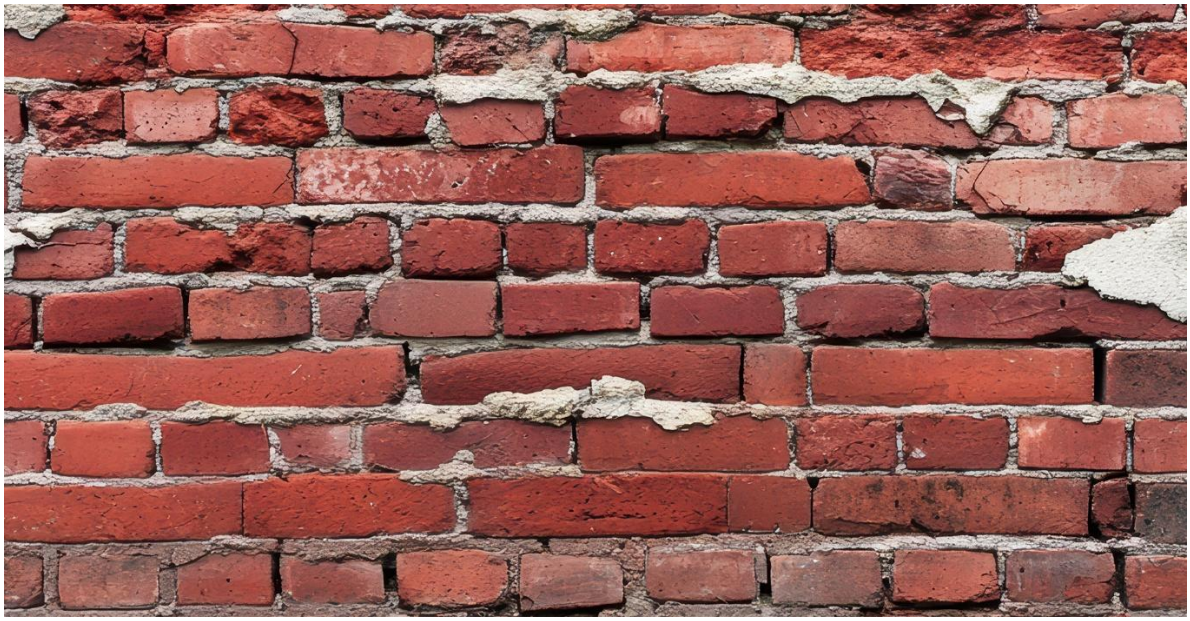

Treatment resistant atopic dermatitis in adults and adolescents: a topical issue

Most people with atopic dermatitis achieve adequate symptom control with regular emollient and topical corticosteroid use. However, some people do not respond to conventional management and require additional treatments. Upadacitinib, an oral Janus-kinase inhibitor, is now funded for patients with moderate to severe atopic dermatitis who meet Special Authority criteria. Special Authority applications can be made by any relevant practitioner, providing another option in the community for patients with treatment resistant atopic dermatitis.

Key practice points

- Treatment of atopic dermatitis is approached in a stepwise manner, beginning with emollients and topical corticosteroids (or topical calcineurin inhibitors). Most people will achieve symptom control with this regimen, but those who do not respond will require additional treatments.
- Atopic dermatitis can significantly influence a patient's daily life, including mood, sleep, relationships, work or study
    - Validated clinician-assessed (e.g. EASI) and patient-reported questionnaires (e.g. DLQI) can be used to assess atopic dermatitis severity and impact on quality of life
- Phototherapy can be trialled for patients with atopic dermatitis who experience an inadequate response to first-line treatments, however, referral to a dermatologist or phototherapy unit is required. Resource and geographical barriers may limit access.
- Oral systemic immunosuppressants are the usual next step for patients with treatment resistant atopic dermatitis. Conventional immunosuppressants, i.e.

ciclosporin, methotrexate, mycophenolate mofetil or azathioprine, are trialled first.
    - A dermatologist is usually involved in this step (via written/verbal advice or referral) as these medicines are associated with significant adverse effects and patients need ongoing monitoring; however, dermatologist input is not a requirement for funded prescribing of most of these treatments in primary care
- If the addition of one of these conventional systemic immunosuppressants to the patient's treatment regimen does not control their symptoms (or is contraindicated), upadacitinib, an oral Janus-kinase inhibitor, may be considered
    - Janus-kinase inhibitors are a type of immunomodulator that target specific cytokine signalling pathways involved in the immune response and inflammation, in contrast to conventional immunosuppressants which tend to more broadly suppress the immune system
- Upadacitinib is funded with Special Authority approval for patients with moderate to severe atopic dermatitis (defined by an EASI score ≥ 16 or DLQI ≥ 10) who have achieved insufficient benefit from at least one month of topical treatment and three months of conventional systemic immunosuppressant treatment, where appropriate. Special Authority applications can be made by any relevant practitioner.
- Pre-treatment screening to determine suitability and to provide a baseline for ongoing monitoring is required when prescribing upadacitinib due to the potential for significant adverse effects, such as herpes zoster and herpes simplex reactivation, hepatic, lipid and haematological changes, e.g. neutropenia, anaemia
    - This includes assessing for cardiovascular risk factors and active infection, checking immunisation status, and requesting baseline laboratory testing (e.g. FBC, LFTs, lipids, varicella zoster serology, HIV, tuberculosis and hepatitis B and C screening)
- Laboratory testing and monitoring for adverse effects is recommended one month after treatment initiation and then every three months or as clinically indicated. Response to treatment should also be assessed during follow up.
    - Treatment must be temporarily stopped if laboratory parameters become abnormal (e.g. lymphocytopenia, neutropenia, anaemia, elevated transaminases) or an infection develops, including herpes zoster or herpes simplex
    - Repeating EASI and DLQI assessments can help determine a reduction in atopic dermatitis severity and improvement in quality of life
        - To qualify for Special Authority renewals, patients must achieve a ≥ 75% reduction in EASI score or a DLQI improvement of ≥ 4, compared to baseline

- Patients who experience intolerable adverse effects or an inadequate response to upadacitinib should be discussed with, or referred to, a dermatologist

Navigating moderate to severe atopic dermatitis

Atopic dermatitis (also referred to as eczema) is a chronic, relapsing, inflammatory skin condition.[1] Diagnosis can be made based on the presence of typical features including pruritus and cutaneous inflammation at flexural surfaces (or extensor surfaces in infants); Hanifen and Raijka Criteria are recommended to be used. The pathogenesis of atopic dermatitis is not fully understood, but a combination of genetic, environmental and immune factors as well as an impaired skin barrier are likely to be involved.[2]

Onset usually occurs in early childhood and resolves in approximately 70% of cases by adolescence, but around one in four people with atopic dermatitis develop it in adulthood.[1,3] The overall global prevalence of atopic dermatitis in adults is up to 10%.[1,2] Prevalence among adults in New Zealand is not currently known (research is underway), but data for children in the 2023/24 New Zealand Health Survey reveal trends that are likely to be similar. Atopic dermatitis affects 16% of children in New Zealand.[4] Pacific (22.5%), Asian (20.7%) and Māori (16.5%) children had a higher prevalence of atopic dermatitis than children of European/Other ethnicity (14.3%); children with a disability (22.3%) also had a higher prevalence compared to those without (14.0%).[4] Severity is also greater in Māori and Pacific children.[5]

The management of atopic dermatitis in adults is similar to children, beginning with emollients and topical corticosteroids. Topical calcineurin inhibitors, i.e. tacrolimus or pimecrolimus, may also be prescribed if Special Authority criteria are met.[1] In most cases, patients will have mild to moderate atopic dermatitis that is controlled with these topical treatments.[6,7] Patients who have more severe atopic dermatitis that does not respond to topical management (including a trial of more potent topical corticosteroids), will require additional treatments.[1,7] It can be challenging to treat moderate to severe atopic dermatitis in patients, and it tends to persist long-term.[8]

In addition to skin-related symptoms and signs, atopic dermatitis can adversely affect multiple aspects of a person's daily life, including sleep, work or study, social interactions and psychosocial wellbeing, which can lead to anxiety and depression.[9,10] People with atopic dermatitis also often have other atopic co-morbidities, e.g. asthma, food allergies.[1,3]

The overall goals of treatment for a patient with atopic dermatitis are to control symptoms with minimal/no adverse effects, avoid skin complications, e.g. infection, lichenification and reduce impact on their quality of life.[1,11]

Some patients with severe atopic dermatitis may meet criteria for referral to a dermatologist, however, access and wait times via the public healthcare system, as well as the cost of private services, can be a barrier to receiving advanced treatments

for their condition. Although some primary care clinicians may feel that offering specialised treatments that are typically co-ordinated in a dermatologist setting is beyond the scope of their usual care, being able to bridge these barriers by facilitating access to dermatology treatments in the community will improve patient outcomes.

Determining atopic dermatitis severity and impact

Atopic dermatitis severity can be determined by examining the patient's skin for a range of features, including erythema, thickness, lichenification and signs of scratching/excoriation. Impact on the patient's quality of life and response to treatment is also factored in (see box). A range of validated clinician-assessed and patient-reported scales are available to help determine the severity and impact of atopic dermatitis.[11] The most common scoring tools used in New Zealand practice are:

- **Severity**: Eczema Area and Severity Index (EASI) – Clinician assessment of the extent of atopic dermatitis on the head/neck, upper and lower limbs and the truck, based on the severity of erythema, thickness, scratching/excoriation and lichenification. An online calculator is also available.
- **Quality of life**: Dermatology Life Quality Index (DLQI) – Patient-reported questionnaire for adults that assesses the impact of atopic dermatitis on aspects of quality of life, including self-consciousness, work or study and social activities. An online calculator is also available. N.B. DLQI has not been validated in Māori or Pacific peoples and may not reflect the impact on all aspects of quality of life in these groups; additional discussion may be required to fully elicit the impact of atopic dermatitis.

✎ Defining atopic dermatitis severity

The severity of atopic dermatitis may be graded by the following:[11]

Mild: Condition responds adequately to optimised use of emollients and standard topical corticosteroids, and avoidance of irritants and triggers

Moderate: Condition may not be adequately controlled with topical treatment alone. EASI score 10 – 20, intermittent flares, some impact on quality of life (DLQI > 10). Patients may not need continuous treatment.

Severe: Condition does not respond adequately to optimised use of emollients and standard topical corticosteroids, and avoidance of irritants and triggers. EASI score > 20, frequent flares, poor quality of life.

Treatment resistant atopic dermatitis

Approximately one in ten adults with atopic dermatitis do not respond adequately to conventional management.[7] Treatment resistance may be defined as: inadequate clinical improvement or ongoing symptoms (e.g. pruritus, pain, sleep disturbance) after at least four weeks of treatment, or an inability to tolerate treatment.[11]

If the patient is not responding to treatment, ensure the right potency of topical corticosteroid has been prescribed for the particular area/s for an appropriate period (and that potency has escalated over time), ask about adherence (including the quantity and frequency of use; address any concerns or misconceptions – "corticosteroid phobia"), avoidance of known triggers or irritants and consider possible alternative diagnoses, e.g. allergic contact dermatitis.[9,11] Patients who have not achieved adequate symptom control despite adherence to conventional management (unless contraindicated/not tolerated) will require an additional treatment to be added to their regimen, e.g. a systemic immunosuppressant.[6,9]

Options for treatment resistant atopic dermatitis

Oral antibiotics should only be considered for patients with atopic dermatitis who have signs of a secondary bacterial infection.[6,9] This is characterised by weeping, crusting and erythema of the eczematous skin. Topical antibiotics are not recommended due to resistance concerns; topical antiseptics may be considered for small areas of affected skin.[1,9]

Oral corticosteroids should only be considered for short-term use in certain circumstances, e.g. acute severe flares, upcoming important event (e.g. wedding).[6,11] They are not usually recommended as a long-term treatment for patients with atopic dermatitis due to significant adverse effects;[6,11] typically, a reducing course may be prescribed for 6 – 8 weeks or less.

Narrow-band UV-B phototherapy reduces inflammation and suppresses the immune response.[1] It is ideally considered before systemic treatments for patients with atopic dermatitis, however, referral to a dermatologist or phototherapy unit is required and resource and geographical barriers may limit access.[6,11] The cost of private services is also a barrier for many patients. A treatment course generally consists of two to three sessions per week for six to ten weeks.[6,11] Emollients and topical corticosteroids are usually continued alongside phototherapy (unless contraindicated).[6,9]

Oral systemic immunosuppressants are recommended for patients with moderate to severe atopic dermatitis who have not responded adequately to topical treatments.[6,9] Emollients and topical corticosteroids are usually continued alongside the immunosuppressant (unless contraindicated).[6,9]

In practice, patients are usually initiated on a systemic immunosuppressant by a dermatologist or in primary care after seeking dermatology advice, as these medicines can be associated with significant adverse effects and have close monitoring requirements. However, dermatologist involvement is not a requirement for funded prescribing of most of these treatments and clinicians who are confident about prescribing systemic immunosuppressants can initiate most of them in primary care.
N.B. The initiation of these medicines and ongoing monitoring is likely to be a resource intensive process in primary care, therefore, ensure the patient understands the time requirements and cost implications involved before prescribing.

Conventional systemic immunosuppressants must be trialled first before a Janus-kinase (JAK) inhibitor is funded. In primary care, methotrexate (unapproved indication) may be an initial choice due to familiarity with prescribing this medicine for other conditions, or ciclosporin since atopic dermatitis is an approved indication. However, patient-specific factors should be considered when deciding which to prescribe; mycophenolate mofetil (unapproved indication) and azathioprine (unapproved indication) are other options. See Table 1 in "Prescribing conventional immunosuppressants for atopic dermatitis in primary care" for guidance on choosing between these medicines and dosing information.

The specific adverse effect profile differs between immunosuppressants, but in general, significant effects may include hepatotoxicity, haematological effects (e.g. neutropenia, anaemia) and serious infections.[12] Therefore, baseline laboratory testing, e.g. FBC, LFTs, renal function, hepatitis B/C, HIV, tuberculosis (Quantiferon TB-Gold) screening, and ongoing monitoring is required. These medicines are usually trialled for a minimum of 12 weeks before assessing response; ongoing use depends on the medicine, e.g. ciclosporin should not be used long term.[2,11]

✎ Refer to the medicine's monograph on NZF, or check local HealthPathways for information on laboratory testing, adverse effects and monitoring requirements.

✋ **Patient still experiencing inadequate response?** If the addition of ciclosporin, methotrexate, mycophenolate mofetil or azathioprine to the patient's treatment regimen has not controlled their atopic dermatitis (or these medicines are contraindicated), upadacitinib, an **oral JAK inhibitor**, may be the next appropriate step. JAK inhibitors are a type of immunomodulator that target specific cytokine signalling pathways involved in the immune response and inflammation, in contrast to conventional immunosuppressants which tend to more broadly suppress the immune system.[6,8] Take care when switching patients from a conventional systemic immunosuppressant to upadacitinib as a disease flare may occur; a bridging course of oral corticosteroids may be appropriate for some patients.

Prescribing conventional systemic immunosuppressants for atopic dermatitis in primary care

Guidance on prescribing conventional systemic immunosuppressants to patients with treatment resistant atopic dermatitis in primary care is limited in New Zealand. Table 1 provides a summary of dosing and information to help choose between these medicines. Seek advice from a dermatologist prior to prescribing if there is any uncertainty. Ciclosporin is the only one of these options that is approved for the treatment of atopic dermatitis. Prescribers should familiarise themselves with guidance from Medsafe when prescribing a medicine for an unapproved indication: https://www.medsafe.govt.nz/profs/RIss/unapp.asp.

Table 1. Conventional immunosuppressants used for patients with treatment resistant atopic dermatitis. N.B. There is an extensive list of contraindications and cautions for these medicines which should be assessed for each patient prior to prescribing. See individual medicines monographs in the NZF for specific contraindications and cautions.

Systemic immunosuppressant	Dose	Notes
Ciclosporin	2.5 mg/kg/day in two divided doses, increased to 5 mg/kg/day if insufficient response[12] N.B. 5 mg/kg/day can be prescribed initially if atopic dermatitis is very severe.[12]	• Can cause nephrotoxicity so regular renal function and blood pressure monitoring is required, usually monthly. Stop treatment if patients are not adhering to regular monitoring. • Not suitable for long-term use (generally six months to two years) • Preferred option for females of child-bearing potential, however, use with care in younger patients with co-morbidities such as hypertension or high BMI • In practice it is not generally prescribed to patients aged over 40 – 45 years due to increased risk of age-related renal decline • Hirsutism may limit use • More rapid onset of action compared to methotrexate, azathioprine and mycophenolate mofetil[9]
Methotrexate (unapproved indication)	Oral 5 – 25 mg, once per week.*[6,9] In practice, a dose of 10 – 20 mg, once per week is often prescribed.	• Some formulations and strengths of methotrexate have a funding restriction, including the available oral tablets (2.5 mg and 10 mg): *Retail pharmacy-specialist*. See NZF for affected formulations and strengths. This means that the medicine will only be funded in the community on prescription by a specialist or with recommendation by a specialist. For further details, see the Pharmaceutical Schedule rules. The

		definition of a specialist is not specified in the restriction for methotrexate; many primary care prescribers will initiate this medicine in consultation with a dermatologist, however, vocationally registered general practitioners who feel comfortable initiating methotrexate may do so (as the specialist) without seeking input from a dermatologist. The medicine datasheet notes that methotrexate should only be prescribed by physicians with expertise in its use and a full understanding of the risks. The prescriber should also feel confident that the patient will adhere to the once-weekly regimen. • Highlight differences in the appearance of 2.5 mg and 10 mg tablets, especially when a patient is transferred from one tablet strength to another; prescribe only one strength of tablet at once to avoid accidental ingestion of 10 mg tablets in place of 2.5 mg tablets • Folic acid (5 mg per week, on an alternate day to methotrexate, e.g. methotrexate Mondays, folic acid Fridays; unapproved indication) should also be prescribed[12] • Nausea may limit use (subcutaneous administration may overcome this adverse effect) • Teratogen and possible mutagen – not first choice for females of child-bearing potential or males planning parenthood • Some severe medicine interactions, e.g. with trimethoprim + sulfamethoxazole, which is often used for infected atopic dermatitis
Mycophenolate mofetil (unapproved indication)	1 – 3 g/day*[6,9]	• There is inconsistency between international guidelines as to whether mycophenolate mofetil is recommended for patients with atopic dermatitis.[3,6,9] In New Zealand, it is included in local HealthPathways as a medicine that could be trialled, and is listed as an option for one of the pre-requisites in the Special Authority criteria for upadacitinib. • Teratogen – not first choice for females of child-bearing potential
Azathioprine (unapproved indication)	Normal or high thiopurine methyltransferase	• Requires TPMT to be measured prior to starting treatment.[12] TPMT is an enzyme that metabolises azathioprine (and other

	(TPMT) activity: 1 – 3 mg/kg/day[12] Intermediate TPMT activity: 0.5 – 1.5 mg/kg/day[12]	thiopurine medicines). The activity of the enzyme can help to predict those at risk of myelosuppression; low activity is associated with higher risk, and therefore a dose reduction is necessary. High activity may require dose up-titration. Azathioprine is usually avoided in patients with low TPMT activity. • Lower risk in pregnancy than other options • Increased risk of UV-induced skin cancers with long-term use • Many medicine interactions, e.g. allopurinol, ACE inhibitors
Dupilumab (IV; Section 29, not funded) is a biologic often used in preference to other conventional systemic immunosuppressants;[1,11] however, it is neither approved nor readily available in New Zealand.		

* Dosing recommended in international guidelines; dosing not provided by NZF

A focus on upadacitinib for moderate to severe atopic dermatitis

Upadacitinib (Rinvoq), is an orally administered selective Janus-kinase-1 (JAK) inhibitor, approved for use in people aged ≥ 12 years, for moderate to severe atopic dermatitis.[6,12] Upadacitinib has a faster onset and a different mechanism of action than many other immunosuppressants used for atopic dermatitis and has demonstrated considerable efficacy in clinical trials, with and without topical corticosteroids.[8,9] However, as with other immunosuppressants, it can cause serious adverse effects, such as herpes zoster and herpes simplex reactivation, hepatic, lipid and haematological disturbances, e.g. neutropenia, anaemia.[12]

Upadacitinib has been funded with Special Authority approval since May, 2025, for eligible patients with moderate to severe atopic dermatitis.[13] Patients must have trialled other suitable treatment options (including at least one conventional systemic immunosuppressant) and had an inadequate response, as well as an EASI/DLQI assessment within the last month with scores that reached the threshold for upadacitinib treatment (this also acts as a baseline to assess effectiveness of treatment); see box for full Special Authority criteria.[14] Any practitioner working within their scope can apply for Special Authority funding.

The availability of this medicine provides patients with another option in the community to trial for their atopic dermatitis that has been resistant to conventional management. It assists in removing barriers to accessing treatment in the community, given that dermatology services have been limited in some regions of New Zealand. It may also reduce inequities in outcomes for Māori and Pacific peoples who typically have more severe atopic dermatitis, and therefore would benefit from easier access to an effective treatment.

✎ **Patient already taking upadacitinib?** Some patients may have been self-funding upadacitinib prior to it being listed on the Pharmaceutical Schedule given its marked effect on improving atopic dermatitis. Patients currently taking upadacitinib may qualify for funded access if they would have met Special Authority criteria when they started treatment.

Upadacitinib funded with Special Authority approval

To be eligible for funded upadacitinib the patient must meet the following Special Authority criteria:[14]

- Currently taking upadacitinib for atopic dermatitis and met all remaining Special Authority criteria (below) prior to commencing treatment; ***OR***
- Patient has moderate to severe atopic dermatitis, i.e. EASI score ≥ 16 or DLQI score ≥ 10; ***AND***
- Patient has achieved insufficient benefit from a 28-day trial of topical treatment (including topical corticosteroids or calcineurin inhibitors) within the last six months (unless contraindicated to all); ***AND***
- Patient has trialled and achieved insufficient benefit from at least one systemic treatment (e.g. ciclosporin, azathioprine, methotrexate, mycophenolate mofetil) for at least three months (unless contraindicated to all); ***AND***
- EASI or DLQI assessment has been completed for at least the most recent prior treatment course, preferably while still on treatment, but no longer than one month following cessation of each prior treatment course; ***AND***
- The most recent EASI or DLQI assessment is no more than one month old at the time of application

N.B. Upadacitinib is approved for use in people aged ≥ 12 years, however, there is no age restriction on funding.

The initial Special Authority approval is valid for six months. Renewals require that the patient has achieved a ≥ 75% reduction in EASI score, or a DLQI improvement of ≥ 4, compared to baseline EASI/DLQI score prior to starting treatment with upadacitinib.[14] Renewals are valid for 12 months.

Upadacitinib: other indications

In addition to moderate to severe atopic dermatitis, upadacitinib is also funded with Special Authority approval for patients with:[12]

- Moderate to severe rheumatoid arthritis
- Moderate to severe ulcerative colitis intolerant or non-responsive to either conventional or biologic therapy, or where response is lost
- Moderate to severe active Crohn's disease

Upadacitinib is also approved in New Zealand (but not funded) for the treatment of patients with active ankylosing spondylitis who have not responded adequately to non-steroidal anti-inflammatory treatment and those with active non-radiographic axial spondyloarthritis, giant cell arteritis, or active psoriatic arthritis who have not responded adequately, or are intolerant to, other disease-modifying anti-rheumatic treatment.[12]

Doses range from 15 – 45 mg, once daily, depending on the indication.[12] See the NZF for further information.

Initiating upadacitinib in primary care

Upadacitinib is prescribed as a once daily modified-release tablet that can be taken at any time of the day.[12] Prior to starting treatment, consider the benefits and risks and ongoing monitoring requirements as part of a shared decision-making process with the patient.[3] Pre-treatment screening should include a relevant patient history and baseline laboratory tests to determine treatment suitability.[12] See Table 2 for a list of contraindications and cautions, and Table 3 for key prescribing and monitoring information. Seek advice from a dermatologist prior to prescribing upadacitinib if there is any uncertainty.

Table 2. Contraindications and cautions for upadacitinib.[12]

Contraindications	Cautions
• Active serious infection, e.g. active tuberculosis* • Absolute lymphocyte count < 0.5×10^9/L* • Absolute neutrophil count < 1×10^9/L* • Haemoglobin < 80 g/L* • Severe hepatic impairment • Pregnancy • Breast-feeding	• Age ≥ 65 years • Diverticular disease • Risk factors for cardiovascular disease or thrombosis • Diabetes • Current or past malignancy (except successfully treated non-melanoma skin cancer) • Concomitant use of potent CYP3A4 inhibitors or inducers, e.g. grapefruit juice, rifampicin • Chronic or recurrent infection, history of serious or opportunistic infection or predisposition to infection • Hepatitis B or herpes zoster reactivation • End-stage renal impairment (no dose adjustment is required for patients with mild to moderate renal impairment; a maximum dose of 15 mg, daily, should be given in severe impairment)

* Treatment can begin once the active infection is controlled, or parameters return above these values

Serious adverse effects are possible

Adverse effects associated with upadacitinib are usually mild, e.g. acne, respiratory tract infections, but serious effects can occur less commonly.[8] In particular, herpes zoster and herpes simplex reactivation, venous thromboembolism, elevated lipid levels or liver transaminases, lymphocytopenia, neutropenia, anaemia and non-melanoma skin cancers.[12] Many of these are caused by the immunosuppression-related effects of upadacitinib. The exact mechanism by which upadacitinib affects lipid levels is unknown; one theory proposes that it is related to the effect of cytokine signalling suppression on lipid metabolism.[15] Creatine kinase levels can also be elevated with upadacitinib treatment, but testing is not usually required unless the patient reports symptoms of myopathy.[8,9]

Major adverse cardiovascular events (MACE), e.g. myocardial infarction, stroke, have been reported with upadacitinib, but available data suggest that MACE are not a significant concern when upadacitinib is used to treat atopic dermatitis.[16] It is best practice to assess the risk of MACE prior to prescribing, particularly among patients who are older or those with established cardiovascular risk factors.

Data on the long-term safety of upadacitinib are still being collected;[3,8] adverse effects can be reported to the Centre for Adverse Reactions Monitoring (CARM). Advise patients to temporarily stop treatment and seek medical attention if they experience any concerning symptoms or signs while taking upadacitinib.[12]

Follow-up and ongoing monitoring

Initially, monitoring should occur more often, e.g. after one month, and reduce in frequency over time, e.g. every three months or as clinically indicated.[8] During follow-up, ask about and assess for any adverse effects, e.g. infection, and request relevant laboratory tests, e.g. FBC, LFTs, lipids.[8,12] Also perform periodic skin checks as indicated due to the increased risk of skin cancer.[8,12] See Table 3 for monitoring recommendations.

Assess response to treatment at each follow-up appointment. Response to upadacitinib is usually rapid and patients should experience improvement within days to weeks of starting treatment.[3] Repeating EASI and DLQI assessments can help quantify a reduction in atopic dermatitis severity and improvement in quality of life from baseline. Ongoing funded treatment is contingent on improvements in atopic dermatitis severity and quality of life, as demonstrated by changes in EASI and DLQI scores (see box for details).

Table 3. Key upadacitinib prescribing and monitoring information.[8,12] N.B. Seek dermatology advice where needed.

Moderate to severe atopic dermatitis	15 mg, once daily, increased to 30 mg, once daily, for patients aged under 65 years if there is inadequate response. N.B. Doses above 15 mg are not recommended for patients aged ≥ 65 years, or patients with severe renal impairment.
Before starting	• **Assess** for cardiovascular risk factors, including risk/history of thromboembolism, history of malignancy, pregnancy and breast-feeding status (consider a pregnancy test where appropriate) and the presence of an active infection • **Check immunisation status**. Ensure patients are up to date with National Immunisation Schedule vaccinations, as well as influenza and COVID-19. Offer catch-up vaccinations prior to starting treatment, including varicella zoster (Shingrix; recommended but not funded for patients before, during and after immunosuppressant treatment, unless they meet other criteria for funding). Immunisation with live vaccines is not recommended during treatment. • **Request baseline laboratory testing,** in particular FBC, LFTs, renal function and lipids. Patients should also be screened for tuberculosis (Quantiferon TB-Gold), HIV, varicella zoster serology and hepatitis B and C prior to starting treatment. Include "pre-immunosuppression screen" on these requests. N.B. These screening tests may have previously been requested if the patient was recently started on a conventional systemic immunosuppressant, but consider repeating relevant tests if subsequent disease exposure is possible. See Table 2 for upadacitinib contraindications and cautions
Ongoing monitoring	• **Monitor for adverse effects**, in particular infection and venous thromboembolism or MACE (see text). Temporarily stop treatment if an infection or signs of venous thromboembolism; evaluate/manage as indicated. • **Perform skin examinations** periodically, especially for patients at increased risk of skin cancer • **Monitor laboratory parameters** (e.g. FBC, LFTs, lipids) throughout treatment as clinically indicated. Usually, it is recommended to re-check levels one month after treatment initiation, and then every three months or as clinically indicated. • Temporarily stop treatment if laboratory parameters become abnormal (Table 2) or if medicine-induced liver injury is suspected. Initiate or optimise lipid-lowering treatment as needed.

	• **Monitor response to treatment.** Repeating the EASI and DLQI assessments can be helpful in determining a reduction in atopic dermatitis severity and improvement in quality of life from baseline. EASI/DLQI assessment is also required for Special Authority renewals every six months.
Notes	• Females of child-bearing potential should use effective contraception during, and for four weeks after, treatment. Upadacitinib should be stopped if patients become pregnant during treatment.

Refer following inadequate response

If the patient's response to upadacitinib is insufficient (i.e. < 75% reduction in EASI score or DLQI improvement of < 4 compared to baseline) following six months of treatment, seek dermatology advice (verbal or written) or refer the patient for dermatology assessment.

✍ **Best Practice Tip.** Ensure dermatology referral requests contain as much information as possible, including photographs showing the size and extent of the affected areas(s), information about treatments trialled and their duration and the impact on the patient's quality of life (e.g. DLQI score).

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Full PDF and graphic to be available at a later date

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