

Casual Friday Series

Psoriasis: Uncovering the Root Causes and Functional Solutions

A BIOGENETIX CLINICAL PRESENTATION

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Introduction to Psoriasis

What Is Psoriasis?

Definition: Psoriasis is a chronic, autoimmune condition where the body's immune system mistakenly attacks skin cells, leading to rapid skin turnover and the development of patches of red, scaly skin.

Prevalence: Approximately 2-3% of the global population is affected by psoriasis.

Symptoms: Common symptoms include red patches of skin covered with silvery scales, itching, and irritation.

Psoriasis isn't just a skin condition—it's a reflection of immune system dysfunction that affects the body as a whole. The inflammation caused by psoriasis can have systemic effects, triggering other health issues.

Beyond physical discomfort, psoriasis impacts emotional well-being and quality of life, contributing to anxiety, depression, and social challenges.

Think of psoriasis like a fire inside your body. It may show up on your skin, but it actually starts deeper within!

Introduction to Psoriasis

What's Really Driving Psoriasis?

Root Cause vs. Symptom Management: Conventional medicine often focuses on symptom management (topical steroids, immunosuppressive drugs) rather than addressing the root causes.

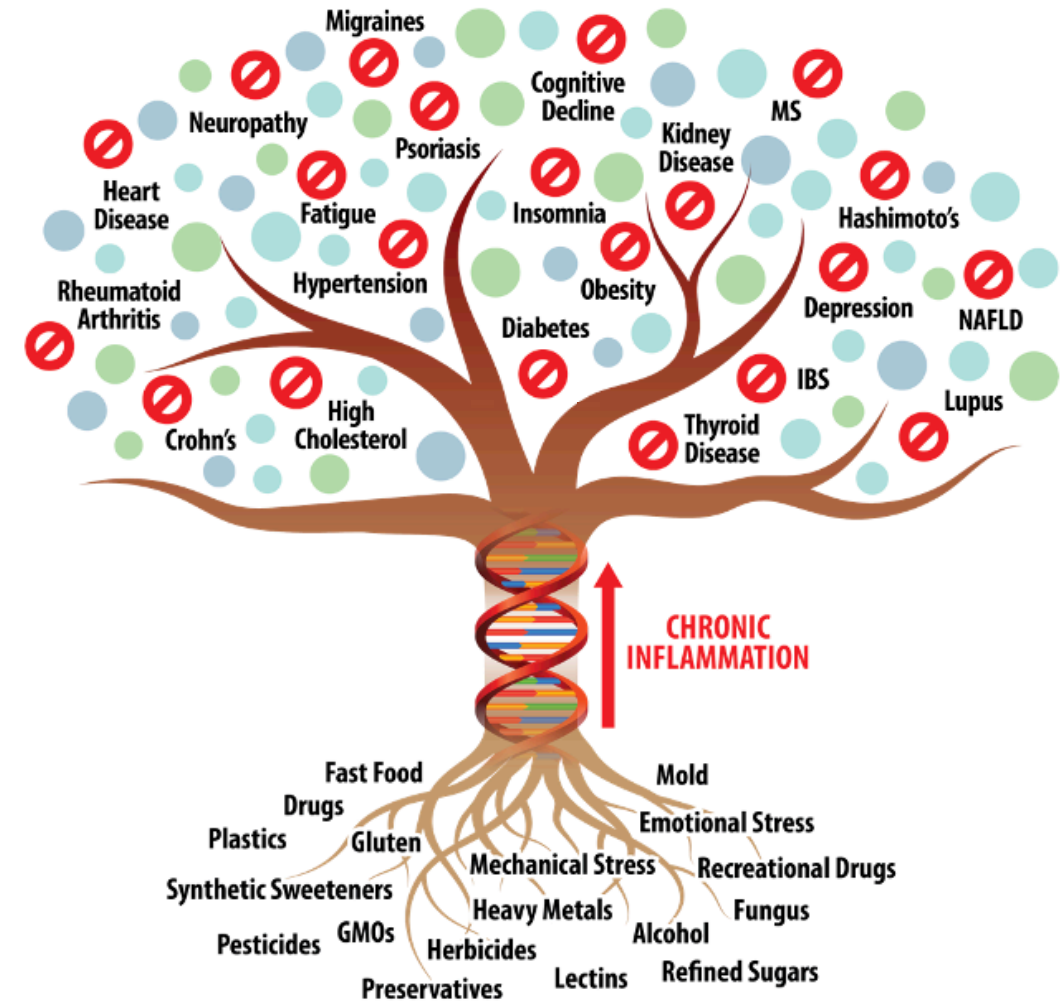
Functional Medicine Perspective: Focus on finding the underlying triggers of psoriasis—Sound Familiar?

Root: Chronic inflammation, gut dysbiosis, immune dysfunction, environmental toxins, and genetic predisposition.

Fruit: The outward manifestation of psoriasis—skin lesions, scaling, and discomfort

The Immune System Gone Haywire: T-cells attacking your skin. It's an immune response, not a skin disease.

Cytokine Overload: Think of cytokines as the “fire starters” in the immune system. We need to control them.



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Shifting the focus – the primary role of IL-23 in psoriasis and other inflammatory disorders

[MJ Gooderham](#)^{1,✉}, [KA Papp](#)², [CW Lynde](#)^{3,4}

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Insights into the pathophysiology of autoimmune inflammatory diseases including psoriasis have advanced considerably in recent years, and in parallel, so too have the available treatment options. Current clinical paradigms for the treatment of psoriasis have evolved to include targeted biologic therapies, starting with tumour necrosis factor-alpha (TNF-α) inhibitors and later, agents targeting interleukin (IL)-12/23 and IL-17. The most recent evidence suggests that IL-23 might be an even more potent target for the effective treatment of psoriasis and other autoimmune inflammatory disorders. This review will describe recent developments leading to the current understanding of the key role of IL-23 as a ‘master regulator’ of autoimmune inflammation and the clinical evidence for agents that specifically target this modulator in the context of treating psoriasis, spondyloarthropathy and inflammatory bowel disease.

Shifting the focus – the primary role of IL-23 in psoriasis and other inflammatory disorders

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Psoriasis is recognized as a Th17-mediated inflammatory disorder. A growing body of evidence supports IL-23 as the ‘master regulator’ of the immune-inflammatory response in psoriasis and other inflammatory disorders due to its critical role in maintaining the population of cytotoxic Th17 cells that produce pro-inflammatory cytokines including IL-17 and IL-22. Emerging results of randomized clinical trials suggest that selectively blocking IL-23 (p19 subunit) offers benefits above and beyond current treatment strategies for psoriasis producing high levels of efficacy, a favourable safety/tolerability profile, and the convenience of infrequent dosing. IL-23 blockers represent an important step forward in the continued evolution of the treatment landscape. Patients with psoriasis and other inflammatory diseases can expect better outcomes as therapies become more targeted and refined.

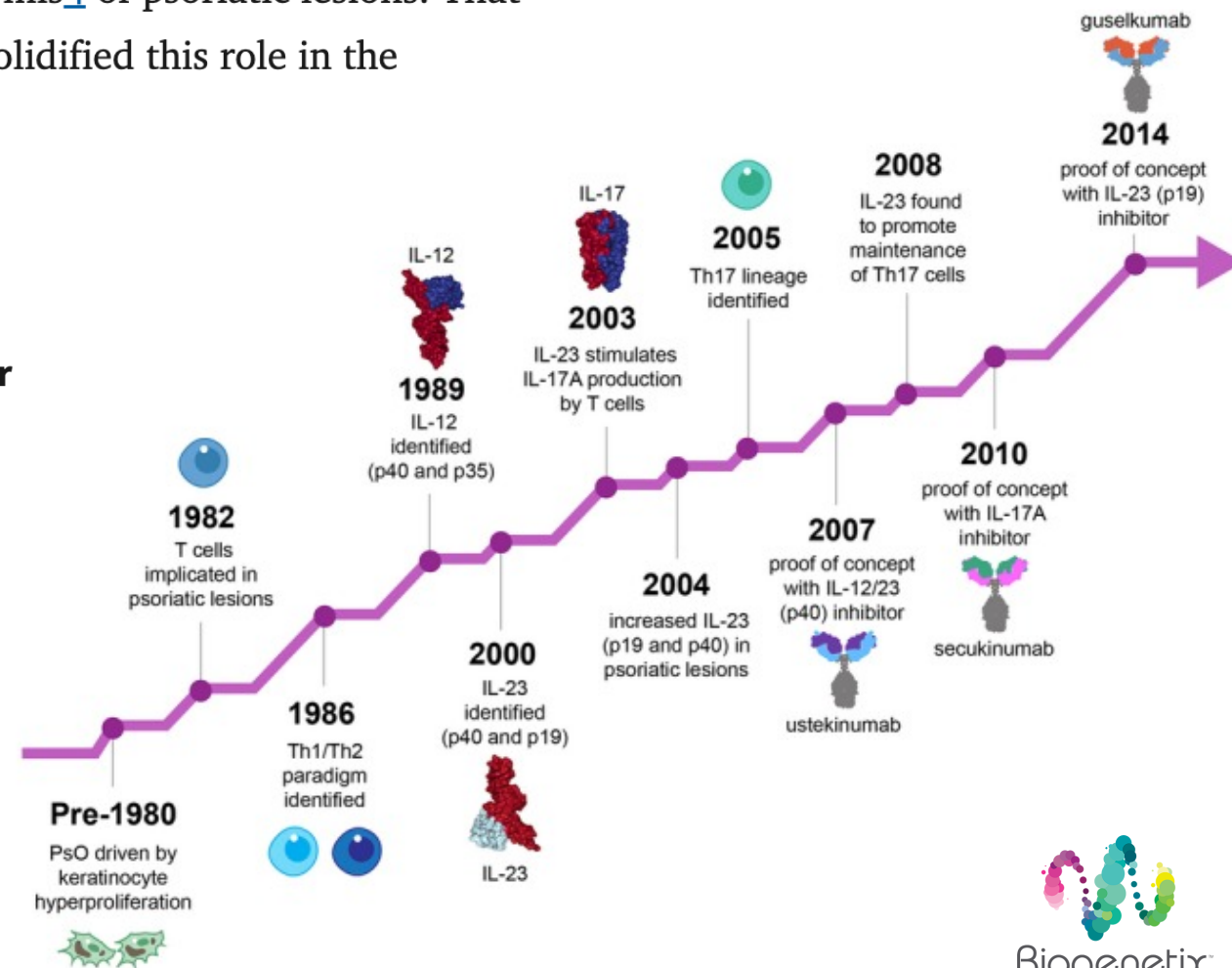
Psoriasis was originally believed to be a disease originating from dysregulation of keratinocyte proliferation (Fig. 1) based on histological evidence.^{1, 2} Through the 1980–90s, evidence pointed to psoriasis as an immune-mediated disease.^{3, 4, 5} Cytotoxic T cells were identified around capillaries³ and within the dermis and epidermis⁴ of psoriatic lesions. That T-cell-targeted therapies improved psoriasis outcomes further solidified this role in the disease pathophysiology.^{6, 7}

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Summary of Immune Pathophysiology

T-Cell Dysregulation and Cytokine Imbalance

Psoriasis is an autoimmune disease primarily driven by T-cell activation in the skin. These T-cells mistakenly attack healthy skin cells, causing inflammation and rapid skin cell turnover.

The overactive immune response triggers the release of pro-inflammatory cytokines such as TNF-alpha, IL-17, and IL-23, which amplify the inflammatory cascade, leading to the formation of red, scaly plaques on the skin.

The immune system in psoriasis is in a constant state of alert, perpetuating chronic inflammation in the skin and contributing to the disease cycle.

The Gut-Skin Connection: An Overlooked Driver of Psoriasis

Emerging research shows that psoriasis is not only driven by immune dysregulation in the skin but also by systemic inflammation originating from the gut. The gut-skin axis links gut health and immune system function, playing a significant role in the development and exacerbation of psoriasis.

Gut - Skin Connection

The gut-skin axis is a growing area of research in functional medicine, particularly when it comes to autoimmune conditions like psoriasis. The health of the gut plays a significant role in regulating inflammation, immune responses, and even skin health. Understanding the connection between the gut and skin is critical for managing psoriasis, as gut dysfunction can often trigger or worsen the condition. Let's break down how gut health affects psoriasis through mechanisms like gut permeability (leaky gut), microbiome imbalance (dysbiosis), immune system activation, and inflammation.

1. Leaky Gut: A Key Contributor to Psoriasis Flare-ups

Leaky gut, or intestinal permeability, is a condition in which the lining of the gut becomes damaged, allowing toxins, undigested food particles, and pathogens to leak into the bloodstream. This triggers a cascade of immune system responses that can lead to systemic inflammation and the activation of autoimmune conditions like psoriasis.

How It Works: The gut lining is made up of epithelial cells connected by tight junctions that normally prevent harmful substances from entering the bloodstream. When these tight junctions are compromised, the gut becomes "leaky," leading to increased endotoxin levels and immune system activation.

Impact on Psoriasis: The body's immune system reacts to these foreign substances by increasing inflammatory cytokines (TNF-alpha, IL-6, IL-17), which can exacerbate psoriasis symptoms. This immune activation in the gut spills over into the skin, causing inflammation and the rapid turnover of skin cells, a hallmark of psoriasis.

Gut - Skin Connection

2. Dysbiosis: Gut Microbiome Imbalance and Psoriasis

A healthy gut microbiome is essential for immune function, digestion, and skin health. Dysbiosis can disrupt these functions and contribute to autoimmune diseases like psoriasis.

How It Works: An imbalance in the gut microbiome can lead to the overgrowth of pathogenic bacteria, while beneficial bacteria may be depleted. This imbalance can contribute to intestinal inflammation, poor digestion, and increased permeability of the gut.

Impact on Psoriasis: Dysbiosis directly impacts immune regulation, as the gut is a major site of immune cell activity. Harmful bacteria can trigger inflammatory responses that reach the skin, causing flare-ups of psoriasis.

3. Gut Inflammation and Immune System Activation

The gut is home to a large portion of the body's immune cells, which are constantly monitoring for pathogens and potential threats. When the gut is inflamed, as in the case of dysbiosis or leaky gut, the immune system can become hyperactive and begin attacking healthy tissues, including the skin.

Immune System Response: Gut inflammation can trigger an immune cascade, leading to the production of pro-inflammatory cytokines and autoimmune responses. These cytokines can migrate through the bloodstream and target various organs, including the skin, where they cause psoriasis flare-ups.

How It Works: Inflammation in the gut activates T-cells and B-cells, which produce antibodies and cytokines. If the gut is inflamed, these immune cells can attack skin cells, leading to the rapid skin cell turnover characteristic of psoriasis.

Gut - Skin Connection

4. The Role of Diet and Gut Health in Psoriasis Management

Diet plays a significant role in regulating both gut health and immune system activity, making it a crucial component in managing psoriasis. Specific foods can reduce inflammation, support the gut microbiome, and heal the gut lining, all of which are important for controlling psoriasis.

Anti-Inflammatory Diet: A diet rich in omega-3 fatty acids (found in fatty fish like salmon), fiber (from fruits, vegetables, and whole grains), and antioxidants (from colorful fruits and vegetables) helps reduce inflammation throughout the body and in the gut.

Gut-Healing Foods: Foods like bone broth, collagen, and fermented foods (like kefir, sauerkraut, and kimchi) support gut healing by promoting the growth of beneficial bacteria and improving gut lining integrity.

Probiotic-Rich Foods and Supplements: Probiotics help restore balance to the gut microbiome, supporting the immune system and reducing inflammation. Strains like *Lactobacillus* and *Bifidobacterium* have been shown to support gut barrier integrity and reduce intestinal permeability.

Psoriasis and Gut Microbiome—Current State of Art

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Psoriasis is a chronic, immune-mediated inflammatory disease that affects around 125 million people worldwide. Several studies concerning the gut microbiota composition and its role in disease pathogenesis recently demonstrated significant alterations among psoriatic patients. Certain parameters such as Firmicutes/Bacteroidetes ratio or Psoriasis Microbiome Index were developed in order to distinguish between psoriatic and healthy individuals. The “leaky gut syndrome” and bacterial translocation is considered by some authors as a triggering factor for the onset of the disease, as it promotes chronic systemic inflammation. The alterations were also found to resemble those in inflammatory bowel diseases, obesity and certain cardiovascular diseases. Microbiota dysbiosis, depletion in SCFAs production, increased amount of produced TMAO, dysregulation of the pathways affecting the balance between lymphocytes populations seem to be the most significant findings concerning gut physiology in psoriatic patients. The gut microbiota may serve as a potential response-to-treatment biomarker in certain cases of biological treatment. Oral probiotics administration as well as fecal microbial transplantation were most reported in bringing health benefits to psoriatic patients. However, the issue of psoriatic bacterial gut composition, its role and healing potential needs further investigation. Here we reviewed the literature on the current state of the relationship between psoriasis and gut microbiome.

Gut Microbiota in Psoriasis

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Liver Health and It's Impact on Psoriasis

The liver plays a central role in detoxification, metabolism, immune regulation, and inflammation control, making it a critical organ in the management of psoriasis. Psoriasis is an autoimmune disease that involves chronic inflammation, and a compromised liver can exacerbate this condition by impeding the body's ability to clear toxins and regulate immune function. Understanding the liver's role in psoriasis provides key insights into how supporting this organ can improve skin health and reduce flare-ups. Let's explore how liver function, detoxification, and inflammation regulation directly affect psoriasis, and how supporting liver health can lead to significant improvements in skin condition.

1. Liver Detoxification and Psoriasis

The liver is the body's primary detoxification organ, responsible for breaking down toxins, waste products, and hormones that the body no longer needs. Proper liver function is essential in clearing toxins, which, if accumulated in the body, can lead to systemic inflammation and worsen psoriasis symptoms.

Phase I and Phase II Detoxification: The liver has two main detoxification phases. In Phase I, toxins are broken down into intermediate metabolites, and in Phase II, these metabolites are conjugated to make them water-soluble so they can be excreted through the bile or urine. Any disruption in these processes can result in the buildup of toxic metabolites, leading to increased inflammation and worsened psoriasis.

Impact on Psoriasis: A sluggish liver can impair its detoxification function, leading to the accumulation of waste products, including heavy metals, pesticides, food additives, and endotoxins from the gut. These toxins can trigger an inflammatory cascade that directly impacts the skin, leading to psoriasis flare-ups.

Liver Health and It's Impact on Psoriasis

2. Inflammation Regulation by the Liver

The liver also plays an important role in regulating the body's inflammatory response. When the liver is compromised or overwhelmed with toxins, it becomes less efficient at controlling inflammation.

Liver and Cytokine Regulation: The liver helps modulate the release of inflammatory cytokines—the immune system's signaling molecules. Chronic liver dysfunction can result in imbalanced cytokine production, leading to persistent inflammation in the body, which can directly affect the skin.

Impact on Psoriasis: Elevated levels of inflammatory cytokines like TNF-alpha and IL-17 are closely linked to psoriasis flare-ups. A dysfunctional liver is less able to regulate these cytokines, allowing them to promote the rapid skin cell turnover characteristic of psoriasis.

3. Liver and Hormonal Balance: The Impact on Psoriasis

The liver is also integral in hormone regulation, particularly in breaking down excess hormones like estrogen and cortisol.

Cortisol and Psoriasis: Cortisol, the body's primary stress hormone, is metabolized by the liver. Chronic stress can lead to elevated cortisol levels, which, if not properly regulated by the liver, can suppress immune tolerance and increase inflammation. This can make psoriasis symptoms worse.

Estrogen and Psoriasis: In cases of estrogen dominance, which may occur due to liver dysfunction (since the liver is responsible for metabolizing estrogen), increased levels of estrogen can contribute to systemic inflammation, which may worsen psoriasis.

Nonalcoholic Fatty Liver Disease and Psoriasis

What a Dermatologist Needs to Know

PMCID: PMC4382145 PMID: [25852814](#)

[Ronald Prussick](#)^{a,b,✉}, [Lisa Prussick](#)^{a,c}, [Dillon Nussbaum](#)^a

Psoriasis is a systemic inflammatory disease associated with a variety of comorbidities. It has been shown that psoriasis patients have an increased incidence of nonalcoholic fatty liver disease over controls. Patients with nonalcoholic fatty liver disease and psoriasis have more severe skin disease and are at higher risk of severe liver fibrosis than patients without psoriasis. The authors will review the diagnosis of nonalcoholic fatty liver disease and also discuss lifestyle changes and treatments for psoriasis that may benefit or worsen nonalcoholic fatty liver disease.

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Multiple hospital-based observational studies suggest patients with psoriasis are 1.5-fold to threefold more likely to have NAFLD.³ In an Italian prospective study, 59 percent of psoriatic patients were diagnosed with NAFLD. It was significantly correlated with metabolic syndrome, obesity, and psoriatic arthritis. The psoriatic patients were more likely to have more severe liver fibrosis over the non- psoriatic cohort as measured by noninvasive NAFLD fibrosis scores.⁶

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Understanding whether a patient with psoriasis has an underlying fatty liver disease is important for two reasons. The first is that fatty liver is a clue to the predisposition toward underlying diseases, such as cardiovascular disease, metabolic syndrome, diabetes, and obesity. Other associations are fatty pancreas, hypothyroidism, polyps of the colon, elevated uric acid, vitamin D deficiency, and polycystic ovaries. About 50 percent of those with NAFLD have obstructive sleep apnea.¹⁸ The second reason is that NASH patients are at increased risk for developing cirrhosis and hepatocellular carcinoma. This information is vital in deciding which psoriasis treatment options would be best to limit hepatic toxicity.

Giving advice on lifestyle changes, such as weight loss, exercise, avoiding alcohol, smoking, and minimizing saturated fats and high fructose corn syrup can benefit patients. Supplementation with oral vitamin D3, vitamin E, and omega-3 has also shown to be helpful in some patients. A few case reports reveal that TNF-alpha antagonists may benefit psoriatic patients with NAFLD, although large controlled studies are needed.



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Psoriasis and the liver: problems, causes and course

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Background/objectives: Psoriasis patients have a higher risk of liver abnormalities such as non-alcoholic fatty liver disease (NAFLD), drug-induced hepatitis, alcoholic hepatitis and neutrophilic cholangitis, than the general population. Associated liver disease limits therapeutic options and necessitates careful monitoring. The aim of the study was to identify liver problems in psoriasis patients and to investigate the underlying causes as well as their course.

Conclusion: Liver enzyme abnormalities are common in psoriasis patients and are mostly associated with drugs and NAFLD. Although most cases can be managed by avoiding hepatotoxic medications and close follow up, severe consequences like cirrhosis may develop.

Lymphatic Drainage and Psoriasis

The lymphatic system plays a crucial role in maintaining immune function, detoxification, and fluid balance in the body. While it is often overlooked in the context of skin conditions like psoriasis, its dysfunction can significantly contribute to the disease process. Let's break down how lymphatic health impacts psoriasis, particularly through its interactions with the immune system, gut health, and systemic inflammation

1. Immune System Regulation

The lymphatic system is a key player in immune surveillance and response. It acts as a conduit for immune cells (such as lymphocytes) to travel throughout the body and to tissues where immune activation is required. In psoriasis, immune dysregulation is a central driver of the disease. T-cells mistakenly attack skin cells, causing inflammation and rapid turnover of skin cells. When the lymphatic system is sluggish or congested, immune cells cannot efficiently clear pathogens, toxins, and waste products, leading to increased systemic inflammation.

2. Detoxification and Toxin Removal

The lymphatic system is vital for detoxification by transporting waste products, cellular debris, and toxins out of tissues. In psoriasis, the overactive immune system generates an increased burden of metabolic waste and inflammatory byproducts. A sluggish lymphatic system can impair the body's ability to remove these toxins, leading to a build-up of waste in tissues, which further stimulates inflammation and perpetuates psoriasis flare-ups.

Lymphatic Drainage and Psoriasis

3. Gut-Lymphatic Connection

There's a direct connection between the gut, the lymphatic system, and psoriasis. The gut-associated lymphoid tissue (GALT) is part of the body's immune system and plays a critical role in regulating the immune response. Leaky gut, dysbiosis, and gut inflammation can send inflammatory signals through the lymphatic system, which eventually manifests as skin issues, including psoriasis. This becomes even more important when we consider that the lymphatic system is responsible for draining the intestines.

4. Impact of Lymphatic Congestion on Psoriasis Flares

Lymphatic congestion occurs when the lymphatic system fails to effectively drain waste and immune cells from tissues. This congestion often results in the accumulation of toxic waste and inflammatory compounds in the body. In psoriasis, this can manifest as worsening of skin symptoms, increased redness, scaling, and itching. Additionally, the lymphatic system plays a role in transporting fatty acids that are vital for skin health. Any disruption in lymph flow can lead to deficient skin repair and impaired skin barrier function, which is characteristic of psoriasis.

Methylation

Methylation is a biochemical process in which a methyl group (CH₃) is added to a molecule, typically a DNA molecule. This process can activate or deactivate genes, affecting gene expression without altering the actual genetic code. Methylation affects several key biological functions, including immune regulation, inflammatory response, and detoxification.

Think of methylation as a switch that can turn on or off various processes in the body, including inflammation and detox. For psoriasis patients, proper methylation can help regulate the immune system and reduce chronic inflammation, while dysfunctional methylation can lead to a heightened inflammatory response and poor healing.

1. Methylation and Immune System Regulation in Psoriasis

Psoriasis is driven by autoimmune dysfunction, where the immune system attacks the skin cells, leading to the rapid turnover of skin and inflammation. Proper methylation is crucial for regulating immune cell function.

Gene Expression and Immune Activation: Methylation controls the expression of key immune-regulating genes. When methylation is deficient, immune cells can become overactive, leading to chronic inflammation and conditions like psoriasis.

Immune Tolerance: Healthy methylation helps the immune system distinguish between harmful invaders and the body's own tissues, preventing autoimmune attacks on healthy skin cells in psoriasis. Imbalanced methylation can lead to autoimmunity and heightened immune responses.

Methylation

2. Methylation and Detoxification: Supporting Skin and Systemic Health

The liver relies on methylation to support detoxification pathways—critical for individuals with psoriasis, as the liver is responsible for filtering out toxins and inflammatory byproducts from the body. When the body struggles to clear toxins, these substances can circulate in the bloodstream, worsening inflammation and triggering psoriasis flare-ups.

Phase I and Phase II Detoxification: Methylation is vital for Phase II detoxification (the conjugation of toxins to make them water-soluble for elimination). Without proper methylation, toxins like heavy metals, pesticides, and metabolic waste are less efficiently processed, accumulating in the body.

Antioxidant Support: Methylation is involved in producing glutathione, a powerful antioxidant that supports detoxification and reduces oxidative stress. Oxidative stress is a key driver of psoriasis flare-ups.

3. Methylation and Inflammation: Reducing Chronic Immune Activation

Chronic inflammation is at the heart of psoriasis. Methylation influences inflammatory gene expression, such as cytokines (TNF-alpha, IL-6, IL-17), which play a significant role in inflammation and immune response. Dysregulated methylation can increase pro-inflammatory cytokines, making the body more prone to autoimmune reactions and inflammatory flare-ups.

Cytokine Regulation: Methylation affects how cytokines are expressed, controlling the balance of pro-inflammatory vs. anti-inflammatory cytokines.

Epigenetic Changes: In psoriasis, epigenetic changes caused by impaired methylation can lead to persistent inflammation. Over time, this chronic inflammation exacerbates skin conditions like psoriasis.

Methylation

4. Methylation and Healing: Promoting Cellular Repair and Skin Regeneration

For individuals with psoriasis, wound healing and skin regeneration are vital. Healthy methylation supports cellular repair, tissue regeneration, and DNA repair, which is essential for healing the damaged skin associated with psoriasis.

Cellular Repair: Methylation helps regulate the expression of genes involved in cell cycle control and tissue repair. A methylation deficiency can impair the body's ability to regenerate skin and heal damaged tissue, leading to chronic flare-ups.

Skin Barrier Function: Methylation plays a role in maintaining the integrity of the skin barrier. Dysregulated methylation can make the skin more susceptible to infections, dryness, and damage, which worsens psoriasis symptoms.

Stress and Psoriasis

Stress is a powerful, yet often underestimated, trigger for psoriasis flare-ups. Chronic stress activates the hypothalamic-pituitary-adrenal (HPA) axis, which plays a key role in regulating the body's response to stress. This, in turn, leads to immune dysregulation, hormone resistance, and a blunted stress response that can worsen conditions like psoriasis. Additionally, stress creates an imbalance between the fight-or-flight (sympathetic) and rest-and-digest (parasympathetic) nervous systems, further exacerbating inflammation and inhibiting healing.

1. The HPA Axis and Psoriasis: Stress-Induced Immune Dysregulation

The HPA axis is the body's main response system to stress, controlling the release of stress hormones like cortisol. Cortisol is an important anti-inflammatory hormone that helps regulate immune function. However, when the HPA axis is chronically activated by stress, it can have the opposite effect—leading to immune system imbalance and exacerbating conditions like psoriasis.

Chronic Stress and Cortisol: When stress becomes chronic, the body's constant release of cortisol can suppress the body's immune regulation. Initially, cortisol helps dampen inflammation, but over time, it can actually lead to immune system dysfunction—causing the body to attack its own tissues, which is central to psoriasis development.

2. Cell Receptor Blunting and Hormone Resistance: A Vicious Cycle

Chronic stress doesn't just disrupt the immune system—it also impacts cell receptors. Over time, the body can develop hormone resistance through what I call... cell receptor blunting. This means that the body's cells become less responsive to cortisol and other critical hormones, leading to increased inflammation and immune dysregulation.



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Stress and Psoriasis

3. Sympathetic vs. Parasympathetic Nervous System: Fight or Flight vs. Rest and Digest

The autonomic nervous system has two main branches: the sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS). These systems work together to regulate the body's stress response and restorative functions, respectively. However, chronic stress tilts the balance toward SNS dominance, triggering a fight-or-flight response that worsens inflammation and inhibits healing.

4. The Impact of Stress on Psoriasis: Inflammation and Healing

Chronic stress leads to elevated levels of inflammatory cytokines (TNF-alpha, IL-6, IL-17), which are key players in the pathophysiology of psoriasis. These cytokines drive the inflammatory cascade that causes skin cells to proliferate rapidly, leading to the characteristic red patches and scaling of psoriasis.

Inflammatory Cytokines: Prolonged stress leads to increased production of pro-inflammatory cytokines, worsening the inflammatory cycle in psoriasis. This results in chronic skin inflammation, making it difficult for the body to heal.

Delayed Healing: Chronic stress hampers the repair processes in the skin and other tissues. Elevated cortisol levels can inhibit collagen production and slow down cellular regeneration, both of which are essential for repairing the damaged skin in psoriasis.

The Foundation of Psoriasis Support

Step 1: The 21-Day Metabolic Clearing Kit (Foundational Detox)

Purpose: The first step in healing is clearing the body of excess toxins and supporting foundational detox pathways (liver, gallbladder, gut).

- **Key Benefits:**

- Restores detox pathways to reduce inflammation and support overall healthy metabolic function.
- Supports gut health by reducing systemic inflammation and improving digestion.
- Prepares the body for deeper, more specific healing.

- **How It Works:**

- **Liver Support:** Nutrients like milk thistle, NAC, and dandelion root help the liver detoxify and manage inflammation.
- **Gut Health:** Probiotics, fiber, and gut-healing nutrients promote a healthy microbiome and support gut lining integrity.
- **Inflammation Control:** Anti-inflammatory compounds from the kit help reduce systemic inflammation and prepare the body for further healing.



The Foundation of Psoriasis Support

Step 2: Tailoring the Approach to the Individual

Once the foundational detox has been established, we move on to personalizing the treatment plan based on the patient's specific needs.

A. Gut Health: GI Resq Protocol

- **When to Use:** If gut imbalances are a key concern (e.g., dysbiosis, leaky gut, digestive discomfort).
- **How It Helps:** Supports gut lining integrity, balances microbiome, and reduces inflammation.

Why It's Essential: Gut health is crucial for regulating the immune system and reducing inflammation that contributes to psoriasis flare-ups.

B. HPA Axis Balance: Hypaax Balance or PS Support

- **When to Use:** If stress and the HPA axis (Hypothalamic-Pituitary-Adrenal) imbalance are contributing to flare-ups.
- **How It Helps:** Supports the body's ability to cope with stress, which is a major trigger for psoriasis.
 - **Hypaax Balance:** Adaptogenic herbs to support adrenal function and protect the HPA axis during stress.
 - **PS Support:** Phospholipid formulation to reduce/normalize cortisol levels and support the parasympathetic nervous system (rest-and-digest).

Why It's Essential: Chronic stress increases inflammation can exacerbate psoriasis symptoms

The Foundation of Psoriasis Support

C. Continued Liver Support: Hepato-CL or Hepato-ST

- **When to Use:** If liver function requires ongoing support, especially after the initial 21-day kit.
- **How It Helps:** Helps cleanse and detoxify the liver, while supporting phase I and phase II detox pathways.
 - **Hepato-CL:** Supports healthy liver function, proper detox, and inflammation.
 - **Hepato-ST:** supports normal distribution of fat in the liver, supports synthesis of phospholipids and elimination of lipids from the liver.

Why It's Essential: The liver plays a pivotal role in detoxing the body. Ongoing liver support reduces systemic inflammation and supports healing.

D. Methylation & Inflammatory Support: MDS, Super G, Resveratrol

- **When to Use:** If there are methylation issues or chronic inflammation that need to be addressed for immune modulation and skin repair.
- **How It Helps:**
 - **MDS:** Supports Phase II methylation reactions in the liver, proper homocysteine metabolism, and the production and metabolism of bile
 - **Super G:** Provides potent antioxidant support to combat inflammation.
 - **Resveratrol:** Helps reduce oxidative stress and inflammation, supporting immune health

Why It's Essential: Methylation is critical for immune system regulation. Inflammatory support helps control flare-ups, which is key in autoimmune conditions like psoriasis.

The Foundation of Psoriasis Support

E. Holistic Lifestyle Practices

Anti-inflammatory Diet: Focus on a whole foods, anti-inflammatory diet rich in omega-3s, fiber, vitamins, and minerals to support immune function and skin health. Avoid refined sugars, gluten, and dairy, which can trigger inflammatory responses.

Hydration: Proper hydration supports liver detoxification and optimal skin health. Drink filtered water and herbal teas like green tea or ginger tea.

Exercise: Regular, moderate exercise (such as walking or swimming) helps reduce stress, promote circulation, and support immune function.

Activate the Parasympathetic System: Engage in deep breathing exercises, yoga, and meditation to reduce cortisol levels and shift the body from fight-or-flight (SNS) to rest-and-digest (PNS).

Step 3: Monitoring and Adjusting the Protocol

Ongoing Assessment: Regular follow-up appointments to monitor progress and adjust supplementation based on labs and symptoms.

Lab Testing: Key markers to watch (e.g., liver enzymes, inflammatory markers, gut and immune markers) to adjust treatments as needed.

Healing psoriasis requires addressing the root causes of immune dysfunction, gut health, liver detoxification, and stress management. By supporting these systems, we can reduce chronic inflammation, enhance healing, and manage psoriasis effectively. The 21-Day Metabolic Clearing Kit provides the foundation for detoxification, and the next steps involve personalizing the treatment based on individual needs, focusing on immune regulation, gut restoration, liver support, and stress reduction.



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