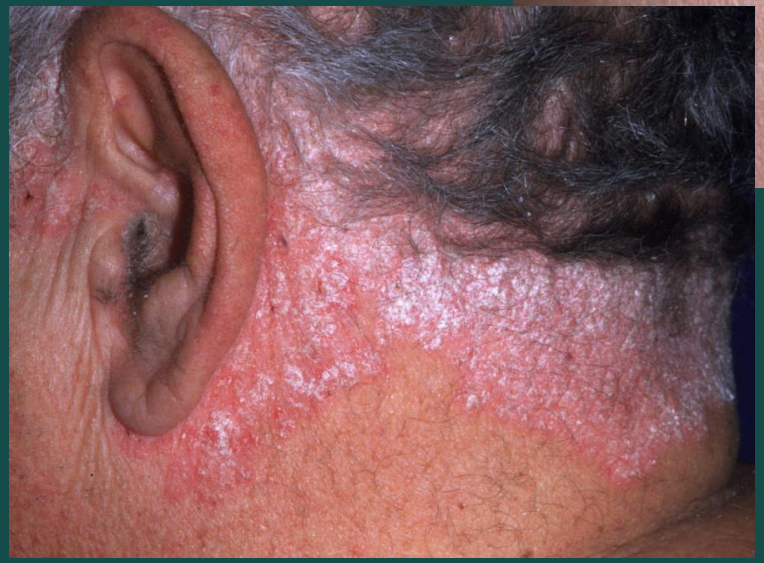




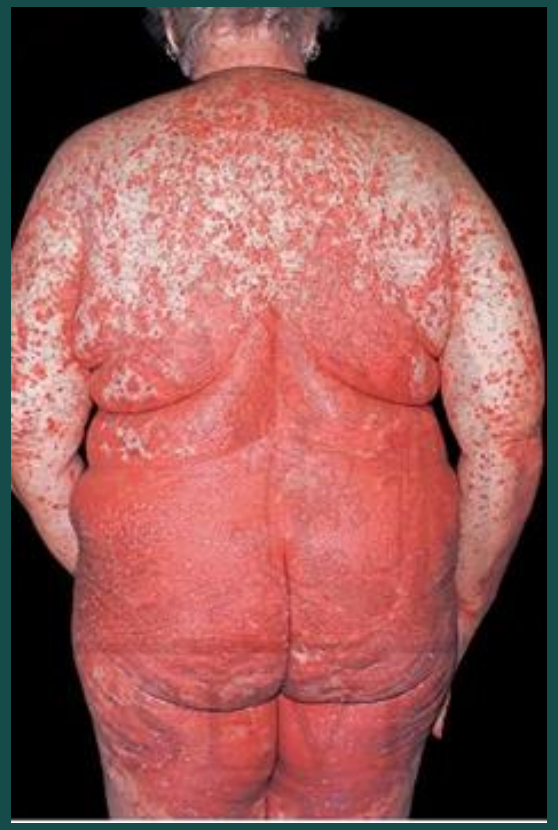
# Sebo Psoriasis

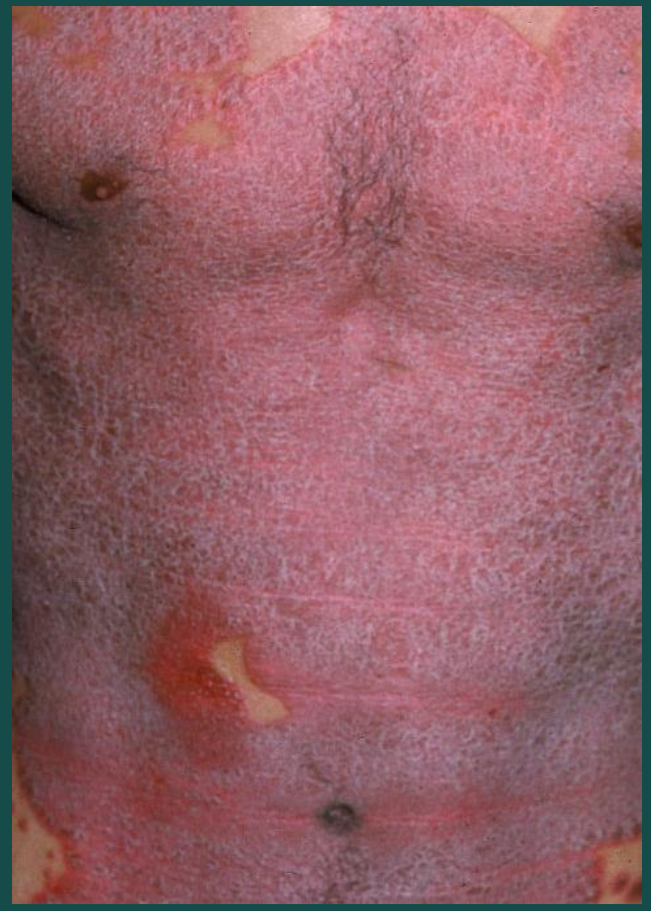




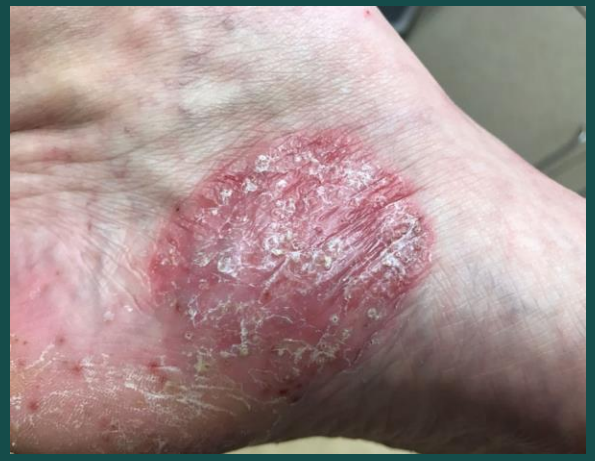


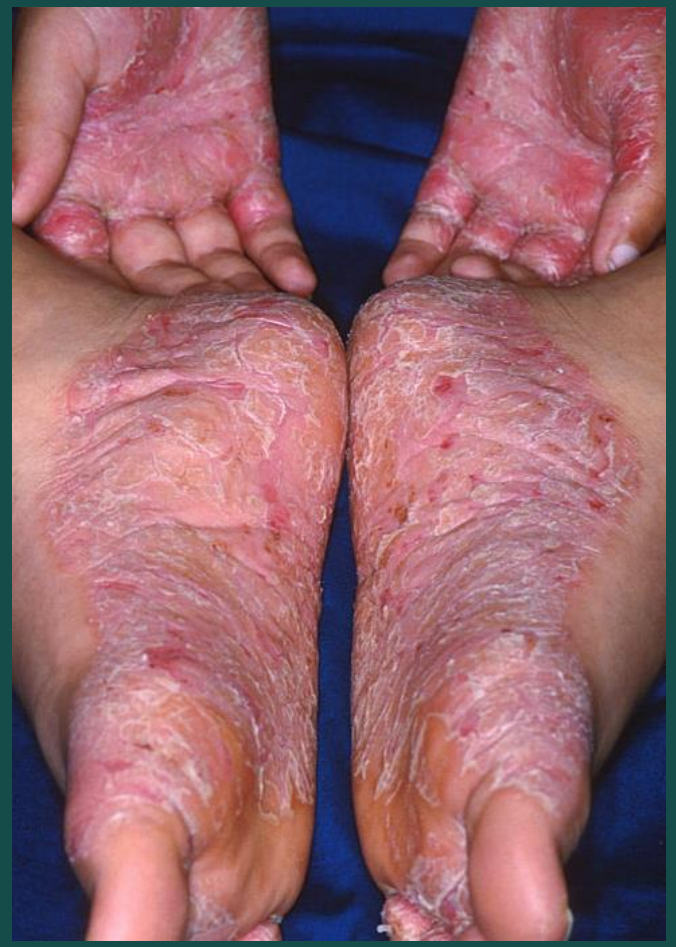
# Erythrodermic Psoriasis

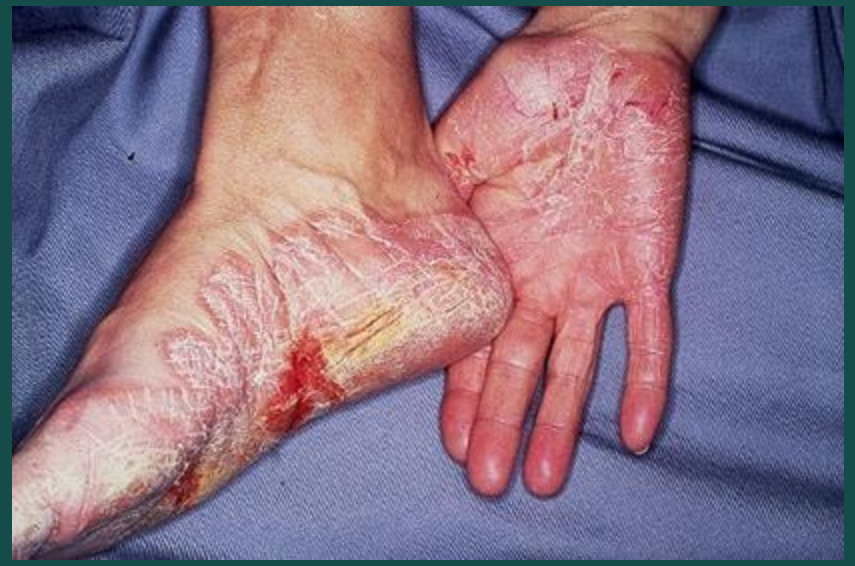


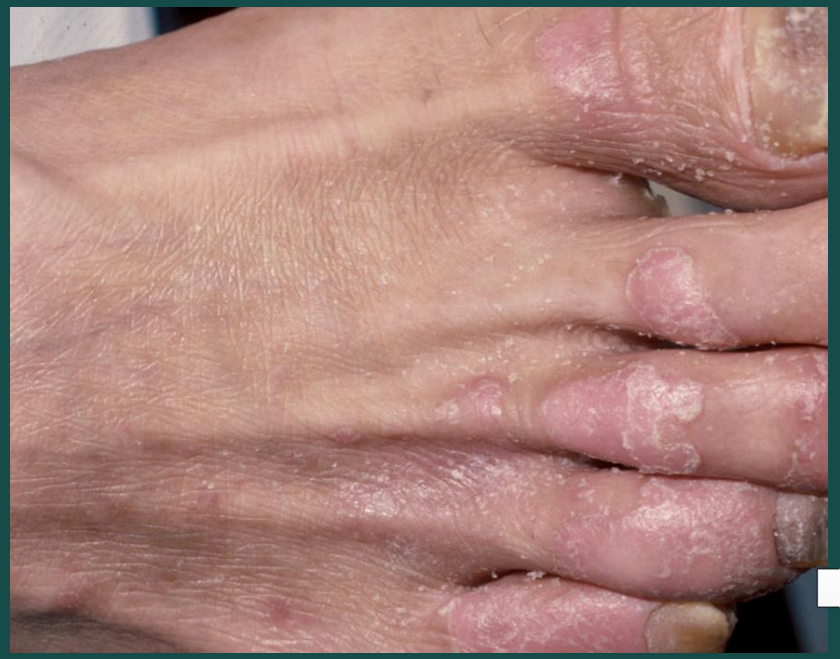


# Palmar Plantar Psoriasis

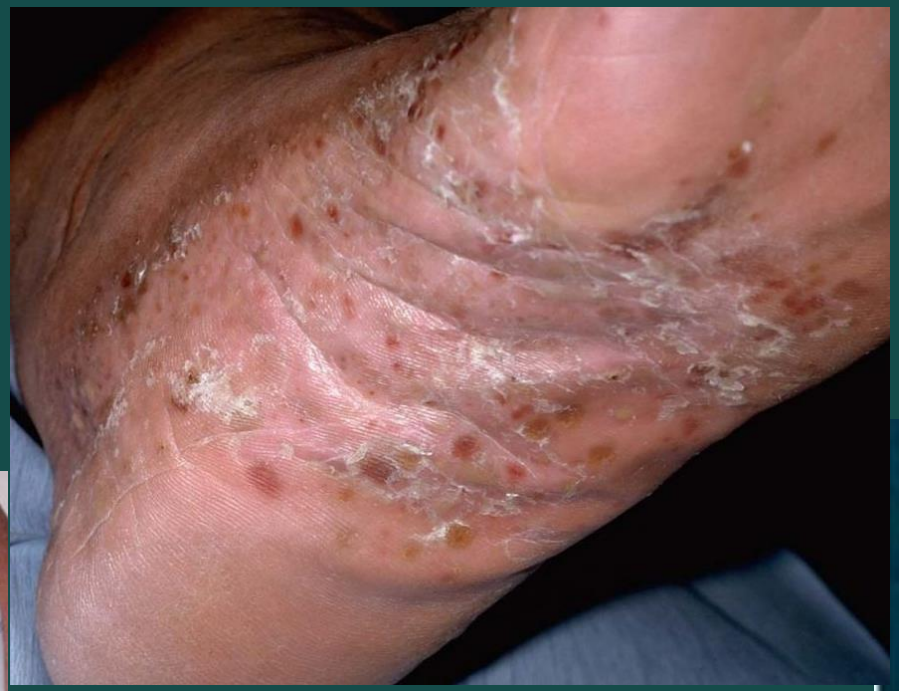


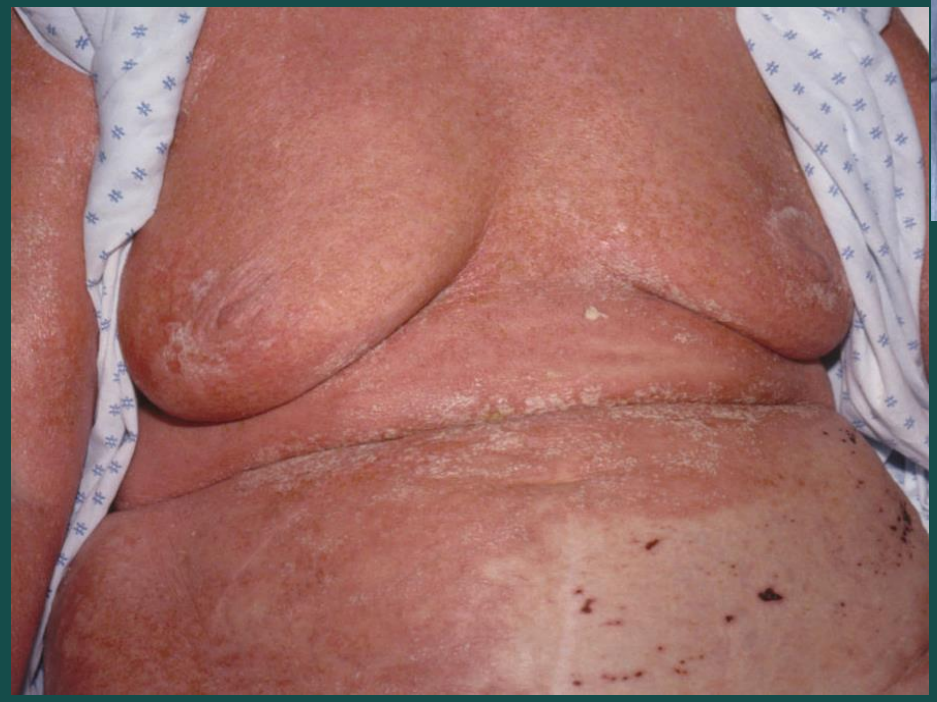


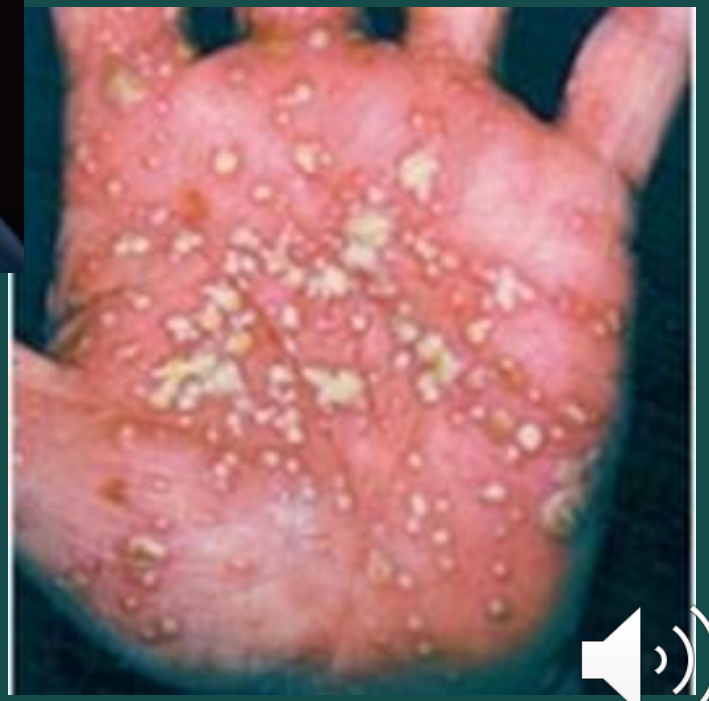




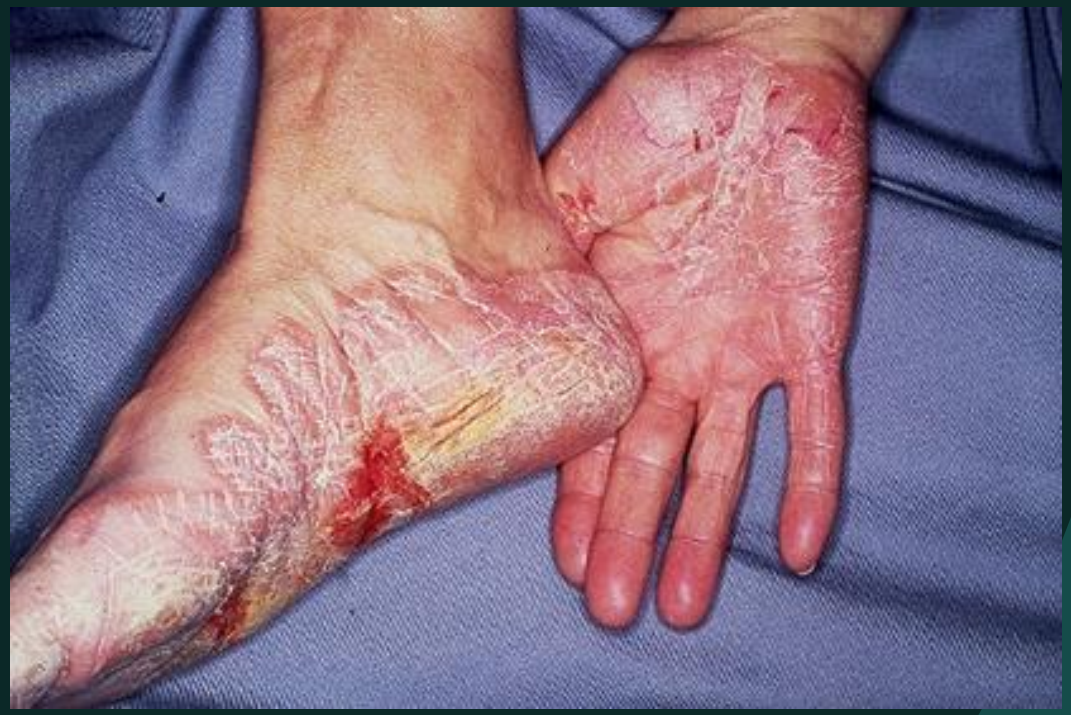
# Pustular Psoriasis







# Clinical Presentation

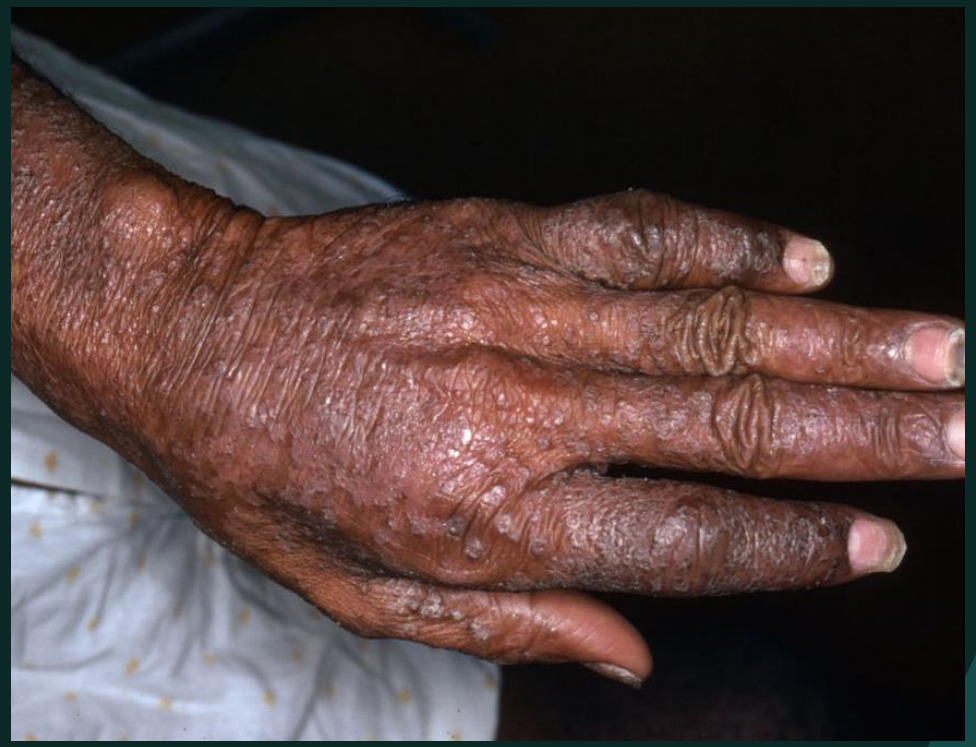


- Clinical description: Sharply demarcated thick papules and plaques with *silvery scale* commonly on the extensor elbows, knees, scalp, lower back/buttock but can be on any body surface area
- Pathogenesis: large number of activated T cells, which appear to be capable of inducing keratinocyte proliferation this hyperproliferative state results in thick skin and excess scale

# Nail changes

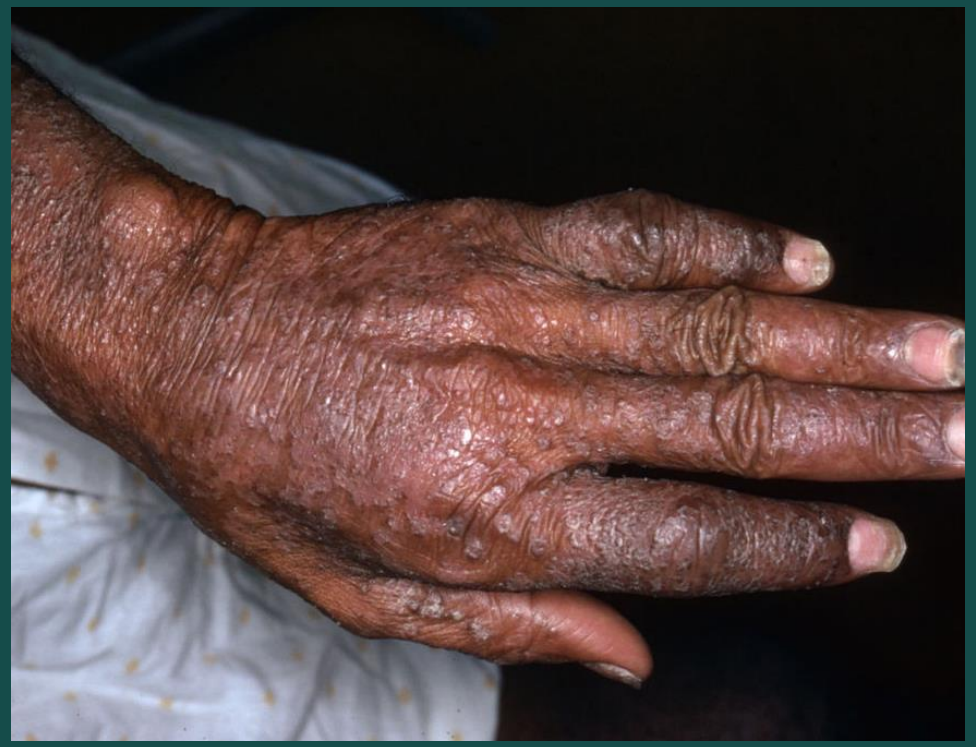
- Pits (most common finding) punctuate depressions of the nail plate surface
- Oil spots (most specific finding) yellow brown discoloration
- Trachonychia: rough nails as if scraped with sandpaper longitudinally
- Onycholysis: separation of the nail plate from the nail bed
- Subungual hyperkeratosis: abnormal keratinization of the distal nail bed
- Nail Changes classically associated with Psoriatic Arthritis

# Psoriatic Arthritis



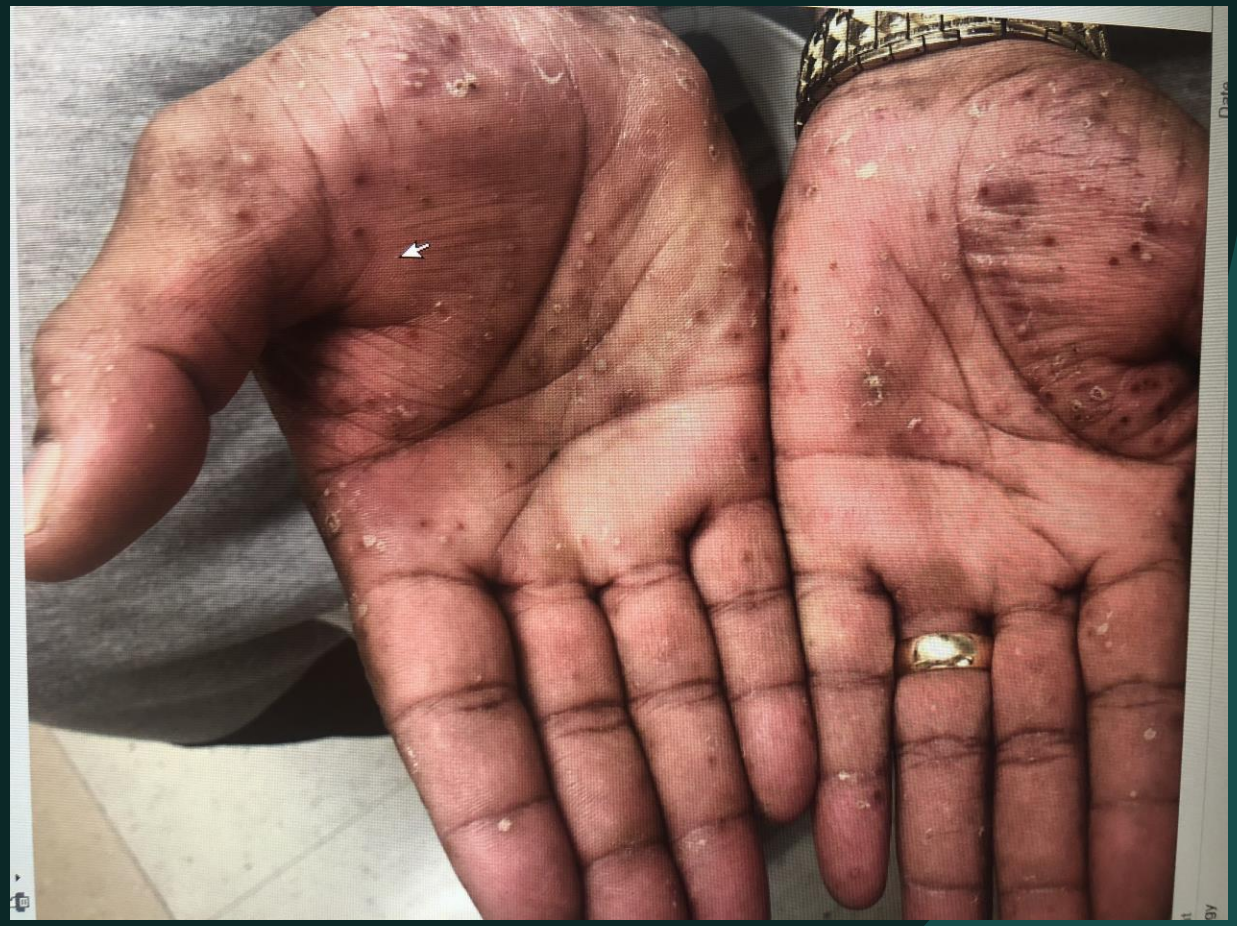
- About 30% of people with psoriasis will develop psoriatic arthritis
- A seronegative spondyloarthropathies (Rheumatoid Factor negative) , half patients have HLA-B-27
- Characterized by Enthesitis –inflammation involving periarticular structures i.e. tendons ligaments at their insertion points.
- Most common pattern of arthritis is asymmetric oligoarthritis (mainly hands and feet)

# Psoriatic Arthritis



- Will cause inflammation of the DIP joints (different from RA, similar to OA or Reactive Arthritis)
- Inflammation of the DIP and PIP joints = Dactylitis (sausage digit)
- Pencil in cup changes on radiograph (late disease), early radiographs resemble rheumatoid arthritis
- Arthritis mutilans – also seen in RA, shortening of the phalanx

# Exacerbators/Triggers



- Skin injury (Koebner phenomenon)
- Streptococcal infections
- HIV
- Hypocalcemia can trigger generalized pustular psoriasis
- Stress ex. overnight shift workers
- Lithium, B-blockers, terbinafine, calcium channel blockers, captopril, glyburide, antimalarials, interferon, ACE-Inhibitors, gemfibrozil, NSAIDS, imiquimod, TNF inhibitors, rapid taper of corticosteroids
- ETOH, Smoking, obesity

# Pregnant patient considerations

- Approximately 50% of women report improvement of disease burden during pregnancy.
- Pustular psoriasis developing in hypocalcemia women during pregnancy is known as impetigo herpetiformis aka pustular psoriasis of pregnancy

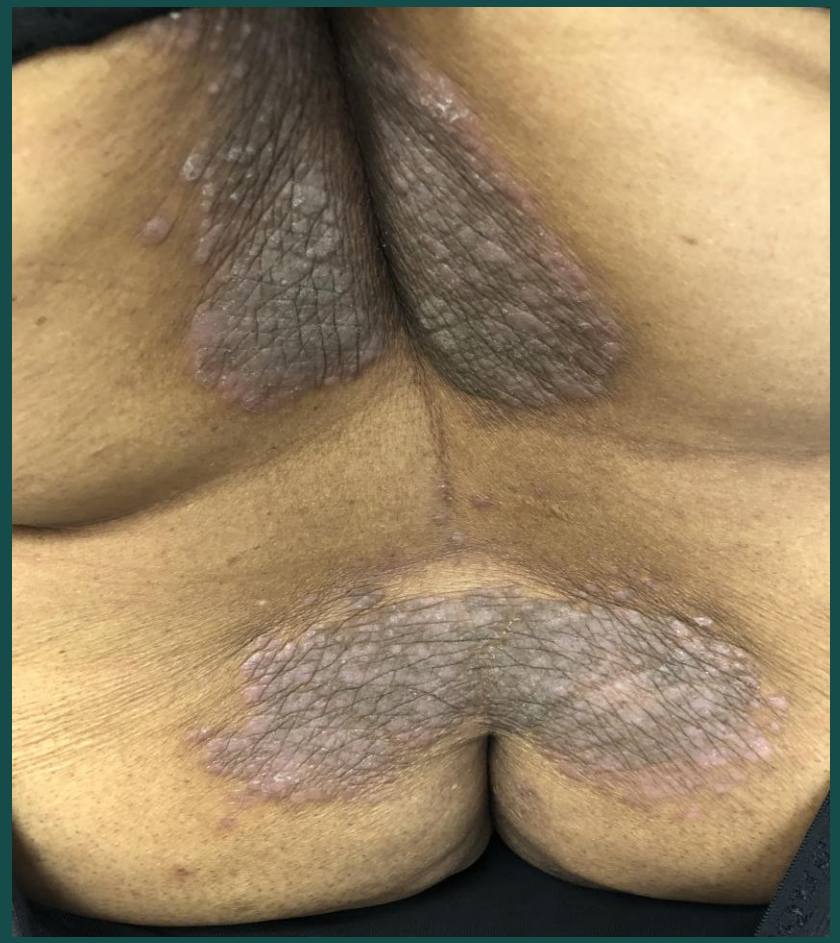
# Vitamin D considerations

- The role of vitamin D status in psoriasis is uncertain, but low vitamin D levels have been observed in patients with psoriasis

# Psoriasis as a systemic inflammatory condition

# Psoriasis and increased mortality

- Psoriasis particularly severe disease associated with increased mortality[1]
- This finding similar in men and women
- Males died 3.5 years younger and women 4.4 years younger



1. Gelfand JM, Troxel AB, Lewis JD. et al. The Risk of mortality in patients with psoriasis" results from a population-based study. Arch Dermatol. 200[illegible] 143(12):1493-1499. [Pubmed:18086997]

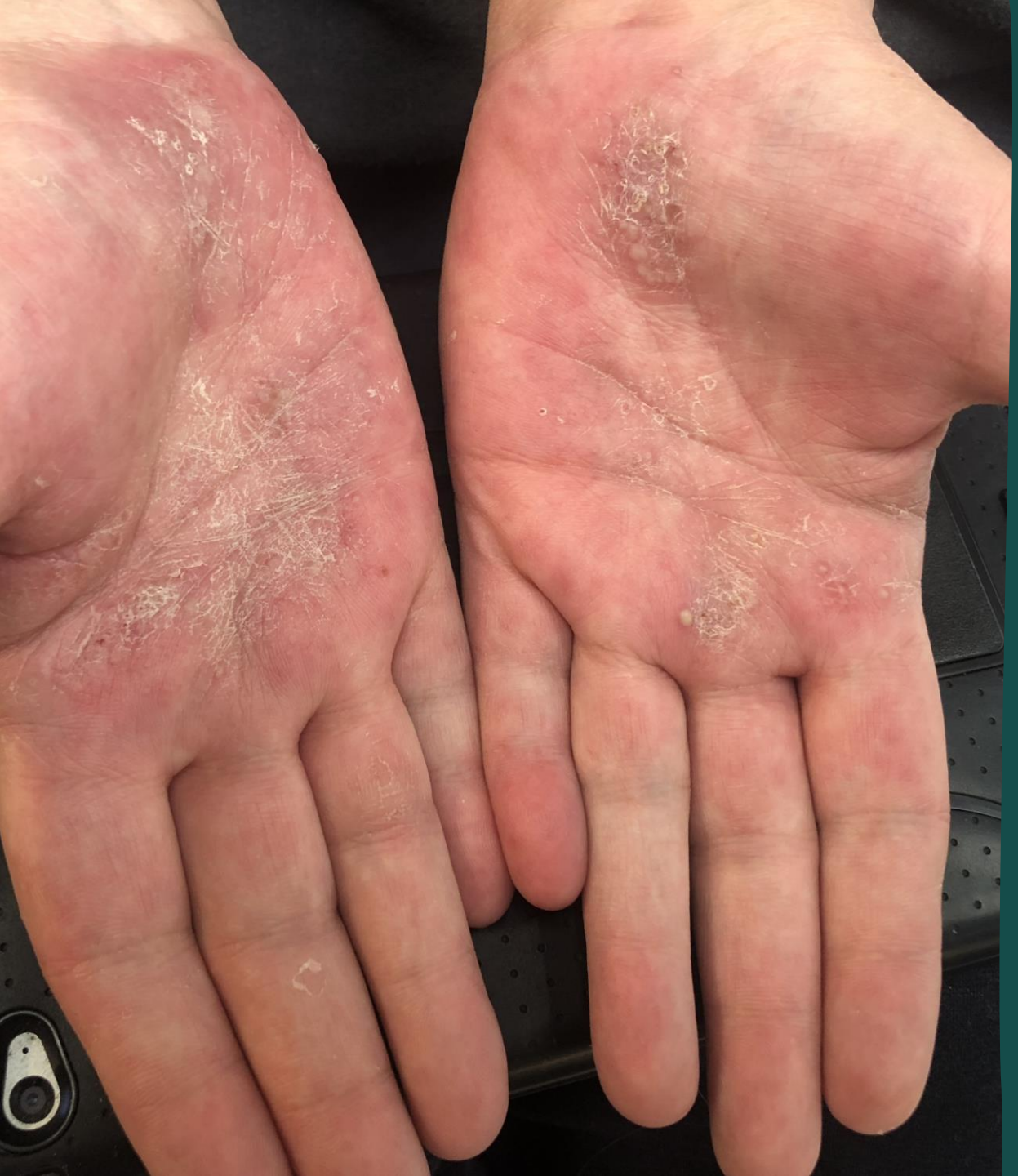
# Psoriasis and Cardiovascular disease (CVD)

- Cardiometabolic disease is prevalent among psoriasis patients especially those with more severe disease
- Psoriasis is associated with increased risk of heart attack independent of traditional risk factors like BMI, HTN, dyslipedemia[1]
- Longer duration of psoriasis associated with increased risk of cardiovascular disease[2,3]

1. Gelfand JM, Niemand AL, Shin DB, et al. Risk of myocardial infarction in patients with psoriasis. JAMA. 2006. 296 (14):1735-1741. [PubMed: 17032986]
2. Armstrong AW, Harskamp CT, Ledo L, et al. Coronary artery disease in patients with psoriasis referred for coronary angiography. Am J Cardiol. 2012;109(7):976-980. [PubMed:22221950]
3. Li WQ, Han JL, Manson JE, et al. Psoriasis and risk of nonfatal cardiovascular disease in U.S. women: a cohort study. Br J Dermatol. 2012; 166(4):811-818 [PubMed22175820]

# Psoriasis and CVD Pathophysiology

- Chronic systemic, specifically vascular, inflammation may be increased in patients with psoriasis and may contribute to atherogenesis
- Shared pathophysiologic pathways including type 1 helper cells (Th1) T cells and Th17 mediated inflammation, increased oxidative stress, endothelial cell dysfunction



# Obesity is independent risk factor for Psoriasis

- risk of psoriasis is found to increase with higher BMI [1]
- increases in weight effects efficacy of psoriasis treatment

1. Kumar S, Han J, Li T, et al. Obesity, waist circumference, weight change and the risk of psoriasis in US women. J Our Acad Dermatology Venerol. 2013;27(10):1293-1298.[PubMed:23057623]

# Psoriasis patients more likely to have Hypertension (HTN)

- studies of patients with HTN suggest more severe HTN and poorly controlled among psoriasis patients vs without
- likelihood of poorly controlled HRN increases with more severe skin disease, independent of BMI or other risk factors

Takeshita J, Wang S, Shin DB, et al. Effect of psoriasis severity on hypertension control: a population-based study in the United Kingdom. JAMA Dermatol. 2015;151(2):161-169. [PubMed: 25322196]

# Psoriasis is associated with increased risk of diabetes

•Diabetic patients with psoriasis are more likely to require pharmacologic management and suffer from micro and microvascular diabetes complications than diabetic patients without psoriasis

Azfar RS, Seminara NM, Shin DB, et al. Increased risk of diabetes mellitus and likelihood of receiving diabetes mellitus treatment in patients with psoriasis. Arch Dermatol. 2012;148(9):995-1000. [PubMed:22710320]

# Metabolic syndrome more prevalent

• Metabolic syndrome: central obesity, hypertension, insulin resistance, and dyslipidemia as well as the individual components of the syndrome as more prevalent in patients with psoriasis.

# Psoriasis may be associated with increased incidence of Inflammatory bowel disease, particularly Crohn's disease as well as nonalcoholic fatty liver disease

- Methotrexate used to treat psoriasis can cause liver damage
- TNF inhibitors specifically infliximab or adalimumab used to treat Crohn's disease can induce psoriasis, reason for this apparently paradoxical effect of the therapy is still unclear

Li SJ, Perez-Chada LM, Merola JF. TNF Inhibitor-Induced Psoriasis: Proposed Algorithm for Treatment and Management. J Psoriasis Psoriatic Arthritis. 2019;4(2):70-80. doi:10.1177/2475530318810851

# Kidney Disease

• moderate to severe psoriasis is an independent risk factor for chronic kidney disease and end stage renal disease

• the odds of CKD increase greater psoriasis severity

• A U.K. cohort study found severe psoriasis was associated with a four fold increase risk of death from nephritic or non-hypertensive kidney disease

Abuabara K, Azfar RS, Shin DB, et al. Cause-specific mortality in patients with severe psoriasis: a population-based cohort study in the U.K. Br J Dermatol. 2010; 163(3):586-592. [PubMed:20633008]

# Ocular disease

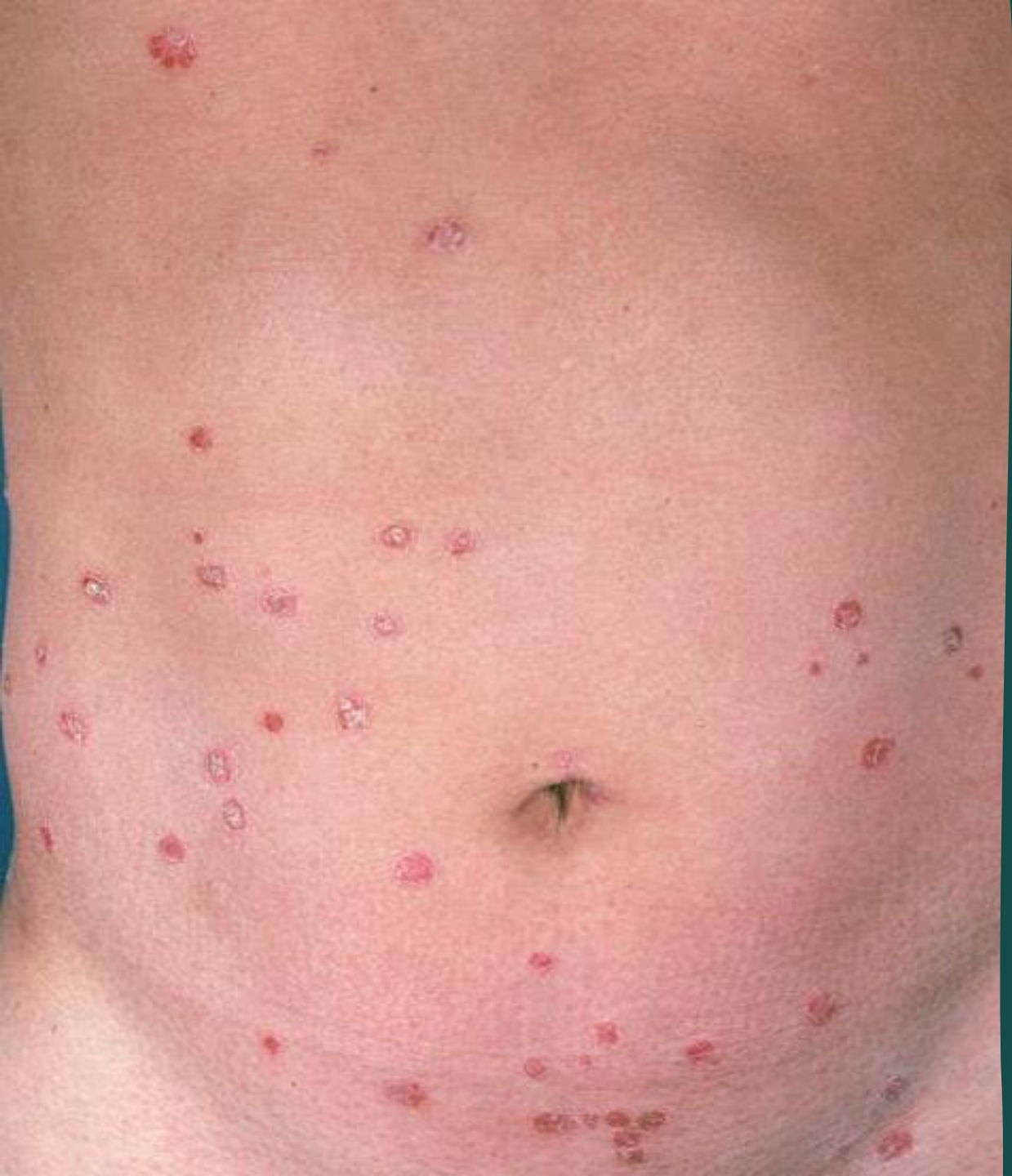
• Disorders of the eye, such as blepharitis, conjunctivitis, xerosis, corneal lesions, and uveitis, may occur with increased frequency in patients with psoriasis. Symptoms of eye involvement include ocular discomfort, flaking or crusting within the eyelashes, swollen eyelids, red eyes, visual changes, and psoriatic lesions on the lids or lid margins

Ocular psoriasis. AU Rehal B, Modjtahedi BS, Morse LS, Schwab IR, Maibach HI SO J Am Acad Dermatol. 2011 Dec;65(6):1202-12. Epub 2011 May 6.

# Other considerations

• Serious infections, malignancy, and mood disorders are also more common among patients with severe psoriasis

Patients with severe psoriasis should receive comprehensive health assessments to enhance preventive health practices, improved overall health and decrease risk of mortality.



# Disease Documentation

• Total Body Surface Area (TBSA) - measured by estimating the area of the patient's body that is affected by psoriasis using the unit 1%= the patient's palm

# Treatment

- Choice of therapy – how disease effects the patient's life, psychosocial
- Less than %5 BSA
    - Topical steroids
    - Calcipotriene (a topical vitamin D3 analog) in conjunction with topical steroid
    - Tazarotene (topical vitamin A) in conjunction with topical steroid
    - Tacrolimus or pimecrolimus (topical calcineurin inhibitors)
    - Localized phototherapy. Narrow band UVB, PUVA, excimer laser
    - Intralesional Kenalog for recalcitrant sites

- Adherence to topical treatment can be a major hurdle, keeping the treatment regimen simple and using treatment vehicles that the patient finds acceptable is often beneficial

# Topical steroids

| Superpotent – Brand Name | Generic Name |
|---|---|
| Clobex Lotion/Spray/Shampoo, 0.05% | Clobetasol propionate |
| Cordran Tape, 4mcg/sq. cm. | Flurandrenolide |
| Cormax Cream/Solution, 0.05% | Clobetasol propionate |
| Diprolene Ointment, 0.05% | Betamethasone dipropionate |
| Lexette Foam, 0.05% | Halobetasol propionate |
| Olux E Foam, 0.05% | Clobetasol propionate |
| Olux Foam, 0.05% | Clobetasol propionate |
| Psorcon Ointment, 0.05% | Diflorasone diacetate |
| Psorcon E Ointment, 0.05% | Diflorasone diacetate |
| Temovate Cream/Ointment/Solution, 0.05% | Clobetasol propionate |
| Topicort Topical Spray, 0.25% | Desoximetasone |
| Ultravate Cream/Ointment, 0.05% | Halobetasol propionate |
| Ultravate Lotion, 0.05% | Halobetasol propionate |
| Vanos Cream, 0.1% | Fluocinonide |

| Potent to Superpotent – Brand Name | Generic Name |
|---|---|
| Bryhali Lotion, 0.01% | Halobetasol propionate |
| Doubrii Lotion, 0.01%/0.045% | Halobetasol propionate/tazarotene |

| Potent – Brand Name | Generic Name |
|---|---|
| Diprolene Cream AF, 0.05% | Betamethasone dipropionate |
| Elocon Ointment, 0.1% | Mometasone furoate |
| Florone Ointment, 0.05% | Diflorasone diacetate |
| Halog Ointment/Cream, 0.1% | Halcinonide |
| Lidex Cream/Gel/Ointment, 0.05% | Fluocinonide |
| Psorcon Cream, 0.05% | Diflorasone diacetate |
| Topicort Cream/Ointment, 0.25% | Desoximetasone |
| Topicort Gel, 0.05% | Desoximetasone |
| Wynzora Cream, 0.005%/0.064% | Calcipotriene and Betamethasone dipropionate |

| Upper Mid-Strength – Brand Name | Generic Name |
|---|---|
| Cutivate Ointment, 0.005% | Fluticasone propionate |
| Lidex-E Cream, 0.05% | Fluocinonide |
| Luxiq Foam, 0.12% | Betamethasone valerate |

| Mid-Strength – Brand Name | Generic Name |
|---|---|
| Cordran Ointment, 0.05% | Flurandrenolide |
| Elocon Cream, 0.1% | Mometasone furoate |
| Kenalog Cream/Spray, 0.1% | Triamcinolone acetonide |
| Synalar Ointment, 0.03% | Fluocinolone acetonide |
| Topicort LP Cream, 0.05% | Desoximetasone |
| Topicort LP Ointment, 0.05% | Desoximetasone |
| Westcort Ointment, 0.2% | Hydrocortisone valerate |

| Lower Mid-Strength – Brand Name | Generic Name |
|---|---|
| Capex Shampoo, 0.01% | Fluocinolone acetonide |
| Cordran Cream, 0.05% | Flurandrenolide |
| Cutivate Cream/Lotion, 0.05% | Fluticasone propionate |
| DermAtop Cream, 0.1% | Prednicarbate |
| DesOwen Lotion, 0.05% | Desonide |
| Locoid Cream/Lotion/Ointment/Solution, 0.1% | Hydrocortisone |
| Pandel Cream, 0.1% | Hydrocortisone |
| Synalar Cream, 0.03%/0.01% | Fluocinolone acetonide |
| Westcort Cream, 0.2% | Hydrocortisone valerate |

| Mild – Brand Name | Generic Name |
|---|---|
| Aclovate Cream/Ointment, 0.05% | Alclometasone dipropionate |
| Derma-Smoothe/FS Oil, 0.01% | Fluocinolone acetonide |
| Desonate Gel, 0.05% | Desonide |
| Synalar Cream/Solution, 0.01% | Fluocinolone acetonide |
| Verdeso Foam, 0.05% | Desonide |

| Least Potent – Brand Name | Generic Name |
|---|---|
| Cetacort Lotion, 0.5%/1% | Hydrocortisone |
| Cortaid Cream/Spray/Ointment | Hydrocortisone |
| Hytone Cream/Lotion, 1%/2.5% | Hydrocortisone |
| Micort-HC Cream, 2%/2.5% | Hydrocortisone |
| Nutracort Lotion, 1%/2.5% | Hydrocortisone |
| Synacort Cream, 1%/2.5% | Hydrocortisone |

# Topical steroids and a word on vehicles

- Low potency –Triamcinolone 0.025% cream  (for use on the face or body fold areas)
- Mid potency - Triamcinolone 0.1% cream (for use on the body)
- High Potency – Clobetasol 0.05% cream  (for use on thick plaques)

Level of potency all else being equal

foam -->solution-->lotion-->cream -->ointment

# Treatment

- Greater than 5% BSA
    - Systemic therapy:
    - Phototherapy NBUVB, bbUVB, PUVA, Excimer laser
    - Oral medications: Methotrexate (Folate analog, immunosuppressant) , Acitretin (Oral Retinoid, Vitamin A derivative), Cyclosporine (immunosuppressant), Ampremilast (PDE4 inhibitor)
    - Biologic Agents: TNF-α inhibitors: infliximab (Remicade), etanercept (Enbrel), adalimumab (Humira), IL 12/23 blocker: ustekinumab (Stelara)

# Treatment Comparison

6600 SW 92nd Ave., Suite 300 Portland, OR 97223
800-723-9166 education@psoriasis.org
www.psoriasis.org

NATIONAL PSORIASIS FOUNDATION

## Biologic treatments

| Treatment type | Indication | Mechanism of Action | Method of Delivery | Dosage and Frequency | Possible Side Effects• | Warning and Precautions•• |
|---|---|---|---|---|---|---|
| *Secukinumab* | Psoriasis (Adults)<br>Psoriatic arthritis (Adults) | Blocks interleukin 17 (IL-17) | Subcutaneous self-injection | Psoriasis and/or psoriatic arthritis: Week 0, 1, 2, 3 and 4, then every four weeks | Cold or flu-like symptoms<br>Diarrhea<br>Upper respiratory infection | Serious infection<br>Tuberculosis (TB) testing before starting Cosentyx<br>Inflammatory bowel disease (IBD)<br>Serious allergic reaction |
| *Etanercept*<br>*Biosimilar to* Etanercept | Psoriasis (People over 4 yrs)<br>Psoriatic arthritis (Adults) | Blocks TNF-Alpha | Subcutaneous self-injection | Adult psoriasis: Twice weekly for 3 months, then once weekly<br>Pediatric psoriasis: Once weekly<br>Adult psoriatic arthritis: Once weekly | Infection<br>Injection site reaction | Serious infection<br>Fungal infection<br>Nervous system problem<br>Lymphoma<br>New or worsening heart failure<br>Low blood count<br>Hepatitis B reactivation<br>Serious allergic reaction<br>Lupus-like syndrome |
| *Adalimumab*<br>*Biosimilar to* Adalimumab<br>*Biosimilar to* Adalimumab | Psoriasis (Adults)<br>Psoriatic arthritis (Adults) | Blocks TNF-Alpha | Subcutaneous self-injection | Psoriasis and/or psoriatic arthritis: Once every other week | Infection (including upper respiratory and sinus)<br>Injection site reaction<br>Headache<br>Rash | Serious infection<br>Fungal infection<br>Malignancies<br>Serious allergic reaction<br>Hepatitis B reactivation<br>Nervous system problem<br>Low blood count<br>New or worsening heart failure<br>Lupus-like syndrome |

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NATIONAL PSORIASIS FOUNDATION®

## Biologic treatments

| Treatment type | Indication | Mechanism of Action | Method of Delivery | Dosage and Frequency | Possible Side Effects* | Warning and Precautions** |
|---|---|---|---|---|---|---|
| *Infliximab*<br>*Biosimilar to* Infliximab<br>*Biosimilar to* Infliximab<br>*Biosimilar to* Infliximab | Psoriasis (Adults)<br>Psoriatic arthritis (Adults) | Blocks TNF-Alpha | IV infusion by a health care provider | Psoriasis and/or psoriatic arthritis: Week 0, 2, and 6, then every 8 weeks | Infections (including upper respiratory, sinus and throat)<br>Infusion-related reaction<br>Headache<br>Stomach pain | Serious infection (especially when switching between biologics)<br>Fungal infection<br>Malignancies<br>Hepatitis B reactivation<br>Liver problem (including hepatotoxicity)<br>New or worsening heart failure<br>Low blood count<br>Nervous system problem<br>Lupus-like syndrome<br>Special consideration when receiving a live vaccine<br>Serious allergic reaction |
| *Brodalumab* | Psoriasis (Adults) | Blocks IL-17 | Subcutaneous self-injection | Psoriasis: Week 0, 1, 2, then every 2 weeks | Joint pain<br>Headache<br>Fatigue<br>Diarrhea<br>Throat pain<br>Nausea<br>Muscle pain<br>Injection site reaction<br>Cold or flu-like symptoms<br>Low blood count<br>Fungal infection | Suicidal ideation and behavior<br>Serious infection<br>TB testing before starting Siliq<br>Crohn's disease<br>Special consideration when receiving a live vaccine |

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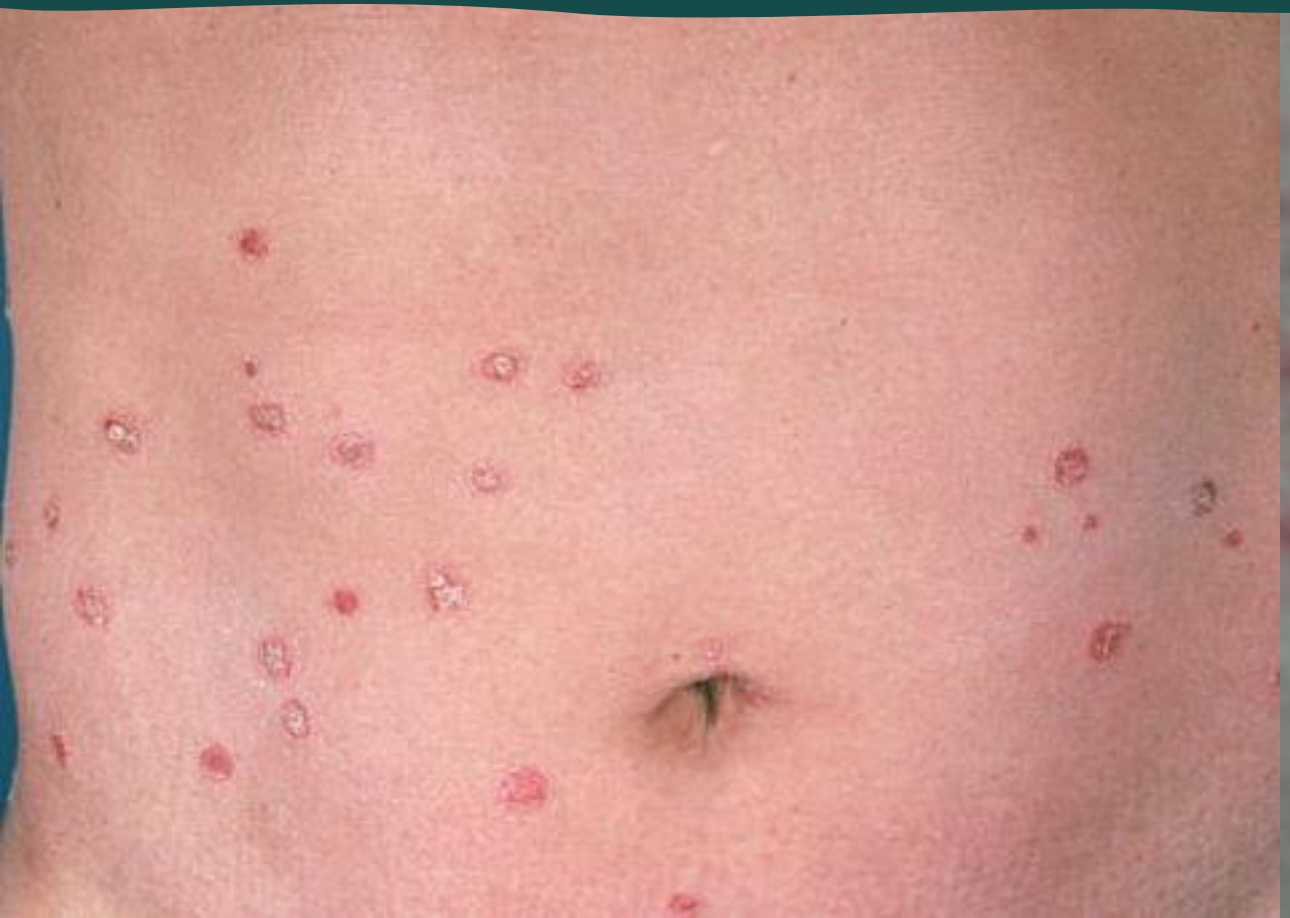
NATIONAL PSORIASIS FOUNDATION®

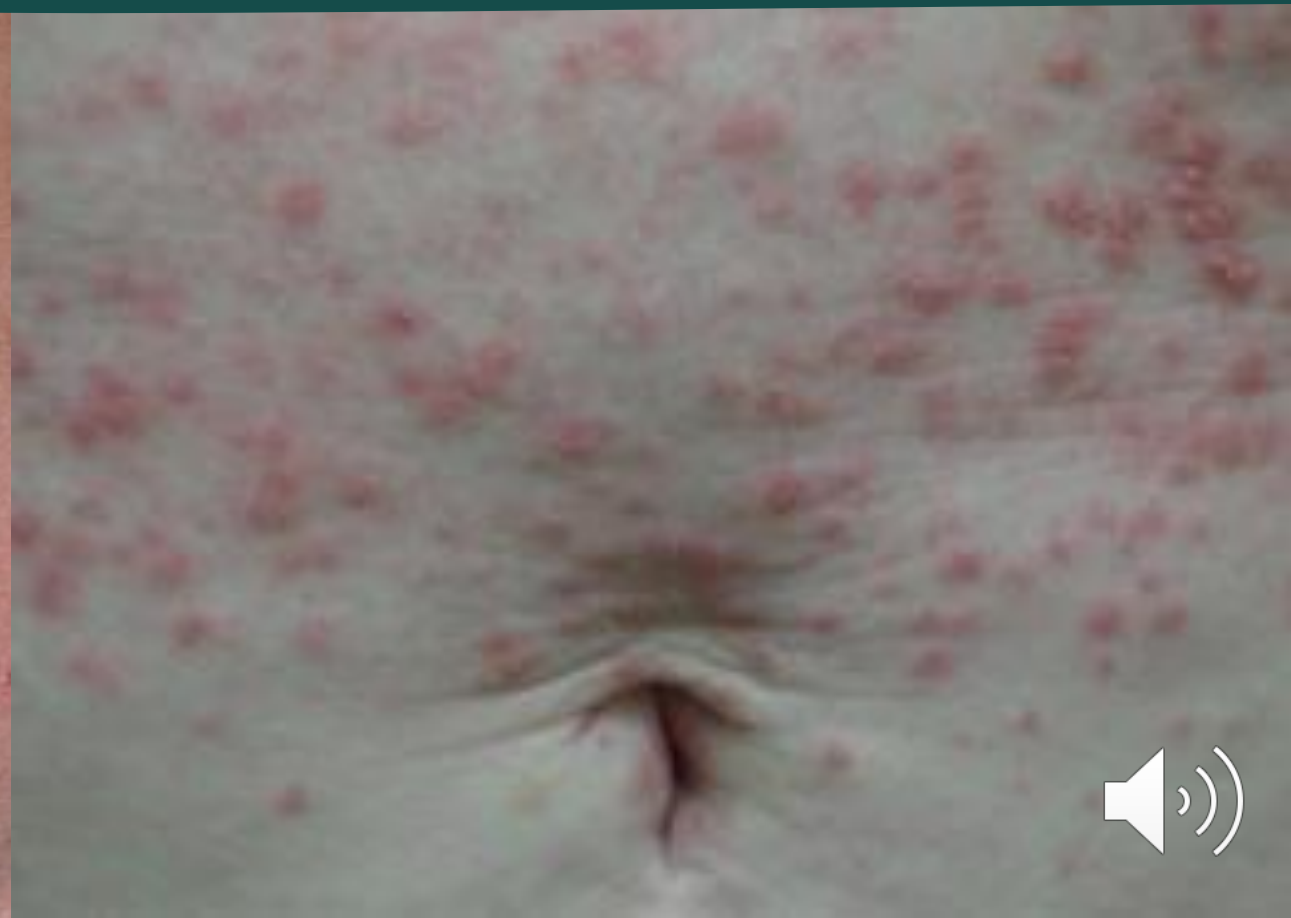
## Biologic treatments

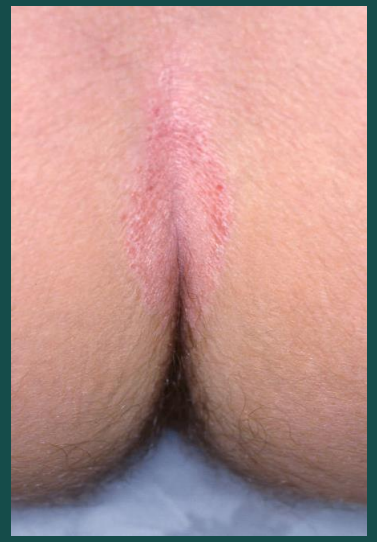
| Treatment type | Indication | Mechanism of Action | Method of Delivery | Dosage and Frequency | Possible Side Effects* | Warning and Precautions** |
|---|---|---|---|---|---|---|
| *Ixekizumab* | Psoriasis (Adults)<br>Psoriatic arthritis (Adults) | Blocks IL-17 | Subcutaneous self-injection | Psoriasis: Week 0 and every 2 weeks for 3 months, then every 4 weeks<br>Psoriatic arthritis: Week 0, then every 4 weeks | Injection site reaction<br>Upper respiratory infection<br>Nausea<br>Fungal infection | Serious infection<br>TB testing before starting Taltz<br>Serious allergic reaction<br>Inflammatory bowel disease |
| *Guselkumab* | Psoriasis (Adults) | Blocks interleukin 23 (IL-23) | Subcutaneous self-injection | Psoriasis: Week 0 and 4, then every 8 weeks | Upper respiratory infection<br>Headache<br>Injection site reaction<br>Joint pain<br>Diarrhea<br>Stomach flu<br>Fungal infection<br>Herpes simplex infection | Serious infection<br>TB testing before starting Tremfya |
| *Ustekinumab* | Psoriasis (People over 12 yrs)<br>Psoriatic arthritis (Adults) | Blocks interleukin 12 and 23 (IL-12/23) | Subcutaneous self-injection | Psoriasis and/or psoriatic arthritis: Week 0 and 4, then every 12 weeks | Cold or flu-like symptoms<br>Upper respiratory infection<br>Headache<br>Fatigue | Serious infection (especially from mycobacteria, salmonella and Bacillus Calmette-Guerin (BCG) vaccinations)<br>TB testing before starting Stelara<br>Malignancies<br>Serious allergic reaction<br>Reversible posterior leukoencephalopathy syndrome |

# Guttate Psoriasis Treatment Caveats

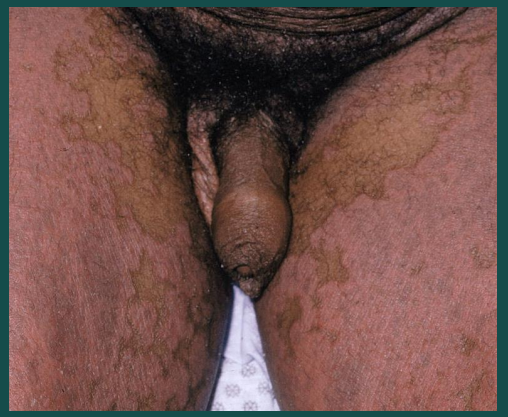
- Check ASO titer treatment of Strep infection will resolve flare



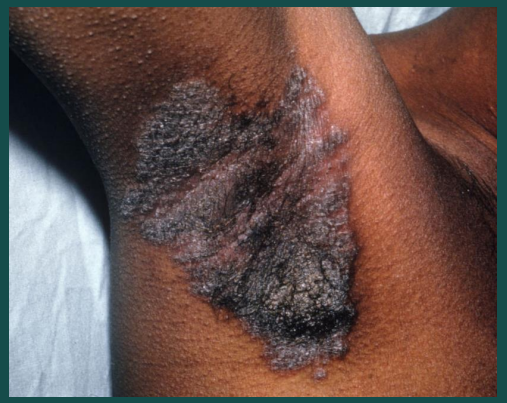


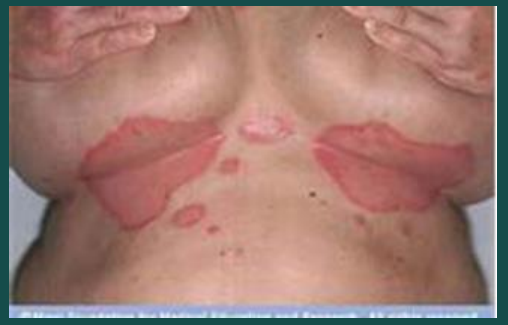


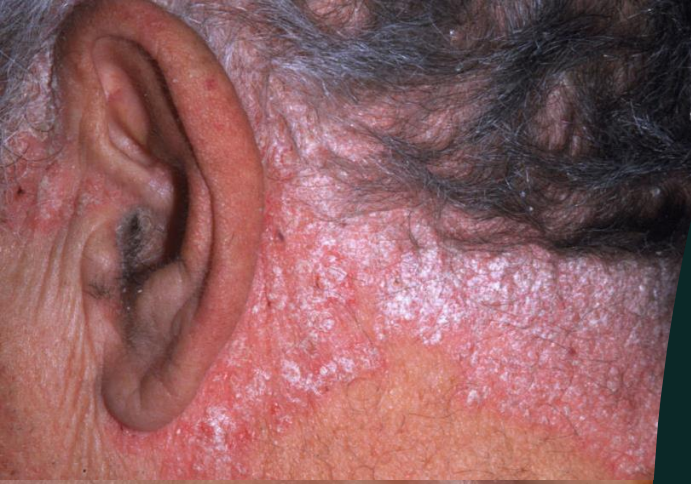
# Inverse Psoriasis Treatment Caveats

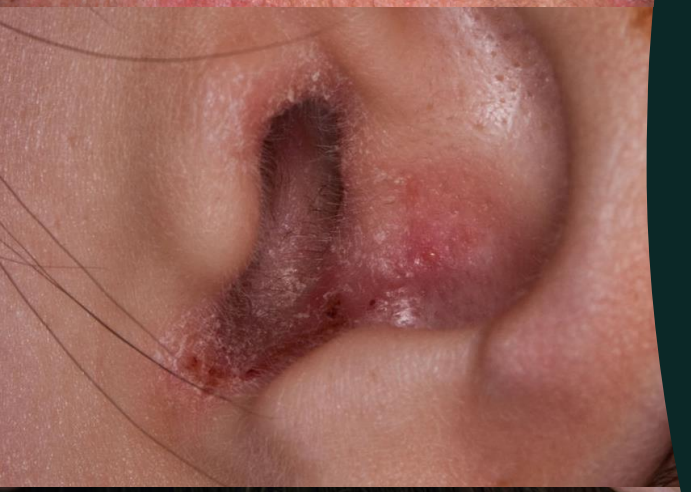


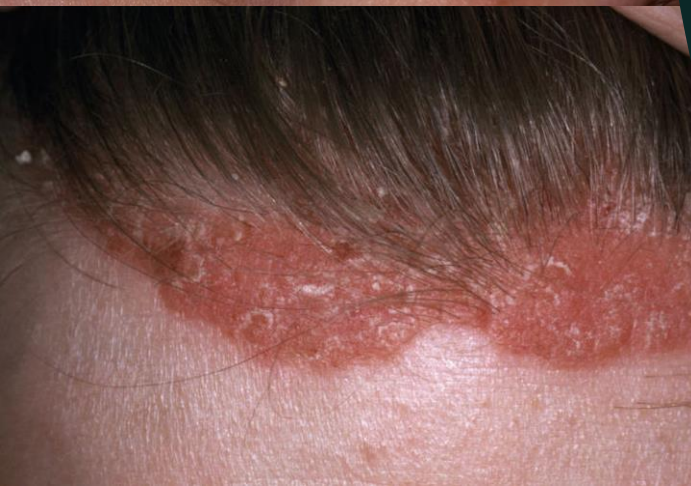
- Low potency corticosteroids due to an increased risk of corticosteroid-induced cutaneous atrophy in the intertriginous areas
- Topical calcipotriene
- Topical calcineurin inhibitors tacrolimus or pimecrolimus











# Sebo Psoriasis Treatment Caveats

- consider a drug vehicle that will help to improve adherence to therapy
- Topical corticosteroids
- Topical calcipotriene
- Intralesional corticosteroid injections
- Excimer laser

# Referral to a dermatologist should be considered in the following settings:

- Confirmation of the diagnosis is needed.
- The response to treatment is inadequate as measured by the clinician, patient, or both.
- There is significant impact on quality of life.
- The primary care clinician is not familiar with the treatment modality recommended such as PUVA, phototherapy, or immunosuppressive medications.
- The patient has widespread severe disease.
- In cases of psoriatic arthritis, referral and/or collaboration with a rheumatologist is indicated.

# Take Home Points

- Psoriasis can have a variety of clinical presentations including skin, nails, and joint involvement
- Patients with severe psoriasis should receive comprehensive health assessments to enhance preventive health practices, improved overall health and decrease risk of mortality.
- There are a variety of new and emerging treatments that are effective for psoriasis

# Post Test!

# Over ____ Americans have psoriasis

A: 1 million

B: 2 million

C: 5 million

D: 8 million

# Over ____ Americans have psoriasis

A: 1 million

B: 2 million

C: 5 million

**D: 8 million**

# Of people with Psoriasis ___ will develop psoriatic arthritis.

A: 15%

B: 30%

C: 50%

D: 90%

# Of people with Psoriasis ___ will develop psoriatic arthritis.

A: 15%

**B: 30%**

C: 50%

D: 90%

# Severe Psoriasis is associated with increased risk of

A: Infection

B: Kidney Disease

C: Depression/Suicidality

D: All of the above

# Severe Psoriasis is associated with increased risk of

A: Infection

B: Kidney Disease

C: Depression/Suicidality

**D: All of the above**

# References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• The National Psoriasis Foundation: National Psoriasis Foundation


# Questions

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