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Review Article

Vitiligo in 2025: An Evidence-Based Narrative Update

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Abstract

Background: Vitiligo is a chronic autoimmune depigmenting disorder. Advances in the IFN-γ–CXCL10 axis and tissue-resident memory T cells (TRM) have reshaped management.

Objective: Provide a 2025 update spanning epidemiology, pathophysiology, assessment, and therapy with a pragmatic algorithm. Methods: Narrative synthesis of recent guidelines and pivotal trials with clinical emphasis.

Results: Global prevalence approximates 0.3-0.5%. Standardized measures (VASI/F-VASI, VIDA; VDAS/VDIS) enable monitoring and endpoints. NB-UVB remains first-line for extensive or progressive disease; ruxolitinib cream provides targeted benefit; surgery is effective in stable cases.

Conclusion: Combination of topical + NB-UVB is foundational; JAK inhibition adds a novel option; surgery suits stable refractory cases.

Plain Language Summary

Vitiligo causes pale or white patches on the skin because the pigment-making cells (melanocytes) are attacked by the immune system. Doctors now understand better how immune signals (like interferon-gamma) and "***memory***" T cells keep the disease active. Treatment usually combines creams (steroids or tacrolimus) with narrowband UV-B light. This light treatment is safe and effective and can be combined with creams.

A newer option is a JAK-inhibitor cream (ruxolitinib 1.5%), approved for people 12 years and older with non-segmental vitiligo. If the disease is stable for at least 6-12 months and other treatments are not enough, surgical techniques that transfer pigment cells can help, especially on the face and neck. Doctors track progress with scores like VASI and VIDA. Screening for thyroid problems is often considered. Most patients need steady treatment and patience; noticeable results commonly take several months (Tables 1, 2 and Figure 1).

Tool	Description	Clinical Use
VASI (Vitiligo Area Scoring Index)	Estimates BSA and depigmentation	Extent/severity (0-100)
F-VASI	Facial-specific VASI	Sensitive endpoint in trials
VIDA	Vitiligo Disease Activity (-1 to +4)	Tracks disease activity over time
VDAS/VDIS	Dynamic scores for activity and improvement	Research/monitoring
QoL (DLQI, VitiQoL)	Patient-reported outcomes	Impact on daily life

Table 1: Assessment Tools in Vitiligo.

Therapy	Indication	Evidence/Notes	Safety
Topical corticosteroids	Limited NSV, non-facial	8-12-week cycles, good efficacy	Skin atrophy, striae
Calcineurin inhibitors	Face, neck, folds	Useful alone or with NB-UVB	Burning, safe long-term
NB-UVB phototherapy	Extensive/progressive NSV	Cornerstone, 2-3x/week	Erythema, safe long-term
Excimer 308 nm	Localized lesions	Effective focal repigmentation	Local erythema
Ruxolitinib cream 1.5%	NSV ≥12 y, face/neck	Phase 3 trials: ~50% F-VASI75	Local acne, pruritus
Surgery (MKTP, grafts)	Stable vitiligo ≥6-12m	Effective esp. face/neck	Scarring, variable success

Table 2: Therapeutic Options in Vitiligo.

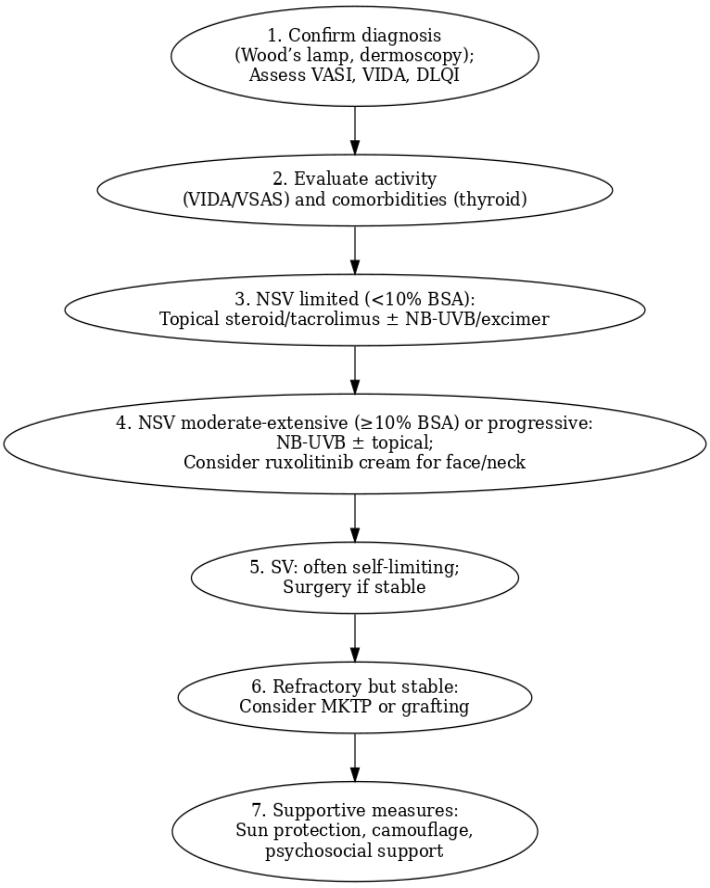

Figure 1: Practical Management Algorithm

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