



# VITILIGO AND MIMICKERS

## EXPLORING DEPIGMENTATION DISORDERS & THEIR DIAGNOSIS

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# Distinguishing Vitiligo from Its Mimickers

Several skin conditions can **mimic vitiligo**, leading to potential **misdiagnosis**. Accurate differentiation is crucial for appropriate treatment.

## Common Mimickers:

- **Tinea Versicolor:** Fungal infection with scaly patches
- **Post-Inflammatory Hypopigmentation:** Follows skin trauma or inflammation
- **Pityriasis Alba:** Well-defined hypopigmented patches, common in children
- **Idiopathic Guttate Hypomelanosis:** Small, white macules, typically in older adults
- **Progressive Macular Hypomelanosis:** Ill-defined hypopigmented macules, often in young adults
- **Hypopigmented Mycosis Fungoides:** Hypopigmented patches or plaques, more common in younger individuals with darker skin tones



# Understanding Vitiligo & Its Clinical Relevance

## What is Vitiligo?

A chronic skin condition characterized by the loss of melanocytes, leading to patchy depigmentation.

## Relevance in Clinical Dermatology:

- Impacts 0.5–2% of the global population.
- Associated with psychological and social challenges for patients.
- Often confused with mimickers like Tinea Versicolor or Post-inflammatory Hypopigmentation.

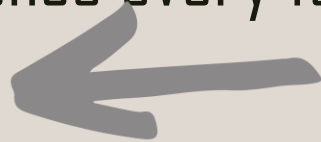
## Importance of Diagnosis and Management:

- Early recognition can prevent misdiagnosis.
- Tailored therapies improve quality of life.

# Poll: How often do you encounter or diagnose vitiligo in your clinic?

## Options:

1. Frequently (at least once a month)
2. Occasionally (a few cases a year)
3. Rarely (once every few years)
4. Never



# Key Factors In the Development of Vitiligo

**Autoimmune Factors:** The body's immune system mistakenly attacks melanocytes, leading to depigmentation. This autoimmune process is often associated with other autoimmune conditions such as thyroid disease (Hashimoto's thyroiditis) and alopecia areata.

**Genetic Predisposition:** Family history plays a significant role, with genetic studies identifying specific polymorphisms in genes regulating the immune response, such as NLRP1 and PTPN22.

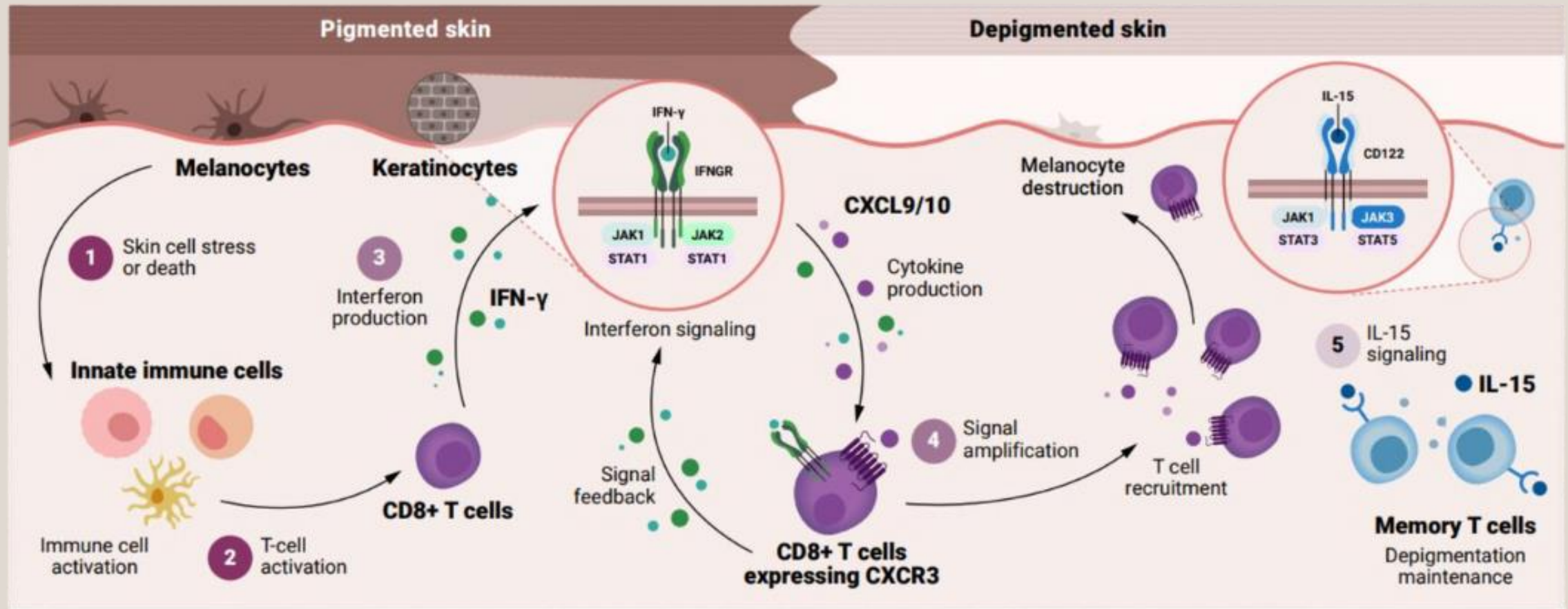
**Environmental Triggers:** Exposure to certain triggers, including stress, trauma, sunburn, and chemical irritants, can precipitate or exacerbate the onset of vitiligo.



## INITIATION

## PROGRESSION

## PERSISTENCE



# Mechanisms Behind Vitiligo

## Melanocyte Destruction and Immune Dysregulation

### Melanocyte Destruction:

- The progressive loss of **melanocytes** in affected areas leads to depigmentation.
- Linked to **oxidative stress** and intrinsic cellular **vulnerabilities** in melanocytes.

### Immune Response:

- **Cytotoxic T-cells** target and destroy melanocytes.
- Autoimmune pathways involving interferon-gamma and CXCL10 contribute to disease progression.
- Persistent **inflammation** hinders repigmentation efforts.

# Tools and Techniques for Diagnosing Vitiligo

## Wood's Lamp Examination:

- Highlights depigmented areas by causing a bright white fluorescence under **UV light**.
- Useful for distinguishing **vitiligo from mimickers** like Tinea Versicolor or post-inflammatory hypopigmentation.

## Biopsy:

- Typically, unnecessary but may **confirm** the diagnosis in uncertain cases.
- Reveals the **absence** of melanocytes in affected skin and inflammatory markers.

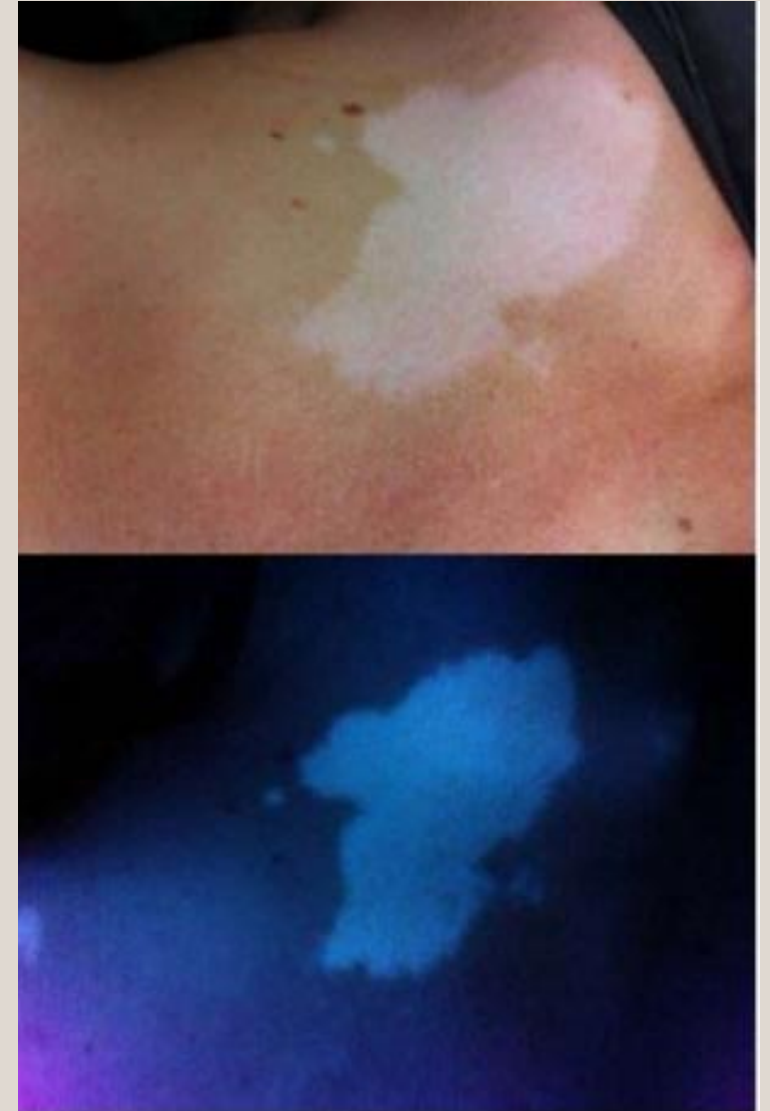
## Clinical Signs:

- Sharply **demarcated** white patches, often symmetrical.
- Frequently observed on the face, hands, and areas prone to friction or trauma.
- Look for associated **leukotrichia** (white hair in affected areas).



# Wood's Lamp Examination

- ✓ Highlights depigmented patches, especially in lighter skin tones, often missed under normal light.
- ✓ UV light reveals bright blue-white fluorescence, contrasting with healthy skin.
- ✓ Fluorescence occurs due to the absence of melanin, exposing dermal collagen.
- ✓ Enhances lesion visibility, aiding early detection and accurate assessment.



# Effective Strategies for Managing Vitiligo

## Topical Steroids:

- First-line treatment for localized vitiligo.
- Reduces inflammation and promotes repigmentation.
- Common agents: Clobetasol, Betamethasone.
- **Caution:** Long-term use may lead to skin thinning or striae.

## Light Therapy:

- Narrowband UVB (NB-UVB) is the gold standard for widespread vitiligo.
- Helps stimulate melanocyte activity and suppress immune-mediated destruction.
- Typically requires 2–3 sessions per week for several months.

# Effective Strategies for Managing Vitiligo

## New and Emerging Treatments:

- **JAK Inhibitors:** Topical or oral treatments targeting Janus kinase pathways to reduce immune response.
- **Cellular Transplantation:** Melanocyte keratinocyte transplantation procedure (MKTP) for stable vitiligo.
- **Targeted Biologics:** IL-15 inhibitors are currently in clinical trials.



# MIMICKERS OF VITILIGO

## RECOGNIZING THE IMPOSTERS



# Post-Inflammatory Hypopigmentation

Occurs when pigment production decreases after inflammation or injury.

## Causes:

- Eczema
- Psoriasis
- Lichen Planus
- Burns (Trauma/Chemical)
- Infections (e.g., Tinea Versicolor)

## Features:

- Pale patches/spots
- Gradual repigmentation

## Management:

- Reassurance
- Treat inflammation
- Sun protection



# Tinea Versicolor vs. Vitiligo

## What is Tinea Versicolor?

- A superficial fungal infection caused by *Malassezia* species
- Presents as hypo- or hyperpigmented patches, often on the trunk and shoulders

## Clinical Features:

- Patches may have slight scaling
- Common in humid or warm environments
- Can worsen with sweating

## Management:

- Antifungal treatments (ketoconazole or selenium sulfide)
- Educate on recurrence prevention and differentiation from vitiligo



Features	Tinea Versicolor	Vitiligo
Pigmentation	Hypo- or hyper-	Hypo-
Scaling	Often present	Absent
Wood's Lamp	Fluoresces	No change
Treatment	Antifungals	Varies

# Idiopathic Guttate Hypomelanosis vs. Vitiligo

## What is Idiopathic Guttate Hypomelanosis (IGH)?

- Small, white, round or oval macules
- Commonly in older adults and sun-exposed areas like arms and legs

## Clinical Features:

- Small, flat, depigmented spots (2–5 mm)
- Frequently occurs with age and prolonged sun exposure
- Asymptomatic, not progressive

## Management:

- Cosmetic camouflage for aesthetic concerns
- Sun protection to prevent further contrast
- Educate on the benign nature of IGH



Features	Idiopathic Guttate Hypomelanosis (IGH)	Vitiligo
Size/Shape	Small, uniform macules	Larger, irregular patches
Progression	Stable	Often progresses
Cause	Aging, sun exposure	Autoimmune
Treatment	Cosmetic camouflage, sun protection	Varies



# Progressive Macular Hypomelanosis vs. Vitiligo

## Definition:

- Development of red-brown macules that gradually lighten to hypopigmented areas

## Clinical Features:

- Seen on the back, especially along the trunk
- Lesions may merge to form larger hypopigmented patches
- Common in adolescents and young adults, particularly in tropical climates

## Management:

- Topical Antibacterial Agents: Clindamycin or benzoyl peroxide
- Phototherapy: Narrow-band UVB or sunlight exposure
- Reassure patients that it's a benign and manageable condition



Features	Progressive Macular Hypomelanosis	Vitiligo
Lesion Evolution	Red-brown to hypopigmented	Direct depigmentation
Distribution	Primarily on the back	Widespread
Wood's Lamp	May fluoresce orange-red	No change
Treatment	Antibacterials, phototherapy	Varies



# Pityriasis Alba vs. Vitiligo

## What is Pityriasis Alba?

- Mild, scaly, hypopigmented patches,
- Commonly on face, neck, and upper arms
- Primarily affecting children and adolescents

## Clinical Features:

- Round or oval, poorly defined patches with slight scaling
- Hypopigmented patches
- Follows mild eczema or dry skin

## Management:

- Use of moisturizers to address dryness
- Mild topical steroids and sun protection
- Educate about the benign and self-limiting nature



Features	Pityriasis Alba	Vitiligo
Borders	Ill-defined	Sharply demarcated
Scaling	Mildly scaly	Absent
Progression	Resolves with time	May progress
Treatment	Moisturizers, mild topical steroids, sun protection	Varies

# Hypopigmented Mycosis Fungoides

## A Rare Presentation of T-Cell Lymphoma

### What is Hypopigmented Mycosis Fungoides?

- Rare variant of cutaneous T-cell lymphoma (CTCL)
- Predominantly affects darker skin types
- More common in children/adolescents

### Clinical Features:

- Hypopigmented, well or poorly defined
- Common on the trunk, buttocks, and extremities
- Often asymptomatic or mild itching

### Diagnosis:

- **Biopsy:** Confirms the diagnosis with histopathologic examination showing atypical T-cell infiltrates
- **Immunohistochemistry:** Reveals loss of CD7 or other T-cell markers



Features	Hypopigmented Mycosis Fungoides	Vitiligo
Underlying Cause	Cutaneous T-cell lymphoma	Autoimmune
Pigmentation	Hypopigmentation	Depigmentation
Diagnosis	Biopsy essential	Often clinical
Prognosis	Variable, requires treatment	Generally benign

# Vitiligo vs. Mimickers

Can you tell the difference?



**Vitiligo**

**OR**

**Mimicker**

# Vitiligo vs. Mimickers

Can you tell the difference?



Vitiligo

OR

Mimicker

# Vitiligo vs. Mimickers

Can you tell the difference?



Tinea Versicolor

Vitiligo

OR

Mimicker



# Vitiligo vs. Mimickers

Can you tell the difference?



Hypopigmented  
Mycosis Fungoides

Vitiligo

OR

Mimicker

# Diagnostic Tips for Vitiligo vs. Mimickers

## Importance of Accurate Diagnosis:

- Avoid **misdiagnosis** and **inappropriate** treatment
- Differentiate between vitiligo and conditions like post-inflammatory hypopigmentation, tinea versicolor, pityriasis alba, idiopathic guttate hypomelanosis, and hypopigmented mycosis fungoides

## Clinical Tools:

- **History and Physical Exam:** Look for symmetry, progression, and other systemic findings
- **Wood's Lamp:** Critical tool for assessing depigmentation and fluorescence

# Key Clinical Signs to Differentiate

## Vitiligo:

- Sharply demarcated depigmented patches
- Symmetrical distribution
- Associated with autoimmune diseases.

## Mimickers:

- **Post-inflammatory Hypopigmentation:** Ill-defined borders, history of inflammation or injury
- **Tinea Versicolor:** Fine scaling, hypo- or hyperpigmentation, fluoresces yellow-green under Wood's lamp
- **Pityriasis Alba:** Mild scaling, ill-defined borders, more common in children
- **Idiopathic Guttate Hypomelanosis:** Small, round, hypopigmented macules, often in sun-exposed areas
- **Hypopigmented Mycosis Fungoides:** Persistent hypopigmented plaques with biopsy showing atypical T-cells



# Diagnostic Modalities: Tools and Techniques

## Wood's Lamp Examination:

- **Vitiligo:** Bright blue-white fluorescence indicating depigmentation
- **Tinea Versicolor:** Yellow-green fluorescence due to fungal elements
- **Progressive Macular Hypomelanosis:** Orange-red fluorescence

## Biopsy:

- **Vitiligo:** Absence of melanocytes in affected areas
- **Hypopigmented Mycosis Fungoides:** Atypical lymphocytes infiltrating the epidermis

## Laboratory Workup (if needed):

- Rule out fungal infections with skin scrapings
- Autoimmune screening in suspected vitiligo cases

# Primary Care in Early Diagnosis



Vitiligo is often first noticed by **patients** or their **families**.



Primary care providers play a **critical role** in identifying **early signs** (e.g., sharply demarcated white patches, often on the face, hands, or other exposed areas).



**Differentiating** vitiligo from mimickers like tinea versicolor, post-inflammatory hypopigmentation, and pityriasis alba prevents **misdiagnosis** and **delays** in referral.

# Every Skin Tells A Story

As clinicians, it's our **duty** to uncover the right diagnosis, no matter how subtle or complex the presentation.

- ✓ **Accurate diagnosis is essential:** Impacts patient well-being, prevents mistreatment.
- ✓ **Recognize diversity:** Consider variations in skin of color.
- ✓ **Tools:** Wood's lamp, biopsies, thorough history.
- ✓ **Empower patients:** Education is key.
- ✓ **Advocate:** Stay informed, share knowledge, promote inclusion.
- ✓

Every patient deserves to feel **seen, heard, and treated**  
with precision.

Let's work together to close the  
diagnostic gaps  
**one case at a time.**

