Dermatology Research Review™

Making Education Easy

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In this issue:

Abbreviations used in this issue:

DLQI = Dermatology Life Quality Index;
HiSCR = Hidradenitis Suppurativa Clinical Response;
HS = hidradenitis suppurativa; **JAK** = Janus kinase; **QOL** = quality of life;
SALT = Severity of Alopecia Tool; **TNF** = tumour necrosis factor.

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Welcome to issue 125 of Dermatology Research Review.

Our first issue for the year begins with research from colleagues in Queensland who have reported on their development of an improved risk prediction tool for invasive melanoma. Other research suggests that bullying may be an important problem for young people with alopecia areata. There is also interesting research suggesting that while isotretinoin exposure for treating acne can initially have a suppressive impact on adolescents' growth, they appear to make up for it and achieve normal adult heights by age 18 years. We conclude with more research focussed on our younger patients, this time reporting on outcomes for real-world adolescents who had been treated with adalimumab, mostly at recommended adult dosages, for HS, a condition that is the focus of several other research papers selected for this issue.

Your comments and feedback on these reviews are always appreciated.

Kind Regards,

Associate Professor John Frew
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A risk prediction tool for invasive melanoma

Authors: Whiteman DC et al.

Summary: These researchers used data from 41,919 participants aged 40–69 years from the prospective Queensland population-based cohort QSkin study with 10 years of follow-up to develop a better risk prediction tool for invasive melanoma; for this cohort, there were 706 new invasive melanomas identified over 401,356 person-years of follow-up. Fourteen predictors were retained in the best-fitting model, namely age, sex, ancestry, nevus density, freckling density, hair colour, tanning ability, adult sunburns, family history, other cancer prior to baseline, prior skin cancer excisions, history of actinic keratoses, smoking status and height, along with the statistical terms of age squared and age-by-sex interaction. The apparent discriminatory accuracy for this model was 0.74 (95% CI 0.73–0.76). The Youden index was optimised at a screening threshold that selected the top 40% of predicted risk, for which 74% of cases were captured, with a number needed to screen of 32.

Comment: This study presents a significant advancement in melanoma risk prediction, moving beyond simple checklists to a robust, data-driven model. The key achievement is its enhanced accuracy (C-statistic 0.74) derived from a large, prospective cohort with 10-year follow-up. For dermatologists, the model's value lies in its practical application for targeted screening. By identifying the top 40% of predicted risk, clinicians could capture 74% of invasive melanomas while screening substantially fewer people (number needed to screen, 32). This optimises resource allocation in public health initiatives and busy clinics. The inclusion of 14 predictors, including nuanced factors like previous actinic keratoses, other prior cancers and even height, reflects the multifactorial nature of melanoma. The incorporation of statistical interactions (age-by-sex) adds sophistication. This tool, if validated externally and adapted into a user-friendly clinical calculator, could transform risk-stratified patient counselling and personalise screening intervals, making melanoma prevention more efficient and effective.

Reference: JAMA Dermatol 2025;161:1123–31
Abstract

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Comparative efficacy of topical tofacitinib versus topical tacrolimus in the treatment of localized vitiligo

Authors: Mehta H et al.

Summary: Sixty symmetrical, slowly spreading, nonsegmental patches of vitiligo that affected ≤5% of the body surface area of a total of 30 participants were evenly randomised to topical treatment with 2% tofacitinib or 0.1% tacrolimus ointment twice daily for 16 weeks in this trial. There was no significant difference between tofacitinib- versus tacrolimus-treated patches for the proportion achieving treatment success (Vitiligo Noticeability Scale score of 4 or 5, i.e., a lot less or no longer noticeable; primary outcome; 47% vs. 37% [p=0.60]), with a trend for a shorter median time to treatment success with tofacitinib (8 vs. 12 weeks [p=0.18]). For tofacitinib and tacrolimus, repigmentation of >80% was achieved for 33% and 20% of patches, respectively. Tofacitinib treatment was associated with two adverse events, whereas tacrolimus treatment was associated with seven. Responses were better for facial lesions than acral or truncal lesions for both treatments.

Comment: In the US and Europe, topical JAK inhibitors have a well-established position as treatment for vitiligo, but availability of formulated versions in Australia has limited uptake. This intra-individual comparative trial provides data on topical JAK versus topical calcineurin inhibitor therapy for localised vitiligo. While the primary outcome did not show statistical superiority, the trends are clinically meaningful and suggest topical tofacitinib may be a valuable alternative. The key findings indicate comparable efficacy between tofacitinib and tacrolimus (47% vs. 37% achieving high patient-reported success), but with a notable trend toward a faster response with the JAK inhibitor (median 8 vs. 12 weeks). This potential for quicker repigmentation, combined with a more favourable tolerability profile (fewer adverse events), is significant for patient adherence and satisfaction, especially in a condition where treatment is prolonged. The study reinforces that facial lesions are the most responsive to topical therapy, regardless of agent. For dermatologists, this evidence supports considering topical tofacitinib, particularly for motivated patients on facial patches where a faster onset is desired. The findings underscore the need for larger, registrational trials to confirm these trends and establish the role of non-ruxolitinib topical JAK inhibitors in the vitiligo treatment algorithm.

Reference: Br J Dermatol 2025;193:1112–9
Abstract

Quality of life, psychosocial difficulties and bullying in paediatric patients with alopecia areata

Authors: Franz A et al.

Summary: This cross-sectional study from Europe assessed responses to validated questionnaires on experiences of bullying, psychosocial challenges and QOL that were completed by 156 patients aged 10–17 years with alopecia areata and 621 healthy controls from the same age group. The respondents with alopecia areata reported rates of general and verbal bullying that were significantly higher; common reasons for such bullying were reported to be hair loss and nail damage. Emotional distress and bullying were more likely to be reported by females, whereas males reported better emotional and social QOL. Despite respondents with alopecia areata experiencing reduced physical functioning, differences in overall QOL were small. Greater emotional difficulties and reduced school functioning were seen with longer disease duration. There was no association detected between age and disease severity.

Comment: This multinational study provides crucial, quantified evidence of the profound psychosocial burden of alopecia areata in adolescents, moving beyond clinical severity to capture the lived experience. The findings reveal that adolescents with alopecia areata face significantly higher rates of general and verbal bullying, with their hair loss and nail damage directly cited as reasons, underscoring the condition's role as a source of stigmatisation. A critical insight is the dissociation between clinical severity and psychosocial impact; bullying and emotional distress were not linked to the SALT score but were strongly associated with longer disease duration, particularly affecting school functioning. This highlights that chronicity, not just the extent of hair loss, has significant impact upon the individual. The gendered findings – girls experiencing more emotional distress and boys reporting better social QOL – suggest the need for tailored psychological support. Alopecia areata management must extend beyond immune suppression to include routine screening for bullying and mental health, facilitated by the validated tools. The call for a collaborative model involving psychologists and educators is not aspirational but essential, as improving physical signs alone is insufficient to restore QOL in this vulnerable population.

Reference: Br J Dermatol 2025;193:1165–73
Abstract

The effect of isotretinoin treatment for acne vulgaris on height in adolescents

Authors: Xu KK et al.

Summary: The impact of isotretinoin exposure on height velocity and 'final adult' height at 18 years of age was examined in a retrospective cohort of adolescents who had received the agent (n=226) and controls who had received oral antibiotics (n=1179) for acne prior to age 15 years. There was no significant difference between isotretinoin recipients and controls for height at age 18 years, but isotretinoin recipients had significantly lower postmedication initiation height velocity by 12cm per month (p=0.005) and post- versus premedication initiation height velocity by 0.31cm per month (p=0.011); these findings did not appear to be significantly affected by isotretinoin dosage.

Comment: Isotretinoin is known to have a biologically plausible mechanism for slowing down bone growth in adolescents. Whilst there is a temporary slowdown in bone growth velocity during therapy (–0.31cm per month reduction), this study crucially demonstrated no significant impact on final adult height. The mean difference of –0.67cm is not clinically meaningful. For dermatologists, this evidence strongly supports the safety of isotretinoin in patients who have entered puberty, alleviating a common source of parental anxiety. The findings suggest that any temporary deceleration in growth is compensated for later, likely through an extended growth period. This allows clinicians to prescribe isotretinoin for severe adolescent acne without undue concern for stunting final height, provided patients are monitored within standard paediatric growth parameters. The study reinforces that the significant benefits of treating severe, scarring acne with isotretinoin outweigh this minimal and transient physiological effect.

Reference: J Am Acad Dermatol 2025;93:1464–70
Abstract

Long-term real-world effectiveness of rupatadine in chronic urticaria

Authors: Giménez-Arnau AM et al.

Summary: These researchers reported on the effectiveness of rupatadine 10–40 mg/day in a retrospective observational cohort of 1672 outpatient registrants with chronic urticaria. Among patients treated at baseline (n=1081), 45.3% received the most frequent regimen of second-generation antihistamines at licensed doses, and of those who received rupatadine (n=398), 56.3% received it as monotherapy. For 196 evaluable patients, 1 year of continuous rupatadine treatment was associated with significant improvements in all types of urticaria, including a reduction in UAS7 (Urticaria Activity Score 7) score of 13.3 points in chronic spontaneous urticaria ($p<0.0001$) and a 1.7-point improvement in Urticaria Control Test score for chronic inducible urticaria ($p=0.0001$); improvements were maintained at 3 and 5 years.

Comment: This large, longitudinal registry study provides robust real-world evidence supporting the sustained effectiveness and safety of rupatadine (and other second-generation antihistamines) in chronic urticaria. Although rupatadine is not available in Australia, it has similar mechanisms to other nonsedating antihistamines that are widely available. The key finding is the demonstration of long-term control. Continuous treatment with rupatadine, either as monotherapy or in combination, led to significant and clinically meaningful improvements in both chronic spontaneous urticaria and chronic inducible urticaria, with benefits maintained over 5 years of follow-up. The magnitude of improvement in UAS7 scores (–13.3 points) is substantial. For dermatologists, this reinforces that consistent, guideline-adherent use of modern nonsedating antihistamines can provide durable control for a significant proportion of chronic urticaria patients. It underscores the importance of patient adherence to continuous therapy, and supports the practice of dose escalation (up to 40 mg/day) within the licensed range before advancing to biologics like omalizumab. These data strengthen the position of chronic long-term second-generation antihistamines as a safe, effective and sustainable first-line long-term strategy.

Reference: JEADV Clin Pract 2025;4:1025–32
Abstract

Largest prospective study of CO_2 laser treatment in hidradenitis suppurativa patients showing improved quality of life

Authors: Daugaard CA et al.

Summary: These researchers reported on CO_2 laser treatment for HS, including patient-reported QOL outcomes, complications and recurrence, for a prospective cohort of 53 patients. They found that CO_2 laser treatment was associated with significant improvements from baseline at 12 weeks in DLQI score of 3.5 points ($p<0.0002$) and HiSQOL (Hidradenitis Suppurativa Quality of Life) score of 7.1 points ($p<0.006$). The risks of postprocedural infection, severe bleeding and sensory disturbances were low at 5.8%, 7.7% and 7.7%, respectively. The HS recurrence rate at the edge of the treated area was 26.9%, and prolonged healing (>12 weeks) was seen in 26.9% of cases. Prolonged wound healing appeared to be more likely in the setting of a higher BMI and biological treatment concurrent with CO_2 laser treatment.

Comment: This prospective study provides valuable, patient-centred data on CO_2 laser ablation for HS, reinforcing its role as an effective procedural intervention for recurrent lesions. The key finding is a significant and clinically meaningful improvement in QOL, as measured by both DLQI and HiSQOL, 12 weeks postprocedure. The study realistically outlines the risk-benefit profile. While confirming a low risk of acute complications like infection or bleeding, it highlights two significant longer-term challenges: a moderate rate of recurrence at the treatment edge (26.9%) and prolonged wound healing (>12 weeks in 27% of cases). The association of prolonged healing with higher BMI and concurrent biologic use is a crucial practical insight for patient selection and counselling. For dermatologists, this validates CO_2 laser as a QOL-improving tool in the HS armamentarium, particularly for targeting stable, recurrent nodules and tunnels. The findings underscore the importance of setting realistic expectations regarding healing time and the potential for peripheral recurrence, advising that optimal outcomes may require combining procedural management with continued systemic therapy to control underlying inflammatory activity.

Reference: JEADV Clin Pract 2025;4:1048–56
Abstract

An open-label, single-center proof of concept study evaluating the efficacy and safety of tirzepatide for moderate to severe hidradenitis suppurativa

Authors: Acosta-Madiedo AS et al.

Summary: Twenty adults with moderate-to-severe HS received maximum tolerated doses of tirzepatide once per week for 24 weeks followed by an 8-week washout in this proof-of-concept trial. The primary endpoint of response according to HiSCR at week 24 was met by 80% of participants. There were also improvements in DLQI, visual analogue scale and Physician's Global Assessment scores, with some benefits persisting out to week 32. Tolerability was reported to be good, and adherence high, with metabolic effects 'favourable'.

Comment: This proof-of-concept study introduces a potentially paradigm-shifting approach to HS by targeting a core metabolic driver, obesity. The results are striking, with 80% of patients achieving HiSCR at 24 weeks – a response rate surpassing many current biologic therapies. The significance lies in tirzepatide's dual mechanism: substantial weight loss coupled with direct anti-inflammatory effects via GLP-1/GIP (glucagon-like peptide-1/glucose-dependent insulinotropic polypeptide) agonism. This positions it not merely as an adjunct for weight management but as a primary disease-modifying agent for the sizable HS subset with obesity. The persistence of some benefits through the 8-week washout suggests a sustained impact beyond immediate pharmacological presence. For dermatologists, this study highlights the necessity of integrating metabolic health into HS management. While limited by its open-label design, it provides a compelling rationale for considering GLP-1-based therapies in obese patients with moderate-to-severe HS, especially those with inadequate responses to anti-TNF or interleukin-17 inhibitors. It paves the way for a new treatment class that addresses both systemic inflammation and a key comorbidity simultaneously.

Reference: J Drugs Dermatol 2025;24:1246–51
Abstract

Efficacy of local and whole-body phototherapy for the treatment of various types of alopecia areata

Authors: Yamamoto A et al.

Summary: This retrospective study examined the effectiveness of ≥10 phototherapy sessions in patients with a variety of alopecia areata types, along with the impact of patient characteristics on outcomes; the analyses included 32 patients who received local phototherapy sessions and 17 who received whole-body sessions. No significant difference was seen for improvements in SALT scores between patients who received local treatment and those who received whole-body irradiation. Factors significantly associated with treatment response were first-onset alopecia areata, treatment initiation within 1 year of onset and age >40 years. Responses were also better for patients with multiple or totalis types of alopecia areata compared with those with universalis or ophiasis. It typically required 20–30 sessions of treatment for hair regrowth to be realised.

Comment: Recent phase 3 studies for alopecia areata have shown high levels of efficacy with JAK inhibitors; however, JAK inhibitors are not always the most appropriate therapy for an individual patient. This retrospective study offers practical guidance for phototherapy, a less commonly used but useful therapy, and provides critical predictors of response. The key finding is that early intervention – within 1 year of a first episode – significantly improved outcomes, emphasising the importance of early treatment. Notably, the study demonstrates comparable efficacy between localised and whole-body irradiation, allowing for targeted treatment with potentially fewer systemic effects. The better response in alopecia totalis subtypes over universalis/ophiasis aligns with clinical experience, helping set realistic expectations. The need for 20–30 sessions before observing regrowth is a crucial point for patient counselling on commitment. For dermatologists, this supports using phototherapy as a viable early intervention, particularly for older patients (>40 years) with recent-onset, patchy alopecia areata. It strengthens the rationale for a timely trial of phototherapy before escalating to systemic immunomodulators, especially in cases where JAK inhibitors may be contraindicated or not desired.

Reference: Photodermatol Photoimmunol Photomed 2026;42:e70061
Abstract

Magnetic resonance imaging for distinguishing perianal hidradenitis suppurativa from fistulizing Crohn disease

Authors: Yamanaka-Takaichi M et al.

Summary: MRI findings were examined for a retrospective cohort to identify differences between fistulising perianal Crohn's disease and perianal HS. It was found that compared with patients with Crohn's disease (n=74), patients with HS (n=49) were significantly more likely to have subcutaneous tunnels (35% vs. 4% [p<0.001]), soft-tissue inflammation of subcutaneous tissue and skin (35% vs. 5% [p<0.001]) and inguinal lymphadenopathy (65% vs. 45% [p=0.02]), and they were significantly less likely to have trans-sphincteric fistulae (35% vs. 64% [p=0.002]), intersphincteric fistulae (29% vs. 58% [p=0.001]), mesorectal lymphadenopathy (4% vs. 26% [p=0.002]) and rectal inflammation (12% vs. 32% [p=0.01]). The authors proposed an MRI scoring system that was 77% sensitive and 80% specific for differentiating HS from Crohn's disease, with an area under the curve value of 0.84.

Comment: Severe perianal HS can be very difficult to distinguish from perianal Crohn's disease. MRIs are routinely used in the setting of Crohn's disease for evaluation; however, direct comparison and distinguishing features between the two conditions can be difficult to ascertain. This study provides objective radiological criteria to differentiate these diseases. HS is characterised by subcutaneous tunnels, soft-tissue inflammation localised to the skin and subcutaneous fat, and inguinal lymphadenopathy. In contrast, Crohn's disease typically presents with true trans-sphincteric or intersphincteric fistulae (involving the anal sphincter complex), mesorectal lymphadenopathy and rectal inflammation. For clinical practice, these findings underscore that not all perianal 'fistulae' in HS patients are enteric fistulae; many are superficial draining tunnels. This distinction is critical for management, as true Crohn's disease fistulae may require immunosuppressive biologics (e.g., anti-TNF agents) or surgical strategies different from those for HS tunnels (e.g., deroofing, laser). Utilising this MRI scoring system can prevent misdiagnosis, guide appropriate specialist referral (dermatology versus gastroenterology), and optimise surgical planning, ultimately improving patient outcomes.

Reference: Dermatology 2025;241:437–46
Abstract

ADOLESBIO-HS: a real-world multicenter case series on the effectiveness and safety of adalimumab in adolescents with moderate-to-severe hidradenitis suppurativa

Authors: Grau-Pérez M et al.

Summary: These investigators reported on a retrospective series of 65 adolescents with moderate-to-severe HS treated with adalimumab. The 6-month response rate (according to HiSCR score) was 76.9%. Seven patients had side effects recorded, with adalimumab discontinuation required for three; full recovery was achieved in all cases. Most patients received the recommended adult dosage of 40mg every week or 80mg every 2 weeks, with the recommended adolescent dosage of 40mg every 2 weeks significantly associated with a need for intensification. The median drug survival time was 5.6 years.

Comment: Adalimumab is licensed for adolescents from the age of 12 years; however, only a small proportion of patients in the pivotal clinical trials were in the adolescent age range. Large cohorts of real-world data are absent in this adolescent age group in HS. The findings from this multicentre study are highly encouraging, demonstrating both robust efficacy and a manageable safety profile. The standard HiSCR rate for adalimumab in adults is 42–50% at week 12. These real-world data of a 76.9% HiSCR achievement rate at 6 months is highly significant, but difficult to compare with adult rates given the different timepoints. A critical practice point is the clear signal that the licensed adolescent dosage (40mg every other week) is often insufficient, with a need for intensification to the adult regimen (80mg every other week or 40mg weekly) for optimal effect. The long median drug survival of 5.6 years indicates sustained effectiveness and tolerability compared with lower survival rates in adults. For paediatric dermatologists, this study validates adalimumab as a cornerstone biologic for moderate-to-severe adolescent HS, while emphasising the importance of dose optimisation.

Reference: Dermatology 2025;241:520–6
Abstract

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Independent commentary by Associate Professor John Frew

Associate Professor John Frew is a fellow of the Australasian College of Dermatologists and researcher in the field of inflammatory skin diseases with a focus on hidradenitis suppurativa. He holds a staff specialist position at Liverpool Hospital and is a conjoint lecturer at the University of New South Wales supervising dermatology trainees and postgraduate research students. He completed his post-doctoral fellowship at the Rockefeller University in New York City identifying immunological pathways and novel therapies for the treatment of hidradenitis suppurativa. He has over 100 peer-reviewed publications and contributions to international dermatology and immunology textbooks in the field of inflammatory skin disease.

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