Dermatology Research Review™

Making Education Easy

Issue 120 - 2025

In this issue:

Abbreviations used in this issue:

AD = atopic dermatitis; **JAK** = Janus kinase; **QOL** = quality of life; **SCC** = squamous cell carcinoma.

Welcome to issue 120 of Dermatology Research Review.

This issue begins with research characterising conjunctivitis emerging during dupilumab treatment for AD, with an assessment on managing this complication. We also report on an evaluation of an autonomous device for total body photography and dermoscopic imaging that shows promise for freeing up dermatologists' valuable time. There is also a retrospective study on the efficacy, safety and steroid-sparing effect of tofacitinib when combined with corticosteroids for the treatment of pemphigus. The issue concludes with a pharmacovigilance analysis of the US FDA FAERS (Adverse Event Reporting System) database records of psychiatric events associated with isotretinoin use.

We hope you enjoy this update in dermatology research. We always appreciate comments and feedback from our readers.

Kind Regards,

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Conjunctivitis in adults with atopic dermatitis treated with dupilumab

Authors: Asbell P et al.

Summary: This was a prospective, real-world observational study of adults with AD who had received ≥8 weeks of dupilumab, stratified into group 1 (n=35) in whom conjunctivitis had emerged by enrolment, treated at investigator's discretion, and group 2 (n=11) without conjunctivitis. For the respective groups 1 and 2, mean AD durations were 22.9 and 13.1 years, a history of facial lesions during AD flares was present in 91% and 64%, and current facial lesions were present in 54% and 9%, with ongoing facial contact dermatitis and rosacea only present in group 1 (11% and 9%, respectively). The following physical findings were also present at baseline: i) periocular eczematous rash in 65% and 18% of groups 1 and 2, respectively; ii) lichenification in 47% and 27%; iii) posterior blepharitis with meibomian gland dysfunction in 83% and 55%; iv) bulbar hyperaemia in 89% and 46%; and v) conjunctival papillary pattern in 69% and 27%. Corneal neovascularisation, mostly in a single peripheral quadrant, was present in 24% of patients from group 1 and none from group 2. No evidence of tear volume insufficiency was recorded. Eyelash mites were identified in 3% and 18% of patients from groups 1 and 2, respectively, and *Staphylococcus aureus* was detected in conjunctival swabs from 9% of patients from each group. Multiple ophthalmic treatments for the conjunctivitis were received by 88% of the patients, with the most effective, as assessed by the investigators, being topical corticosteroids and topical calcineurin inhibitor eye drops or ointments. Recovery or resolution had occurred or was ongoing at study end in 96% of the patients, with a mean time to recovery of 171.9 days. Dupilumab discontinuation was not required in any of the patients.

Comment: Conjunctivitis with dupilumab is more likely in patients with long-standing AD and periocular involvement, but importantly it rarely requires discontinuation of therapy. Standard ophthalmic anti-inflammatories, particularly topical corticosteroids and calcineurin inhibitors, are consistently effective, whereas lubricants and antihistamines alone are usually insufficient. Posterior blepharitis and meibomian gland dysfunction are frequent, making lid hygiene a valuable part of ongoing care. Dermatologists should routinely ask about ocular symptoms, perform basic eyelid inspections, and partner early with ophthalmologists. Patients can be reassured that these events are controllable and compatible with continued dupilumab use, shifting management from reflex discontinuation to proactive, multidisciplinary care that preserves both skin and ocular outcomes.

Reference: Adv Ther 2025;42:3285–305
Abstract

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The Australasian College of Dermatologists (ACD) has approved all Dermatology Research Reviews for accreditation as a Category 1 Education Activities - Professional Reading and Study. Activity should be logged in hours. For further information please click here.

Australian College of Rural and Remote Medicine (ACRRM) Professional Development Program (PDP) participants can claim Educational Activity hours in the self-directed learning category for reading Research Reviews. More info.

The Royal Australian College of General Practitioners (RACGP) members can **Quick Log** (self-record) a CPD activity such as reading a Research Review publication or watching a video under the CPD activity type 'Educational Activites'. More information is avaliable at RACGP - Your myCPDhome member resources

Risk factor number and recurrence, metastasis, and disease-related death in cutaneous squamous cell carcinoma

Authors: Ran NA et al.

Summary: Associations of number of risk factors for cutaneous SCC with risk of recurrence and metastasis were examined in a retrospective multination cohort of 16,844 cutaneous SCC cases with a median follow-up duration of 33.6 months. One risk factor was present in 71.2% of the cohort, two in 6.0%, three in 1.3% and four in 0.3%, with the remaining 75.1% having no risk factors. The respective risks of local recurrence associated with none, one, two, three and four risk factors were 1.7%, 5.0%, 8.8%, 16.0% and 33.0% ($p<0.001$), the risks for nodal metastases were 0.6%, 3.6%, 11.0%, 20.0% and 28.0% ($p<0.001$), the risks of distant metastases were 0.2%, 1.1%, 2.3%, 7.9% and 8.4% ($p<0.001$), and the disease-specific mortality risks were 0.3%, 1.9%, 5.4%, 11.0% and 25% ($p<0.001$). Compared with two risk factors, the risks of local recurrence, nodal metastasis, distant metastasis and disease-specific death were increased 1.6-, 1.9-, 4.3- and 1.9-fold, respectively, for cutaneous SCCs with 3 risk factors.

Comment: This large multicentre study reinforces that the absolute number of risk factors is a powerful driver of prognosis in cutaneous SCC. Outcomes worsen stepwise as risk factors accumulate, with three or more conferring particularly high risk of recurrence, metastasis and disease-related death. Notably, Brigham and Women's Hospital stage T2b tumours with three risk factors were significantly more aggressive than those with two, a clinically meaningful nuance not captured by staging alone. Dermatologists should carefully document tumour size, depth, differentiation and perineural invasion, and incorporate risk factor count alongside stage when planning follow-up. Patients with ≥3 risk factors warrant closer surveillance, baseline imaging and consideration of adjuvant therapy, strengthening prognostic precision and multidisciplinary management.

Reference: JAMA Dermatol 2025;161:597–604
Abstract

Standard dermatoscope images vs an autonomous total body photography and dermoscopic imaging device

Authors: Rosés-Gibert P et al.

Summary: These researchers compared an autonomous device for total body photography and dermoscopic imaging with traditional manual digital dermoscopic techniques in a prospective cohort of 316 patients with atypical mole syndrome attending dermatology clinics in Spain. The autonomous device and manual digital dermoscopy did not differ significantly for mean quality score of the dermoscopic images they produced (9.84 and 9.44, respectively), with no significant differences by body site or lesion type, and they had a diagnostic classification agreement value of 91.60%, with small benign lesions accounting for the majority of the discrepancies. The autonomous device had a mean imaging time of 570 seconds, compared with 606 seconds for the manual method.

Comment: Automated total body photography with dermoscopy has been shown to deliver image quality noninferior to manual dermoscopy, with more than 90% diagnostic agreement and greater efficiency in patients with numerous lesions. For dermatologists managing high-risk melanoma cohorts, this represents a significant workflow advance: faster imaging, standardised documentation and reduced operator fatigue. Integration with teledermatology platforms also expands its reach, enabling remote surveillance without sacrificing diagnostic reliability. Although validation in more diverse, malignant-rich cohorts is still needed, the technology has clear practical appeal. It points to a future of scalable, semiautomated melanoma follow-up, freeing clinicians to focus on decision-making and patient interaction rather than image acquisition.

Reference: JAMA Dermatol 2025;161:615–21
Abstract

Long-term (68 weeks) administration of nemolizumab and topical corticosteroids for prurigo nodularis in patients aged ≥13 years

Authors: Yokozeki H et al., for the Nemolizumab-JP11 Study Group

Summary: This phase 2–3 study from Japan evenly randomised 226 evaluable patients aged ≥13 years with prurigo nodularis to receive 16 weeks of nemolizumab 30mg, nemolizumab 60mg or placebo every 4 weeks added to medium-potency topical corticosteroid therapy, after which nemolizumab recipients continued their assigned treatment while placebo recipients were randomised to nemolizumab 30mg or 60mg for the next 52 weeks. Nemolizumab was associated with sustained, continuing improvements in efficacy during weeks 16–68, with nemolizumab 30mg recipients having 60.5% and 78.6% reductions in Peak Pruritus Numerical Rating Scale score at weeks 16 and 68, respectively, and nemolizumab 60mg recipients having reductions of 55.1% and 76.5% at these respective timepoints. In addition, a large proportion of participants improved from moderate-to-severe to mild pruritus, and there were also indications of reduced disease severity, decreased nodule numbers, improvements in sleep and activities of daily living and reductions in daily medium-potency and higher topical corticosteroid use by ≥50%. Furthermore, after treatment was finished there was no indication of relapse of pruritus, prurigo nodularis severity or QOL. Treatment-emergent adverse events were mostly mild and consistent with previous studies.

Comment: Nemolizumab offers durable improvements in itch, nodule count, sleep and QOL in chronic prurigo nodularis, with benefits sustained for more than a year and even after discontinuation. Importantly, its use halved corticosteroid requirements, addressing a major clinical challenge in prurigo nodularis management. The safety profile remains consistent and reassuring, with mostly mild adverse events. For clinicians, nemolizumab provides the first targeted, long-term and steroid-sparing biologic option for this highly burdensome disease. In practice, it allows dermatologists to offer sustained relief, reduce reliance on topical or systemic steroids, and improve both physical symptoms and psychosocial wellbeing. This represents a transformative step in prurigo nodularis care.

Reference: Br J Dermatol 2025;193:56–65
Abstract

Incidence, stage and outcome of malignant melanoma, keratinocyte and other cancers in individuals with vitiligo or alopecia: intraindividual or familial risks?

Authors: Delcoigne B et al.

Summary: These researchers compared malignant melanoma, SCC and noncutaneous cancer risks between 15,030 patients with vitiligo and 17,853 of their siblings, 18,541 patients with autoimmune alopecia and 21,821 of their siblings, and the general population. For patients with vitiligo and those with autoimmune alopecia, the risks for malignant melanoma were significantly reduced (respective hazard ratios 0.53 [95% CI 0.32–0.86] and 0.53 [0.34–0.83]), and the SCC risk was also significantly reduced for those with autoimmune alopecia (0.65 [0.43–0.98]) but the risk for those with vitiligo was not significantly different (0.81 [0.53–1.24]). There were no significant differences between patients and the general population for stage at diagnosis of malignant melanoma, or for malignant melanoma or SCC risk among the siblings. The noncutaneous solid and haematological cancer risks were not reduced in patients with vitiligo or autoimmune alopecia, or their siblings.

Comment: Registry data from Sweden suggest that patients with vitiligo or alopecia areata have a ~50% lower risk of melanoma and a reduced risk of SCC, while siblings show only modest reductions. This supports the concept that immune activity, disease phenotype or behavioural factors, like sun avoidance, drive the effect, rather than shared genetics. Clinically, dermatologists should not reduce vigilance – regular skin checks and photoprotection advice remain essential, particularly given ultraviolet sensitivity in vitiligo. For patients, this evidence can be reassuring but should not alter preventive counselling. These findings also underscore the broader biologic insight – autoimmune skin diseases may illuminate mechanisms of tumour immune surveillance.

Reference: Br J Dermatol 2025;193:66–73
Abstract

Dupilumab efficacy in children with atopic dermatitis with different phenotypes and endotypes

Authors: Rossi AB et al.

Summary: Patients aged 6 months to 5 years with moderate-to-severe AD were randomised to receive subcutaneous dupilumab or placebo every 4 weeks for 16 weeks, along with concomitant low-potency topical corticosteroids, in the phase 3 LIBERTY AD PRESCHOOL trial. Compared with the placebo arm, participants assigned to dupilumab had visible improvements in signs of lichenification, erythema, excoriations, skin dryness and oozing/crusting, with clinically meaningful improvements in AD extent and severity, clinical lesions, itch, sleep loss, frequency of symptoms and QOL in most participants; these improvements were associated with marked reductions in biomarkers related to AD.

Comment: Dupilumab demonstrates efficacy across diverse phenotypes and endotypes of AD in children as young as 6 months, improving skin disease, itch, sleep and QOL while lowering IgE and CCL17 levels. Both extrinsic and intrinsic AD responded, confirming type 2 inflammation as a common driver. Clinically, dupilumab provides a safe, durable, first-line systemic option in refractory paediatric AD, including in skin of colour. Dermatologists can reassure families of visible and rapid improvements, reduced comorbidity burden and less family stress. Incorporating dupilumab early in severe cases offers an opportunity to reset disease trajectory, improve daily function and lessen the long-term psychosocial impact.

Reference: Adv Ther 2025;42:3186–206
Abstract

Lebrikizumab improves head/neck/face dermatitis and erythema and does not increase treatment-emergent adverse events of head/neck/face erythema in patients with moderate-to-severe atopic dermatitis

Authors: Murase JE et al.

Summary: Efficacy analyses were conducted on the placebo-controlled ADvocate1, ADvocate2 and ADhere studies of 16-week induction therapy with lebrikizumab for the treatment of AD with head, neck or facial involvement in modified intention-to-treat populations. Compared with placebo, lebrikizumab was associated with significantly greater improvements in EASI head/neck subscore as early as week 2 in ADvocate 1 and ADvocate 2, and there was a 68.1% improvement by week 16. In addition, data from eight phase 2–3 clinical trials revealed no increase in head, neck or facial erythema as treatment-emergent adverse events, even with longer exposure.

Comment: Head and neck involvement in AD is among the most psychologically burdensome, and often complicates dupilumab therapy due to paradoxical facial erythema. Lebrikizumab demonstrates rapid, sustained efficacy in this region without increased risk of facial erythema, making it a strong option for patients with head/neck-predominant disease or dupilumab intolerance. For dermatologists, the ability to offer visible early benefit with good tolerability is a key advantage in restoring patient confidence and adherence. Clinically, lebrikizumab expands systemic treatment options in a subgroup with high QOL impairment, reinforcing the importance of targeted interleukin-13 inhibition in sensitive and socially impactful disease sites.

Reference: J Dermatolog Treat 2025;36:2492188
Abstract

Real-world evaluation of the efficacy and safety of tofacitinib combined with corticosteroids in the treatment of pemphigus

Authors: Li X et al.

Summary: These researchers reported on combining tofacitinib with corticosteroids in a real-world retrospective, single-centre cohort of patients with pemphigus, comparing ten who received the combination with twelve who received corticosteroids without tofacitinib. Compared with the corticosteroid-only group, corticosteroid-tofacitinib recipients were significantly more likely to achieve complete remission (hazard ratio 4.46 [p=0.04]) and they had a lower cumulative corticosteroid dose (6862.25 vs. 10,233mg [p<0.001]) and lower median monthly corticosteroid doses. The two groups did not differ significantly for adverse events or relapse rates. JAK-STAT pathway hyperactivation in pemphigus lesions was confirmed in transcriptomic and immunofluorescence analyses.

Comment: Adding tofacitinib to corticosteroids in pemphigus has been shown to accelerate remission while reducing steroid exposure, supporting the biological rationale for JAK inhibition in this disease. Patients on combination therapy achieved complete remission sooner and required lower cumulative steroid doses, reducing long-term toxicity. Relapses were manageable with dose adjustments, and no major safety signals emerged. Clinically, this positions tofacitinib as a potential adjunct in moderate pemphigus where steroid minimisation is a priority, especially in patients with comorbidities. While intrinsic JAK inhibitor toxicities are recognised and long-term data remain limited, these findings underscore the promise of JAK inhibitors as rational, targeted and practical additions to pemphigus management.

Reference: Arch Dermatol Res 2025;317:835
Abstract

Independent commentary by Dr Annika Smith

Dr Annika Smith is a Fellow of the Australasian College of Dermatologists and Consultant Dermatologist in public and private settings in Sydney. Annika undertook training at the prestigious St John's Institute of Dermatology London, followed by further sub-specialty training in New York. Annika has a special interest in complex medical dermatology, including clinical and research interests in psoriasis, along with skin cancer diagnostics, management and prevention. Dr Smith has been published in local and international dermatology journals, has presented at national and international conferences, and has co-authored several book chapters in the field of dermatology.

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Nursing and Midwifery Board of Australia (NMBA) Journal reading and watching videos (including Research Reviews') may be considered a self-directed activity set out in the NMBA Registration Standard: Continuing Professional Development. One hour of active learning will equal one hour of CPD. Details at NMBA CPD page.

Sofpironium topical gel, 12.45%, for the treatment of axillary hyperhidrosis

Authors: Pariser D et al.

Summary: The phase 3 CARDIGAN I AND CARDIGAN II trials randomised patients with primary axillary hyperhidrosis to receive topical 12.45% sofpironium gel (n=353) or vehicle only (n=348). Compared with vehicle only, sofpironium gel participants were significantly more likely to meet the coprimary endpoints of a ≥2-point improvement from baseline in Hyperhidrosis Disease Severity Measure-Axillary-7 score (p<0.0001) and a greater reduction in gravimetric sweat production after treatment (p=0.0002); there were also significant improvements in secondary endpoints, and sofpironium gel was well-tolerated.

Comment: Sofpironium 12.45% gel expands treatment options for primary axillary hyperhidrosis by offering a noninvasive, once-daily alternative that acts locally with minimal systemic exposure. Patients typically notice improvement within a week, a useful counselling point to encourage adherence. Unlike oral anticholinergics, the gel is designed to limit systemic side effects, such as dry mouth and blurred vision, while providing meaningful reductions in both sweat production and symptom severity. For dermatologists, this fills a crucial gap between topical antiperspirants and procedural interventions. It is particularly valuable for adolescents and young adults who may be hesitant about injections or surgery, broadening early, accessible management strategies.

Reference: J Am Acad Dermatol 2025;93:82–8
Abstract

Reported psychiatric adverse events among isotretinoin users

Authors: Nie W et al.

Summary: These investigators reported on psychiatric adverse events associated with isotretinoin use that had been entered in the US FDA FAERS database between Jan 2004 and Jun 2024. Using a clinical priority scoring system, they identified 50 positive signals that included >20 cases each among the 19,412 records of isotretinoin-related psychiatric adverse events, and 25 important signals were grouped into depressive disorder, suicide and self-injury, anxiety disorder, mood change, bipolar disorder, psychosis and affective disorder categories. These more important signals were more likely to be reported in patients with acne than those without acne. For moderate-priority signals, the median time-to-onset was 80 days, indicating an early failure-type pattern.

Comment: This large pharmacovigilance study of more than 19,000 reports signals mood disturbance, suicidality and psychosis in isotretinoin users, with most events emerging in the first 3 months. While the link remains tenuous – confounded by spontaneous reporting, acne's psychological burden and lack of causal proof – the findings justify heightened vigilance. For clinicians, the practical response is not avoidance but systematic risk management – baseline screening (e.g. PHQ-2), scheduled follow-ups, patient and family education, and a low threshold for referral to mental health providers. Extending awareness beyond depression to include anxiety, bipolar features, irritability and psychosis ensures more comprehensive monitoring. Proactive, structured assessment supports safe continuation of therapy while reducing potential harm.

Reference: J Am Acad Dermatol 2025;93:64–72
Abstract

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