

Psoriasis

The assessment and management of psoriasis

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Introduction

Psoriasis is an inflammatory skin disease that typically follows a relapsing and remitting course. The prevalence of psoriasis is estimated to be around 1.3–2.2%¹ in the UK. Psoriasis can occur at any age, although is uncommon in children (0.71%) and the majority of cases occur before 35 years. Psoriasis is associated with joint disease in a significant proportion of patients (reported in one study at 13.8%)².

Plaque psoriasis is characterised by well-delineated red, scaly plaques that vary in extent from a few patches to generalised involvement. It is by far the most common form of the condition (about 90% of people with psoriasis). Other types of psoriasis include guttate psoriasis and pustular (localised or generalised) forms. Distinctive nail changes occur in around 50% of all those affected and are more common in people with psoriatic arthritis.

Healthcare professionals and patients using the term psoriasis are usually referring to plaque psoriasis, and unless stipulated otherwise, 'psoriasis' is used in this way in the guideline. The phrase 'difficult-to-treat sites' encompasses the face, flexures, genitalia, scalp, palms and soles and are so-called because psoriasis at these sites may have especially high impact, may result in functional impairment, requires particular care when prescribing topical therapy and can be resistant to treatment.

Psoriasis for many people results in profound functional, psychological, and social morbidity, with consequent reduced levels of employment and income. Factors that contribute to this include symptoms related to the skin (for example, chronic itch, bleeding, scaling and nail involvement), problems related to treatments, psoriatic arthritis, and the effect of living with a highly visible, stigmatising skin disease. Even people with minimal involvement state that psoriasis has a major effect on their life. Several studies have also reported that people with psoriasis, particularly those with severe disease, may be at increased risk of cardiovascular disease, lymphoma and non-melanoma skin cancer.

A wide variety of treatment options are available. Some are expensive and some are accessed only in specialist care; all require monitoring. The treatment pathway in this guideline begins

¹ Parisi R, Griffiths CEM, Ashcroft DM (2011) Systematic review of the incidence and prevalence of psoriasis. *British Journal of Dermatology* 165: e5.

² Ibrahim G, Waxman R, Helliwell PS (2009) The prevalence of psoriatic arthritis in people with psoriasis. *Arthritis and Rheumatism* 61:1373–8.

with active topical therapies. The Guideline Development Group (GDG) acknowledged that the use of emollients³ in psoriasis was already widespread and hence the evidence review was limited to active topical therapies for psoriasis.

In this guideline, first-line therapy describes traditional topical therapies (such as corticosteroids, vitamin D and vitamin D analogues, dithranol and tar preparations). Second-line therapy includes the phototherapies (broad- or narrow-band ultraviolet B light and psoralen plus UVA light [PUVA]) and systemic non-biological agents such as ciclosporin, methotrexate and acitretin. Third-line therapy refers to systemic biological therapies such as the tumour necrosis factor antagonists adalimumab, etanercept and infliximab, and the monoclonal antibody ustekinumab that targets interleukin-12 (IL-12) and IL-23. NICE has published technology appraisals on the use of biological drugs, and this guideline incorporates recommendations from these appraisals where relevant (listed in alphabetical order). Biologic treatment is complicated by a poor response in a minority of people, and this guideline reviewed the literature for the use of a second biological drug.

For most people, psoriasis is managed in primary care, with specialist referral being needed at some point for up to 60% of people. Supra-specialist (level 4)⁴ tertiary care is required in the very small minority with especially complex, treatment resistant and/or rare manifestations of psoriasis.

A recent UK audit in the adult population demonstrated wide variations in practice, and in particular, access to specialist treatments (including biological therapy), appropriate drug monitoring, specialist nurse support and psychological services⁵.

This guideline covers people of all ages and aims to provide clear recommendations on the management of all types of psoriasis. The term 'people' is used to encompass all ages. 'Children' refers to those up to 12 years, who become 'young people' thereafter, before merging with the adult population by 18 years of age. The GDG have focused on areas most likely to improve the management and delivery of care for a majority of people affected, where practice is very varied and/or where clear consensus or guidelines on treatments are lacking. It is hoped

³ Please refer to the [British National Formulary and the British National Formulary for Children](#) for guidance on use of emollients.

⁴ Level 4 care is defined as usually taking place entirely within an acute hospital and is carried out by consultant dermatologists and a range of other healthcare professionals with special skills in the management of complex and/or rare skin disorders – see [Quality Standards for Dermatology: providing the right care for people with skin conditions](#).

⁵ Eedy DJ, Griffiths CE, Chalmers RJ et al. (2009) Care of patients with psoriasis: an audit of U.K. services in secondary care. *British Journal of Dermatology*. 160: 557–64.

that this guideline will facilitate the delivery of high-quality healthcare and improved outcomes for people with psoriasis.

Patient-centred care

This guideline offers best practice advice on the care of people with psoriasis.

Treatment and care should take into account patients' needs and preferences. People with psoriasis should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If patients do not have the capacity to make decisions, healthcare professionals should follow the [Department of Health's advice on consent](#) and the [code of practice that accompanies the Mental Capacity Act](#). In Wales, healthcare professionals should follow [advice on consent from the Welsh Government](#).

If the patient is under 16, healthcare professionals should follow the guidelines in the Department of Health's [Seeking consent: working with children](#).

Good communication between healthcare professionals and patients is essential. It should be supported by evidence-based written information tailored to the patient's needs. Treatment and care, and the information patients are given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English.

Families and carers should also be given the information and support they need where appropriate.

Care of young people in transition between paediatric and adult services should be planned and managed according to the best practice guidance described in the Department of Health's [Transition: getting it right for young people](#).

Adult and paediatric healthcare teams should work jointly to provide assessment and services to young people with psoriasis. Diagnosis and management should be reviewed throughout the transition process, and there should be clarity about who is the lead clinician to ensure continuity of care.

Key priorities for implementation

The following recommendations have been identified as priorities for implementation.

Assessment tools for disease severity and impact and when to refer for specialist care

- For people with any type of psoriasis assess:
 - disease severity
 - the impact of disease on physical, psychological and social wellbeing
 - whether they have psoriatic arthritis
 - the presence of comorbidities.
- Following assessment in a non-specialist setting, refer people for dermatology specialist advice if:
 - there is diagnostic uncertainty **or**
 - any type of psoriasis is severe or extensive, for example more than 10% of the body surface area is affected **or**
 - any type of psoriasis cannot be controlled with topical therapy **or**
 - acute guttate psoriasis requires phototherapy (see recommendation [1.4.1.1](#)) **or**
 - nail disease has a major functional or cosmetic impact **or**
 - any type of psoriasis is having a major impact on a person's physical, psychological or social wellbeing.

Assessment and referral for psoriatic arthritis

- As soon as psoriatic arthritis is suspected, refer the person to a rheumatologist for assessment and advice about planning their care.

Identification of comorbidities

- Discuss risk factors for cardiovascular comorbidities with people who have any type of psoriasis (and their families or carers where appropriate). Where appropriate offer preventative advice, healthy lifestyle information and support for behavioural change tailored to meet the needs of the individual in line with the following NICE guidance:
 - [Lipid modification](#) (NICE clinical guideline 67)
 - [Obesity](#) (NICE clinical guideline 43)

- [Preventing type 2 diabetes: population and community interventions](#) (NICE public health guidance 35)
- [Prevention of cardiovascular disease](#) (NICE public health guidance 25)
- [Alcohol-use disorders: preventing harmful drinking](#) (NICE public health guidance 24)
- [Smoking cessation services](#) (NICE public health guidance 10)
- [Four commonly used methods to increase physical activity](#) (NICE public health guidance 2)
- [Promoting physical activity in the workplace](#) (NICE public health guidance 13)
- [Promoting physical activity for children and young people](#) (NICE public health guidance 17).

Topical therapy: general recommendations

- Offer practical support and advice about the use and application of topical treatments. Advice should be provided by healthcare professionals who are trained and competent in the use of topical therapies. Support people to adhere to treatment in line with [Medicines adherence](#) (NICE clinical guideline 76).

Topical therapy: topical treatment of psoriasis affecting the trunk and limbs

- Offer a potent corticosteroid applied once daily plus vitamin D or a vitamin D analogue applied once daily (applied separately, one in the morning and the other in the evening) for up to 4 weeks as initial treatment for adults with trunk or limb psoriasis.

Phototherapy (broad- or narrow-band ultraviolet B light)

- Offer narrowband ultraviolet B (UVB) phototherapy to people with plaque or guttate-pattern psoriasis that cannot be controlled with topical treatments alone. Treatment with narrowband UVB phototherapy can be given 3 or 2 times a week depending on patient preference. Tell people receiving narrowband UVB that a response may be achieved more quickly with treatment 3 times a week.

Systemic non-biological therapy

- Offer systemic non-biological therapy to people with any type of psoriasis if:
 - it cannot be controlled with topical therapy **and**
 - it has a significant impact on physical, psychological or social wellbeing **and**
 - one or more of the following apply:
 - ◇ psoriasis is extensive (for example, more than 10% of body surface area affected or a Psoriasis Area and Severity Index (PASI)⁶ score of more than 10) **or**
 - ◇ psoriasis is localised and associated with significant functional impairment and/or high levels of distress (for example severe nail disease or involvement at high-impact sites) **or**
 - ◇ phototherapy has been ineffective, cannot be used or has resulted in rapid relapse (rapid relapse is defined as greater than 50% of baseline disease severity within 3 months).

Choice of drugs (systemic non-biological therapy)

- Offer methotrexate⁷ as the first choice of systemic agent for people with psoriasis who fulfil the criteria for systemic therapy (see previous recommendation 1.5.2.1) except in the circumstances described in recommendations 1.5.2.4 and 1.5.2.12.

Changing to an alternative biological drug (systemic biological therapy)

- Consider changing to an alternative biological drug in adults if:
 - the psoriasis does not respond adequately to a first biological drug as defined in NICE technology appraisals⁸ (at 10 weeks after starting treatment for infliximab, 12 weeks for etanercept, and 16 weeks for adalimumab and ustekinumab; primary failure) **or**
 - the psoriasis initially responds adequately but subsequently loses this response, (secondary failure) **or**
 - the first biological drug cannot be tolerated or becomes contraindicated.

⁶ The PASI is also available from the [British Association of Dermatologists](#) website.

⁷ At the time of publication (October 2012), methotrexate did not have UK marketing authorisation for this indication in children and young people. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) for further information.

⁸ NICE technology appraisal guidance [103](#), [134](#), [146](#) and [180](#).

1 Guidance

The following guidance is based on the best available evidence. The [full guideline](#) gives details of the methods and the evidence used to develop the guidance.

The guidance covers people of all ages with all types of psoriasis. The recommendations were developed after discussion of the relevance of the evidence to children, young people and adults with psoriasis. If recommendations are age-limited or specific to disease type, they are clearly indicated as such.

The guideline will assume that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.

This guideline recommends some drugs for indications for which they do not have a UK marketing authorisation at the date of publication, if there is good evidence to support that use. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#). Where recommendations have been made for the use of drugs outside their licensed indications ('off-label use'), these drugs are marked with a footnote in the recommendations.

Before prescribing any intervention for use in children, healthcare professionals should refer to the specific SPC and the BNF for Children.

1.1 Principles of care

1.1.1.1 Offer people with any type of psoriasis (and their families or carers), support and information tailored to suit their individual needs and circumstances, in a range of different formats so they can confidently understand:

- their diagnosis and treatment options
- relevant lifestyle risk factors
- when and how to treat their condition
- how to use prescribed treatments safely and effectively (for example, how to apply topical treatments, how to minimise the risk of side effects through monitoring for safety of medicines)

-
- when and how to seek further general or specialist review
 - strategies to deal with the impact on their physical, psychological and social wellbeing.

1.1.1.2 When offering treatments to a person with any type of psoriasis:

- ensure the treatment strategy is developed to meet the person's health goals so that the impact of their condition is minimised and use relevant assessment tools to ensure these goals are met
- take into account the age and individual circumstances of the person, disease phenotype, severity and impact, co-existing psoriatic arthritis, comorbidities and previous treatment history
- discuss the risks and benefits of treatment options with the person (and their families or carers where appropriate). Where possible use absolute risk and natural frequency⁹
- discuss the importance of adherence to treatment for optimising outcomes.

For more information about involving patients in decisions and supporting adherence see [Medicines adherence](#) (NICE clinical guideline 76).

1.1.1.3 Assess whether support and information need updating or revising at every review or interaction with the person, in particular:

- during transition from children's services to adult services
- when new interventions become available
- when the person's disease severity or circumstances (for example, in terms of comorbidities or lifestyle) change.

1.1.1.4 Provide a single point of contact to help people with all types of psoriasis (and their families or carers where appropriate) access appropriate information and advice about their condition and the services available at each stage of the care pathway.

⁹ See [appendix B](#) for details of the risk-benefit profiles of interventions recommended in this guideline.

1.1.1.5 NICE has produced guidance on the components of good patient experience in adult NHS services. All healthcare professionals should follow the recommendations in [Patient experience in adult NHS services](#) (NICE clinical guideline 138).

1.2 Assessment and referral

1.2.1 Assessment tools for disease severity and impact and when to refer for specialist care

1.2.1.1 For people with any type of psoriasis assess:

- disease severity
- the impact of disease on physical, psychological and social wellbeing
- whether they have psoriatic arthritis
- the presence of comorbidities.

1.2.1.2 Assess the severity and impact of any type of psoriasis:

- at first presentation
- before referral for specialist advice and at each referral point in the treatment pathway
- to evaluate the efficacy of interventions.

1.2.1.3 When assessing the disease severity in any healthcare setting, record:

- the results of a static Physician's Global Assessment (classified as clear, nearly clear, mild, moderate, severe or very severe)¹⁰
- the patient's assessment of current disease severity, for example, using the static Patient's Global Assessment (classified as clear, nearly clear, mild, moderate, severe or very severe)
- the body surface area affected
- any involvement of nails, high-impact and difficult-to-treat sites (for example, the face, scalp, palms, soles, flexures and genitals)

¹⁰ See Feldman SR, Krueger GG (2005) Psoriasis assessment tools in clinical trials. *Annals of Rheumatic Disease* 64 (Suppl. 2): ii65–ii68.

- any systemic upset such as fever and malaise, which are common in unstable forms of psoriasis such as erythroderma or generalised pustular psoriasis.

1.2.1.4 In specialist settings, use a validated tool to assess severity of psoriasis, for example the Psoriasis Area and Severity Index (PASI)¹¹ (in addition to the assessments indicated in recommendation 1.2.1.3).

1.2.1.5 Be aware that:

- PASI and body surface area are not validated for use in children and young people
- erythema may be underestimated in people with darker skin types, such as skin types V and VI on the Fitzpatrick scale¹².

1.2.1.6 Use the Nail Psoriasis Severity Index¹³ to assess nail disease in specialist settings:

- if there is a major functional or cosmetic impact **or**
- before and after treatment is initiated specifically for nail disease.

1.2.1.7 Assess the impact of any type of psoriasis on physical, psychological and social wellbeing by asking:

- what aspects of their daily living are affected by the person's psoriasis
- how the person is coping with their skin condition and any treatments they are using
- if they need further advice or support
- if their psoriasis has an impact on their mood
- if their psoriasis causes them distress (be aware the patient may have levels of distress and not be clinically depressed)

¹¹ See Psoriasis Area and Severity Index. The PASI is also available from the British Association of Dermatologists website.

¹² Fitzpatrick scale: type I: always burns, never tans; type II: usually burns, tans with difficulty, type III: sometimes mild burn, gradually tans; type IV: rarely burns, tans with ease; type V: very rarely burns, tans very easily; type VI: never burns, tans very easily.

¹³ See Rich P, Scher RK (2003) Nail Psoriasis Severity Index: a useful tool for evaluation of nail psoriasis. *Journal of the American Academy of Dermatology* 49: 206–12.

- if their condition has any impact on their family or carers.

Ask children and young people age-appropriate questions.

1.2.1.8 In specialist settings, and if practical in non-specialist settings, use a validated tool to assess the impact of any type of psoriasis on physical, psychological and social wellbeing, for example the:

- Dermatology Life Quality Index (DLQI)^{14,15} for adults **or**
- Children's Dermatology Life Quality Index (CDLQI)¹⁶ for children and young people.

1.2.1.9 When using an assessment tool for a person with any type of psoriasis:

- take account of their age, any disabilities (such as physical, visual or cognitive impairment), and any language or other communication difficulties, and provide help and support if needed¹⁴
- ensure that the chosen assessment tool continues to be a sufficiently accurate measure.

1.2.1.10 Following assessment in a non-specialist setting, refer people for dermatology specialist advice if:

- there is diagnostic uncertainty **or**
- any type of psoriasis is severe or extensive, for example more than 10% of the body surface area is affected **or**
- any type of psoriasis cannot be controlled with topical therapy **or**
- acute guttate psoriasis requires phototherapy (see recommendation [1.4.1.1](#)) **or**
- nail disease has a major functional or cosmetic impact **or**
- any type of psoriasis is having a major impact on a person's physical, psychological or social wellbeing.

¹⁴ See [Dermatology Life Quality Index](#) . The DLQI is also available from the [British Association of Dermatologists](#) website.

¹⁵ See also recommendation 1.5.3.3.

¹⁶ See [Children's Dermatology Life Quality Index](#).

1.2.1.11 People with generalised pustular psoriasis or erythroderma should be referred immediately for same-day specialist assessment and treatment.

1.2.1.12 Refer children and young people with any type of psoriasis to a specialist at presentation.

1.2.2 Assessment and referral for psoriatic arthritis

1.2.2.1 Offer annual assessment for psoriatic arthritis to people with any type of psoriasis. Assessment is especially important within the first 10 years of onset of psoriasis.

1.2.2.2 Use a validated tool to assess adults for psoriatic arthritis in primary care and specialist settings, for example the Psoriasis Epidemiological Screening Tool (PEST)¹⁷. Be aware that the PEST does not detect axial arthritis or inflammatory back pain.

1.2.2.3 As soon as psoriatic arthritis is suspected, refer the person to a rheumatologist for assessment and advice about planning their care.

1.2.3 Identification of comorbidities

1.2.3.1 Offer adults with severe psoriasis¹⁸ of any type a cardiovascular risk assessment at presentation using a validated risk estimation tool. Offer further assessment of cardiovascular risk every 5 years, or more frequently if indicated following assessment. For further information see [Lipid modification](#) (NICE clinical guideline 67).

1.2.3.2 Discuss risk factors for cardiovascular comorbidities with people who have any type of psoriasis (and their families or carers where appropriate). Where appropriate offer preventative advice, healthy lifestyle information and support for behavioural change tailored to meet the needs of the individual in line with the following NICE guidance:

- [Lipid modification](#) (NICE clinical guideline 67)
- [Obesity](#) (NICE clinical guideline 43)

¹⁷ See: Ibrahim GH, Buch MH, Lawson C et al. (2009) Evaluation of an existing screening tool for psoriatic arthritis in people with psoriasis and the development of a new instrument: the Psoriasis Epidemiology Screening Tool (PEST) questionnaire. *Clinical and Experimental Rheumatology* 27: 469–74. The PEST questionnaire is reproduced in appendix T of the [full guideline](#).

¹⁸ Severe psoriasis was defined as either requiring treatment with phototherapy or systemic agents or requiring hospital admission in the studies underpinning this recommendation.

- [Preventing type 2 diabetes: population and community interventions](#) (NICE public health guidance 35)
- [Prevention of cardiovascular disease](#) (NICE public health guidance 25)
- [Alcohol-use disorders: preventing harmful drinking](#) (NICE public health guidance 24)
- [Smoking cessation services](#) (NICE public health guidance 10)
- [Four commonly used methods to increase physical activity](#) (NICE public health guidance 2)
- [Promoting physical activity in the workplace](#) (NICE public health guidance 13)
- [Promoting physical activity for children and young people](#) (NICE public health guidance 17).

1.2.3.3 For people with multiple comorbidities and/or multimorbidities and any type of psoriasis needing second- or third-line therapy, ensure multidisciplinary working and communication between specialties and, if needed, interdisciplinary team working (for example when both skin and joints are significantly affected).

1.2.3.4 Be aware that psoriasis of any type, especially if severe¹⁹, is a risk factor for venous thromboembolism in adults, and:

- explain this risk to adults with any type of psoriasis
- offer advice on how to minimise the risk (for example, during hospital admission, surgery, or periods of immobility)
- manage the risk in line with [Venous thromboembolism: reducing the risk](#) (NICE clinical guideline 92).

1.2.3.5 Assess whether people with any type of psoriasis are depressed when assessing disease severity and impact, and when escalating therapy. If appropriate offer information, advice and support in line with [Depression in adults with a chronic physical health problem](#) (NICE clinical guideline 91) and [Depression in children and young people](#) (NICE clinical guideline 28).

¹⁹ Severe psoriasis was identified by hospitalisations (including outpatient visits) for psoriasis (ICD-10 L40) or psoriatic arthritis.

1.3 Topical therapy

The treatment pathway in this guideline begins with active topical therapies. The GDG acknowledged that the use of emollients in psoriasis was already widespread and hence the evidence review was limited to active topical therapies for psoriasis. Please refer to the BNF and cBNF for guidance on use of emollients.

1.3.1 General recommendations

1.3.1.1 Offer people with psoriasis topical therapy as first-line treatment.

1.3.1.2 Offer second- or third-line treatment options (phototherapy or systemic therapy) at the same time when topical therapy alone is unlikely to adequately control psoriasis, such as:

- extensive disease (for example more than 10% of body surface area affected)
- **or**
- at least 'moderate' on the static Physician's Global Assessment **or**
- where topical therapy is ineffective, such as nail disease.

See also recommendations 1.2.1.9; 1.4.1.1; 1.5.2.1; 1.5.3.4; 1.5.3.6; 1.5.3.8 and 1.5.3.10.

1.3.1.3 Offer practical support and advice about the use and application of topical treatments. Advice should be provided by healthcare professionals who are trained and competent in the use of topical therapies. Support people to adhere to treatment in line with [Medicines adherence](#) (NICE clinical guideline 76).

1.3.1.4 When offering topical agents:

- take into account patient preference, cosmetic acceptability, practical aspects of application and the site(s) and extent of psoriasis to be treated
- discuss the variety of formulations available and, depending on the person's preference, use:
 - cream, lotion or gel for widespread psoriasis
 - lotion, solution or gel for the scalp or hair-bearing areas

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- ointment to treat areas with thick adherent scale
 - be aware that topical treatment alone may not provide satisfactory disease control, especially in people with psoriasis that is extensive (for example more than 10% of body surface area affected) or at least 'moderate' on the static Physician's Global Assessment.
- 1.3.1.5 If a person of any age with psoriasis requiring topical therapy has a physical disability, or cognitive or visual impairment offer advice and practical support that take into account the person's individual needs.
- 1.3.1.6 Arrange a review appointment 4 weeks after starting a new topical treatment in adults, and 2 weeks after starting a new topical treatment in children, to:
- evaluate tolerability, toxicity, and initial response to treatment (including measures of severity and impact described in recommendations 1.2.1.3, 1.2.1.6 and 1.2.1.7)
 - reinforce the importance of adherence when appropriate
 - reinforce the importance of a 4 week break between courses of potent/very potent corticosteroids (see recommendation 1.3.1.10).
- If there is little or no improvement at this review, discuss the next treatment option with the person.
- 1.3.1.7 Discuss with people whose psoriasis is responding to topical treatment (and their families or carers where appropriate):
- the importance of continuing treatment until a satisfactory outcome is achieved (for example clear or nearly clear) or up to the recommended maximum treatment period for corticosteroids (see sections [1.3.2](#), [1.3.3](#) and [1.3.4](#))
 - that relapse occurs in most people after treatment is stopped
 - that after the initial treatment period topical treatments can be used when needed to maintain satisfactory disease control.
- 1.3.1.8 Offer people with psoriasis a supply of their topical treatment to keep at home for the self-management of their condition.
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1.3.1.9 In people whose psoriasis has not responded satisfactorily to a topical treatment strategy, before changing to an alternative treatment:

- discuss with the person whether they have any difficulties with application, cosmetic acceptability or tolerability and where relevant offer an alternative formulation
- consider other possible reasons for non-adherence in line with [Medicines adherence](#) (NICE clinical guideline 76).

How to use corticosteroids safely²⁰

1.3.1.10 Be aware that continuous use of potent or very potent corticosteroids may cause:

- irreversible skin atrophy and striae
- psoriasis to become unstable
- systemic side effects when applied continuously to extensive psoriasis (for example more than 10% of body surface area affected).

Explain the risks of these side effects to people undergoing treatment (and their families or carers where appropriate) and discuss how to avoid them.

1.3.1.11 Aim for a break of 4 weeks between courses of treatment with potent or very potent corticosteroids. Consider topical treatments that are not steroid-based (such as vitamin D or vitamin D analogues or coal tar) as needed to maintain psoriasis disease control during this period.

1.3.1.12 When offering a corticosteroid for topical treatment select the potency and formulation based on the person's need.

1.3.1.13 Do not use very potent corticosteroids continuously at any site for longer than 4 weeks.

1.3.1.14 Do not use potent corticosteroids continuously at any site for longer than 8 weeks.

1.3.1.15 Do not use very potent corticosteroids in children and young people.

²⁰ See recommendations 1.3.4.2 and 1.3.4.4 for details on safe use of steroids at facial, flexural and genital sites.

- 1.3.1.16 Offer a review at least annually to adults with psoriasis who are using intermittent or short-term courses²¹ of a potent or very potent corticosteroid (either as monotherapy or in combined preparations) to assess for the presence of steroid atrophy and other adverse effects.
- 1.3.1.17 Offer a review at least annually to children and young people with psoriasis who are using corticosteroids of any potency (either as monotherapy or in combined preparations) to assess for the presence of steroid atrophy and other adverse effects.

1.3.2 Topical treatment of psoriasis affecting the trunk and limbs

- 1.3.2.1 Offer a potent corticosteroid applied once daily plus vitamin D or a vitamin D analogue applied once daily (applied separately, one in the morning and the other in the evening) for up to 4 weeks as initial treatment for adults with trunk or limb psoriasis.
- 1.3.2.2 If once-daily application of a potent corticosteroid plus once-daily application of vitamin D or a vitamin D analogue does not result in clearance, near clearance or satisfactory control of trunk or limb psoriasis in adults after a maximum of 8 weeks²², offer vitamin D or a vitamin D analogue alone applied twice daily.
- 1.3.2.3 If twice-daily application of vitamin D or a vitamin D analogue does not result in clearance, near clearance or satisfactory control of trunk or limb psoriasis in adults after 8–12 weeks²², offer either:
- a potent corticosteroid applied twice daily for up to 4 weeks **or**
 - a coal tar preparation applied once or twice daily.
- 1.3.2.4 If a twice-daily potent corticosteroid or coal tar preparation cannot be used or a once-daily preparation would improve adherence in adults offer a combined product containing calcipotriol monohydrate and betamethasone dipropionate applied once daily for up to 4 weeks.

²¹ See recommendations 1.3.1.12 and 1.3.1.13 for details on safe duration of steroid use.

²² See recommendation 1.3.1.8 for additional considerations before changing to the next treatment option.

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- 1.3.2.5 Offer treatment with very potent corticosteroids in adults with trunk or limb psoriasis only:
- in specialist settings under careful supervision
 - when other topical treatment strategies have failed
 - for a maximum period of 4 weeks.
- 1.3.2.6 Consider short-contact dithranol for treatment-resistant psoriasis of the trunk or limbs and either:
- give educational support for self-use **or**
 - ensure treatment is given in a specialist setting.
- 1.3.2.7 For children and young people with trunk or limb psoriasis consider²³ either:
- calcipotriol applied once daily (only for those over 6 years of age) **or**
 - a potent corticosteroid applied once daily (only for those over 1 year of age).
- 1.3.3 Topical treatment of psoriasis affecting the scalp**
- 1.3.3.1 Offer a potent corticosteroid²⁴ applied once daily for up to 4 weeks²⁵ as initial treatment for people with scalp psoriasis.
- 1.3.3.2 Show people with scalp psoriasis (and their families or carers where appropriate) how to safely apply corticosteroid topical treatment.
- 1.3.3.3 If treatment with a potent corticosteroid²⁴ does not result in clearance, near clearance or satisfactory control of scalp psoriasis after 4 weeks²⁵ consider:
- a different formulation of the potent corticosteroid (for example, a shampoo or mousse) **and/or**
 - topical agents to remove adherent scale (for example, agents containing salicylic acid, emollients and oils) before application of the potent corticosteroid.

²³ Please refer to the BNF for children for information on appropriate dosing and duration of treatment.

²⁴ Only use potent corticosteroids according to UK marketing authorisation, which was limited to those over 1 year of age at the time of publication (October 2012).

²⁵ In children and young people the specified duration of therapy may not be appropriate. Please refer to the BNF for children for information on appropriate dosing and duration of treatment.

- 1.3.3.4 If the response to treatment with a potent corticosteroid²⁴ for scalp psoriasis remains unsatisfactory after a further 4 weeks^{22,25} of treatment offer:
- a combined product containing calcipotriol monohydrate and betamethasone dipropionate²⁶ applied once daily for up to 4 weeks **or**
 - vitamin D or a vitamin D analogue²⁷ applied once daily (only in those who cannot use steroids and with mild to moderate scalp psoriasis).
- 1.3.3.5 If continuous treatment with either a combined product containing calcipotriol monohydrate and betamethasone dipropionate²⁶ applied once daily or vitamin D or a vitamin D analogue applied once daily for up to 8 weeks²⁵ does not result in clearance, near clearance or satisfactory control of scalp psoriasis offer:
- a very potent corticosteroid applied up to twice daily for 2 weeks for adults only **or**
 - coal tar applied once or twice daily **or**
 - referral to a specialist for additional support with topical applications and/or advice on other treatment options.
- 1.3.3.6 Consider topical vitamin D or a vitamin D analogue^{27,28} alone for the treatment of scalp psoriasis only in people who:
- are intolerant of or cannot use topical corticosteroids at this site **or**
 - have mild to moderate scalp psoriasis.
- 1.3.3.7 Do not offer coal tar-based shampoos alone for the treatment of severe scalp psoriasis.

²⁶ At the time of publication (October 2012), the combined product containing calcipotriol monohydrate and betamethasone dipropionate did not have UK marketing authorisation for this indication in children and young people. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) for further information.

²⁷ In children, when offering an agent in the vitamin D or vitamin D analogue class choose calcipotriol, because at the time of publication (October 2012) calcitriol and tacalcitol did not have UK marketing authorisation for this group.

²⁸ Please refer to the BNF for children for information on appropriate dosing and duration of treatment.

1.3.4 Topical treatment of psoriasis affecting the face, flexures and genitals

- 1.3.4.1 Offer a short-term mild or moderate potency corticosteroid²⁹ applied once or twice daily (for a maximum of 2 weeks²⁵) to people with psoriasis of the face, flexures or genitals.
- 1.3.4.2 Be aware that the face, flexures and genitals are particularly vulnerable to steroid atrophy and that corticosteroids should only be used for short-term treatment of psoriasis (1–2 weeks per month). Explain the risks to people undergoing this treatment (and their families or carers where appropriate) and how to minimise them.
- 1.3.4.3 For adults with psoriasis of the face, flexures or genitals if the response to short-term moderate potency corticosteroids is unsatisfactory, or they require continuous treatment to maintain control and there is serious risk of local corticosteroid-induced side effects, offer a calcineurin inhibitor³⁰ applied twice daily for up to 4 weeks. Calcineurin inhibitors should be initiated by healthcare professionals with expertise in treating psoriasis.
- 1.3.4.4 Do not use potent or very potent corticosteroids on the face, flexures or genitals.
- 1.3.4.5 When prescribing topical agents at facial, flexural and genital sites take into account that they may cause irritation and inform people undergoing treatment (and their families and carers where appropriate) of these risks and how to minimise them. See also recommendation 1.3.4.2.

1.4 Phototherapy (broad- or narrow-band UVB light and (PUVA)

- 1.4.1.1 Offer narrowband ultraviolet B (UVB) phototherapy to people with plaque or guttate-pattern psoriasis that cannot be controlled with topical treatments alone. Treatment with narrowband UVB phototherapy can be given 3 or 2 times a week depending on patient preference. Tell people receiving narrowband UVB that a response may be achieved more quickly with treatment 3 times a week.

²⁹ At the time of publication (October 2012), moderate potency corticosteroids did not have UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) for further information.

³⁰ At the time of publication (October 2012), calcineurin inhibitors did not have UK marketing authorisation for this indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) for further information.

1.4.1.2 Offer alternative second- or third-line treatment when:

- narrowband UVB phototherapy results in an unsatisfactory response or is poorly tolerated **or**
- there is a rapid relapse following completion of treatment (rapid relapse is defined as greater than 50% of baseline disease severity within 3 months) **or**
- accessing treatment is difficult for logistical reasons (for example, travel, distance, time off work or immobility) **or**
- the person is at especially high risk of skin cancer.

1.4.1.3 Consider psoralen³¹ (oral or topical) with local ultraviolet A (PUVA) irradiation to treat palmoplantar pustulosis.

1.4.1.4 When considering PUVA for psoriasis (plaque type or localised palmoplantar pustulosis) discuss with the person:

- other treatment options
- that any exposure is associated with an increased risk of skin cancer (squamous cell carcinoma)
- that subsequent use of ciclosporin may increase the risk of skin cancer, particularly if they have already received more than 150 PUVA treatments
- that risk of skin cancer is related to the number of PUVA treatments.

1.4.1.5 Do not routinely offer co-therapy with acitretin when administering PUVA.

1.4.1.6 Consider topical adjunctive therapy in people receiving phototherapy with broadband or narrowband UVB who:

- have plaques at sites that are resistant or show an inadequate response (for example, the lower leg) to phototherapy alone, or at difficult-to-treat or high-need, covered sites (for example, flexures and the scalp), **and/or**

³¹ At the time of publication (October 2012), psoralen did not have UK marketing authorisation for this or any indication. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the GMC's [Good practice in prescribing medicines – guidance for doctors](#) for further information.

- do not wish to take systemic drugs or in whom systemic drugs are contraindicated.

1.4.1.7 Do not routinely use phototherapy (narrowband UVB, broadband UVB or PUVA) as maintenance therapy.

1.4.1.8 Ensure that all phototherapy equipment is safety-checked and maintained in line with local and national policy³².

1.4.1.9 Healthcare professionals who are giving phototherapy should be trained and competent in its use and should ensure an appropriate clinical governance framework is in place to promote adherence to the indications for and contraindications to treatment, dosimetry and national policy on safety standards for phototherapy³².

1.4.2 Risk of skin cancer and how to minimise risk

1.4.2.1 Do not use PUVA in people with psoriasis of any type and a genetic predisposition to skin cancer for example, xeroderma pigmentosum or familial melanoma.

1.4.2.2 Do not use PUVA when other appropriate treatments are available in:

- people with a personal history of skin cancer **or**
- people who have already received 150 PUVA treatments **or**
- children.

1.4.2.3 Use PUVA with caution or consider other treatment options in:

- people at risk of skin cancer (melanoma and non-melanoma type) (see 'Improving outcomes for people with skin tumours including melanoma' [NICE cancer service guidance])
- people with lighter skin types, such as skin types I or II on the Fitzpatrick scale¹²
- people who are likely to require ciclosporin or long-term methotrexate
- young people.

³² See: [British Association Of Dermatologists: working party report on minimum standards for phototherapy services.](#)

1.4.2.4 Offer lifetime skin cancer surveillance to people treated with PUVA who have:

- had more than 150 PUVA treatments **or**
- developed skin cancer.

1.4.2.5 Ensure that a permanent record of the person's cumulative number of UV treatments is kept (for example, in a national record).

1.5 Systemic therapy

1.5.1 General recommendations

1.5.1.1 Responsibility for use of systemic therapy should be in specialist settings only. Certain aspects of supervision and monitoring may be delegated to other healthcare professionals and completed in non-specialist settings, in which case, such arrangements should be formalised.

1.5.1.2 When offering systemic therapy, tailor the choice of agent and dosing schedule to the needs of the individual and include consideration of:

- the person's age
- disease phenotype, pattern of activity and previous treatment history
- disease severity and impact
- the presence of psoriatic arthritis (in consultation with a rheumatologist)
- conception plans
- comorbidities
- the person's views.

1.5.1.3 Be aware of the benefits of, contraindications to and adverse effects associated with systemic treatments. Explain the risks and benefits to people undergoing this treatment (and their families or carers where appropriate), using absolute risks and natural frequencies when possible⁹. Support and advice should be provided by healthcare professionals who are trained and competent in the use of systemic therapies.

1.5.1.4 When reviewing response to systemic therapy, take into account:

- disease severity compared with baseline (for example, PASI baseline to endpoint score)
- control of psoriatic arthritis disease activity (in consultation with a rheumatologist if necessary)
- the impact of the disease on the person's physical, psychological and social wellbeing
- the benefits versus the risks of continued treatment
- the views of the person undergoing treatment (and their family or carers where appropriate).

1.5.1.5 Monitor people using systemic treatment for all types of psoriasis in accordance with national and local drug guidelines and policy. Take appropriate action in the event of laboratory abnormalities or adverse events.

1.5.1.6 Offer adjunctive topical therapy to people with psoriasis using systemic therapy to optimise treatment outcomes.

1.5.1.7 Offer people with psoriasis who are starting treatment with a systemic non-biological or biological drug the opportunity to participate in long-term safety registries (for example the British Association of Dermatologists Biologic Interventions Register).

1.5.2 Systemic non-biological therapy

1.5.2.1 Offer systemic non-biological therapy to people with any type of psoriasis if:

- it cannot be controlled with topical therapy **and**
- it has a significant impact on physical, psychological or social wellbeing **and**
- one or more of the following apply:
 - psoriasis is extensive (for example, more than 10% of body surface area affected or a PASI score of more than 10) **or**
 - psoriasis is localised and associated with significant functional impairment and/or high levels of distress (for example severe nail disease or involvement at high-impact sites) **or**

- phototherapy has been ineffective, cannot be used or has resulted in rapid relapse (rapid relapse is defined as greater than 50% of baseline disease severity within 3 months).

Choice of drugs

- 1.5.2.2 Offer methotrexate³³ as the first choice of systemic agent for people with psoriasis who fulfil the criteria for systemic therapy (see previous recommendation 1.5.2.1) except in the circumstances described in recommendations 1.5.2.4 and 1.5.2.12.
- 1.5.2.3 In people with both active psoriatic arthritis and any type of psoriasis that fulfils the criteria for systemic therapy (see recommendation 1.5.2.1) consider the choice of systemic agent in consultation with a rheumatologist.
- 1.5.2.4 Offer ciclosporin³⁴ as the first choice of systemic agent for people who fulfil the criteria for systemic therapy (see recommendation 1.5.2.1) and who:
- need rapid or short-term disease control (for example a psoriasis flare) **or**
 - have palmoplantar pustulosis **or**
 - are considering conception (both men and women) and systemic therapy cannot be avoided.
- 1.5.2.5 Consider changing from methotrexate to ciclosporin (or vice-versa) when response to the first-choice systemic treatment is inadequate.
- 1.5.2.6 Consider acitretin for adults, and in exceptional cases only for children and young people, in the following circumstances:
- if methotrexate and ciclosporin are not appropriate or have failed **or**
 - for people with pustular forms of psoriasis.

³³ At the time of publication (October 2012), methotrexate did not have UK marketing authorisation for this indication in children and young people. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) for further information.

³⁴ At the time of publication (October 2012), ciclosporin did not have UK marketing authorisation for this indication in children and young people under 16 years of age. The prescriber should follow relevant professional guidance, taking full responsibility for the decision. The patient (or their parent or carer) should provide informed consent, which should be documented. See the General Medical Council's [Good practice in prescribing medicines – guidance for doctors](#) for further information.

Drug regimens

- 1.5.2.7 Use incremental dosing of methotrexate (for example, starting with an initial dose of 5–10 mg once a week) and gradually increase up to an effective dose and a maximum of 25 mg a week. Assess the treatment response after 3 months at the target dose of methotrexate and stop treatment if the response is inadequate (for example, a decrease of less than 75% in PASI score or a decrease of less than 50% in PASI score and 5 points in DLQI score).
- 1.5.2.8 Use the lowest possible therapeutic dose of methotrexate to maintain remission.
- 1.5.2.9 Use 2.5–3 mg/kg a day of ciclosporin³⁴. Escalate to 5 mg/kg a day after 4 weeks only when there is no response to the lower dose or when rapid disease control is necessary (for example in severe unstable disease). Assess the treatment response after 3 months at the optimum dose of ciclosporin and stop treatment if the response is inadequate (for example, less than a 75% decrease in PASI score or less than a 50% decrease in PASI score and less than 5 points in DLQI score).
- 1.5.2.10 Use the lowest possible therapeutic dose of ciclosporin to maintain remission for up to 1 year. Consider other treatment options when disease relapses rapidly on stopping ciclosporin therapy (rapid relapse is defined as greater than 50% of baseline disease severity within 3 months of stopping treatment). Do not use ciclosporin continuously for more than 1 year unless disease is severe or unstable and other treatment options, including systemic biological therapy, cannot be used.
- 1.5.2.11 Use incremental dosing of acitretin to minimise mucocutaneous side effects and achieve a target dose of 25 mg daily in adults. Consider dose escalation to a maximum of 50 mg daily when no other treatment options are available. Assess the treatment response after 4 months at the optimum dose of acitretin and stop treatment if the response is inadequate, for example:
- in plaque-type psoriasis, less than a 75% decrease in PASI score or less than a 50% decrease in PASI score and less than 5 points in DLQI score
 - in pustular forms of psoriasis, not achieving clear or nearly clear on the static Physician's Global Assessment.

Methotrexate and risk of hepatotoxicity

1.5.2.12 When considering the risks and benefits of treating any type of psoriasis with methotrexate, be aware that methotrexate can cause a clinically significant rise in transaminases and that long-term therapy may be associated with liver fibrosis (see recommendations 1.5.2.13 to 1.5.2.16).

Methotrexate and monitoring for hepatotoxicity

1.5.2.13 Before and during methotrexate treatment, offer the person with any type of psoriasis an evaluation for potential risk of hepatotoxicity. Use standard liver function tests and serial serum procollagen III levels to monitor for abnormalities during treatment with methotrexate, taking into account pre-existing risk factors (for example obesity, diabetes and alcohol use), baseline results and trends over time.

1.5.2.14 When using serum procollagen III levels to exclude liver fibrosis or cirrhosis, be aware that the:

- test cannot be used in children and young people
- results may be unreliable in people with psoriatic arthritis
- estimated positive predictive value is 23–95% and the estimated negative predictive value is 89–100%.

1.5.2.15 Provide advice on modifiable risk factors for liver disease prior to and during therapy, including alcohol intake and weight reduction if appropriate in line with [Alcohol-use disorders: preventing harmful drinking](#) (NICE public health guidance 24), and [Obesity](#) (NICE clinical guideline 43). For further advice on how to support attitude and behavioural change see [Behaviour change](#) (NICE public health guidance 6).

1.5.2.16 Seek timely specialist advice and consider referral to a clinician with expertise in liver disease if the results of liver tests are abnormal.

1.5.3 Systemic biological therapy

The GDG did not review evidence for any aspect of the use of a first biological agent because guidance on this is already available in the existing NICE technology appraisals³⁵.

³⁵ NICE technology appraisal guidance [103](#), [134](#), [146](#) and [180](#).

Recommendations 1.5.3.3 to 1.5.3.11 are replicated from the relevant TAs and are listed here in alphabetical order by drug.

- 1.5.3.1 Biological agents for psoriasis should be initiated and supervised only by specialist physicians experienced in the diagnosis and treatment of psoriasis.
- 1.5.3.2 If a person has both psoriasis and psoriatic arthritis, take into account both conditions before initiating or making changes to biological therapy and manage their treatment in consultation with a rheumatologist (see also [Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis](#) [NICE technology appraisal guidance 199] and [Golimumab for the treatment of psoriatic arthritis](#) [NICE technology appraisal guidance 220]).
- 1.5.3.3 When using the [DLQI](#), healthcare professionals should take into account any physical, sensory or learning disabilities, or communication difficulties that could affect the responses to the [DLQI](#) and make any adjustments they consider appropriate.

Adalimumab

The recommendations in this section are from [Adalimumab for the treatment of adults with psoriasis](#) (NICE technology appraisal guidance 146).

- 1.5.3.4 Adalimumab is recommended as a treatment option for adults with plaque psoriasis for whom anti-tumour necrosis factor (TNF) treatment is being considered and when the following criteria are both met.
- The disease is severe as defined by a total [PASI](#) of 10 or more and a [DLQI](#) of more than 10.
 - The psoriasis has not responded to standard systemic therapies including ciclosporin, methotrexate and PUVA; or the person is intolerant of, or has a contraindication to, these treatments.
- 1.5.3.5 Adalimumab should be discontinued in people whose psoriasis has not responded adequately at 16 weeks. An adequate response is defined as either:
- a 75% reduction in the [PASI](#) score (PASI 75) from when treatment started **or**

- a 50% reduction in the PASI score (PASI 50) and a 5-point reduction in DLQI from start of treatment.

Etanercept

The recommendations in this section are from Etanercept and efalizumab for the treatment of adults with psoriasis (NICE technology appraisal guidance 103).

1.5.3.6 Etanercept, within its licensed indications, administered at a dose not exceeding 25 mg twice weekly is recommended for the treatment of adults with plaque psoriasis only when the following criteria are met.

- The disease is severe as defined by a total PASI of 10 or more and a DLQI of more than 10.
- The psoriasis has failed to respond to standard systemic therapies including ciclosporin, methotrexate and PUVA; or the person is intolerant to, or has a contraindication to, these treatments.

1.5.3.7 Etanercept treatment should be discontinued in patients whose psoriasis has not responded adequately at 12 weeks. Further treatment cycles are not recommended in these patients. An adequate response is defined as either:

- a 75% reduction in the PASI score from when treatment started (PASI 75) **or**
- a 50% reduction in the PASI score (PASI 50) and a 5-point reduction in DLQI from when treatment started.

Infliximab

The recommendations in this section are from Infliximab for the treatment of adults with psoriasis (NICE technology appraisal guidance 134).

1.5.3.8 Infliximab, within its licensed indications, is recommended as a treatment option for adults with plaque psoriasis only when the following criteria are met.

- The disease is very severe as defined by a total PASI of 20 or more and a DLQI of more than 18.

- The psoriasis has failed to respond to standard systemic therapies such as ciclosporin, methotrexate or PUVA, or the person is intolerant to or has a contraindication to these treatments.

1.5.3.9 Infliximab treatment should be continued beyond 10 weeks only in people whose psoriasis has shown an adequate response to treatment within 10 weeks. An adequate response is defined as either:

- a 75% reduction in the PASI score from when treatment started (PASI 75) or
- a 50% reduction in the PASI score (PASI 50) and a 5-point reduction in the DLQI from when treatment started.

Ustekinumab

The recommendations in this section are from Ustekinumab for the treatment of adults with moderate to severe psoriasis (NICE technology appraisal guidance 180).

1.5.3.10 Ustekinumab is recommended as a treatment option for adults with plaque psoriasis when the following criteria are met.

- The disease is severe, as defined by a total PASI score of 10 or more and a DLQI score of more than 10.
- The psoriasis has not responded to standard systemic therapies, including ciclosporin, methotrexate and PUVA, or the person is intolerant of or has a contraindication to these treatments.
- The manufacturer provides the 90 mg dose (two 45 mg vials) for people who weigh more than 100 kg at the same total cost as for a single 45 mg vial.

1.5.3.11 Ustekinumab treatment should be stopped in people whose psoriasis has not responded adequately by 16 weeks after starting treatment. An adequate response is defined as either:

- a 75% reduction in the PASI score (PASI 75) from when treatment started **or**
- a 50% reduction in the PASI score (PASI 50) and a 5-point reduction in the DLQI score from when treatment started.

Changing to an alternative biological drug

1.5.3.12 Consider changing to an alternative biological drug in adults if:

- the psoriasis does not respond adequately to a first biological drug as defined in NICE technology appraisals³⁵ (at 10 weeks after starting treatment for infliximab, 12 weeks for etanercept, and 16 weeks for adalimumab and ustekinumab; primary failure) **or**
- the psoriasis initially responds adequately but subsequently loses this response, (secondary failure) **or**
- the first biological drug cannot be tolerated or becomes contraindicated.

1.5.3.13 For adults in whom there is an inadequate response to a second biological drug, seek supra-specialist advice from a clinician with expertise in biological therapy.

2 Notes on the scope of this guideline

NICE guidelines are developed in accordance with a scope that defines what the guideline will and will not cover.

How this guideline was developed

NICE commissioned the National Clinical Guideline Centre to develop this guideline. The Centre established a Guideline Development Group (see [appendix A](#)), which reviewed the evidence and developed the recommendations

There is more information about [how NICE clinical guidelines are developed](#) on the NICE website. A booklet, [How NICE clinical guidelines are developed: an overview for stakeholders, the public and the NHS](#) is available.

3 Implementation

NICE has developed tools to help organisations implement this guidance.

4 Research recommendations

The Guideline Development Group has made the following recommendations for research, based on its review of evidence, to improve NICE guidance and patient care in the future. The Guideline Development Group's full set of research recommendations is detailed in the [full guideline](#).

4.1 *Assessment of disease severity and impact*

In children, young people and adults with psoriasis, can tools be developed and/or existing ones further refined and validated to:

- assess disease severity and impact in both non-specialist and specialist healthcare settings, to facilitate assessment, appropriate referral, treatment planning and measurement of outcomes
- measure burden and cumulative effect of disease activity, severity and impact for people with both psoriasis and psoriatic arthritis?

Why this is important

Assessment of disease severity and impact is fundamental to delivering high-quality health care and measuring outcomes. The evidence review indicates that the existing tools have important limitations, and have not been validated in relevant healthcare settings or in children or young people. Future research should ensure that tools are developed that capture information on site of involvement as well as extent and the impact of previous treatments. Tools should capture all aspects of impact on life including physical, psychological and social wellbeing and factors that may influence this impact, such as distress and beliefs about psoriasis. Tools that can be used by patients (as well as healthcare professionals) to assess disease severity and that encompass new technologies should be evaluated to facilitate, when appropriate, modern healthcare delivery models (for example, remote monitoring of disease activity).

In addition, understanding the true burden and effect of disease activity, severity and impact for both psoriasis and psoriatic arthritis has not previously been comprehensively studied.

Capturing this information and distilling out significant factors for focused investigation will lead to better understanding of the needs of this particular group of people and the impact of treatments that benefit both disease compartments (skin and joints).

4.2 *Methotrexate and risk of hepatotoxicity*

What is the impact of methotrexate compared with other approaches to care (for example other systemic non-biological or biological treatments) on risk of significant liver disease in people with psoriasis and do risk factors such as obesity, alcohol use or diabetes alter this risk?

Why this is important

The evidence review indicates that people with psoriasis may be at risk of liver disease, and there is great uncertainty about the contributing role of methotrexate. Clinician and patient concerns about this side effect are a common cause of treatment discontinuation. However, existing studies are poorly controlled for important confounders and many are very old. Methotrexate is a low cost intervention that is effective in an important proportion of patients. Research in this area will properly delineate the size of risk and how to minimise it. Future research should be adequately powered to detect clinically relevant liver disease, use relevant tools to do so, and properly control for relevant confounders.

4.3 *Rapid escalation to systemic treatments*

In people with psoriasis, does early intervention with systemic treatments improve the long-term prognosis of psoriasis severity, comorbidities (including psoriatic arthritis), or treatment-related adverse effects, and are there any clinical (for example demographic or phenotypic) or laboratory (for example genetic or immune) biomarkers that can be used to identify those most likely to benefit from this treatment approach?

Why this is important

At present the treatment pathway for people with psoriasis follows clinical need as no studies have been conducted to evaluate whether early intervention with systemic treatments alters prognosis. Consequently, patients with more severe disease sequence through all therapies in the treatment pathway, with a proportion requiring high-cost biological interventions to maintain disease control. The evidence indicates that there are very few treatment options for people with chronic disease, all of them are associated with side effects, many are co-dependent (for example escalated risk of skin cancer in people treated with the phototherapy and ciclosporin sequence), and loss of response to biological therapies is a significant clinical issue. If early intervention with systemic treatments was shown to alter the prognosis, particularly if there were

markers that could stratify those likely to benefit, this would be of major importance to patients, and likely to deliver much more cost-effective treatment strategies.

4.4 Self-management

Do structured psoriasis-focused self-management programmes improve patient confidence, wellbeing and disease control compared with standard care?

Why this is important

Virtually all patients self-manage their condition to a greater or lesser extent and this involves complex topical applications as well as systemic therapies to be used over many years in response to fluctuating disease severity. The evidence indicates that in contrast to many chronic disorders, there are no validated programmes to help patients achieve effective self-management. Establishing a focused programme that effectively improves outcomes for patients would be of clinical benefit and likely deliver healthcare savings.

4.5 Topical therapy

In people of all ages with psoriasis:

1. How should topical therapies be used to maintain disease control i) safely; ii) effectively and iii) what are the health economic implications?
2. What are the risks of 'real life' long term corticosteroid use, are there particular people at risk and what strategies can be used to modify or avoid risks?

Why this is important

Currently, topical therapies, in some form or another, are prescribed to virtually everyone with psoriasis, often as first line psoriasis treatment and they are also frequently used adjunctively with other interventions. There is a wide array of potential topical agents available and further research specifically targeting therapeutic strategies together with sequencing of topical agents for maintaining disease control in the long term continues to deserve focused attention. In addition exploration of the risks associated with long term corticosteroid use and strategies aimed at modifying risk would be a critical element of this research to fill the current gap in the literature.

5 Other versions of this guideline

5.1 *Full guideline*

The full guideline, [Psoriasis: Assessment and management of psoriasis](#) contains details of the methods and evidence used to develop the guideline. It is published by the National Clinical Guideline Centre.

5.2 *NICE pathway*

The recommendations from this guideline have been incorporated into a [NICE pathway](#).

5.3 *Information for the public*

A summary of the recommendations is available for the public ([Information for the public](#)).

We encourage NHS and voluntary sector organisations to use this text in their own information about psoriasis.

6 Related NICE guidance

Published

- [Preventing type 2 diabetes – risk identification and interventions for individuals at high risk](#) NICE public health guidance 38 (2012)
- [Patient experience in adult NHS services](#). NICE clinical guideline 138 (2012)
- [Preventing type 2 diabetes: population and community-level interventions in high-risk groups and the general population](#) NICE public health guidance 35 (2011)
- [Golimumab for the treatment of psoriatic arthritis](#) NICE technology appraisal guidance 220 (2011)
- [Etanercept, infliximab and adalimumab for the treatment of psoriatic arthritis](#) NICE technology appraisal guidance 199 (2010)
- [Prevention of cardiovascular disease](#) NICE public health guidance 25 (2010)
- [Alcohol-use disorders: preventing harmful drinking](#) NICE public health guidance 24 (2010)
- [Venous thromboembolism: reducing the risk](#) NICE clinical guideline 92 (2010)
- [Improving outcomes for people with skin tumours including melanoma](#) NICE cancer service guidance (2010)

- [Alcohol-use disorders: physical complications](#) NICE clinical guideline 100 (2010)
- [Alcohol-use disorders: preventing harmful drinking](#) NICE public health guidance 24 (2010)
- [Ustekinumab for the treatment of adults with moderate to severe psoriasis](#). NICE technology appraisal guidance 180 (2009)
- [Depression with a chronic physical health problem](#) NICE clinical guideline 91 (2009)
- [Medicines adherence](#) NICE clinical guideline 76 (2009)
- [Promoting physical activity for children and young people](#) NICE public health guidance 17 (2009)
- [Adalimumab for the treatment of adults with psoriasis](#) NICE technology appraisal guidance 146 (2008)
- [Infliximab for the treatment of adults with psoriasis](#) NICE technology appraisal guidance 134 (2008)
- [Lipid modification](#) NICE clinical guideline 67 (2008)
- [Promoting physical activity in the workplace](#) NICE public health guidance 13 (2008)
- [Smoking cessation services](#) NICE public health guidance 10 (2008)
- [Behaviour change](#) NICE public health guidance 6 (2007)
- [Etanercept and efalizumab for the treatment of adults with psoriasis](#) NICE technology appraisal guidance 103 (2006)
- [Obesity](#) NICE clinical guideline 43 (2006)
- [Four commonly used methods to increase physical activity](#) NICE public health guidance 2 (2006)

7 Updating the guideline

NICE clinical guidelines are updated so that recommendations take into account important new information. New evidence is checked after publication, and healthcare professionals and patients are asked for their views; we use this information to decide whether all or part of a guideline needs updating. If important new evidence is published at other times, we may decide to do a more rapid update of some recommendations. Please see our website for [information about updating the guideline](#).

Appendix A: The Guideline Development Group, National Clinical Guideline Centre and NICE project team

Guideline Development Group

Catherine Smith (Chair)

Consultant Dermatologist, St John's Institute of Dermatology, Guy's and St Thomas' NHS Foundation Trust, London

David Chandler

Patient member

Paul Hepple

GP, Edinburgh

Karina Jackson

Nurse Consultant, Guy's and St Thomas' NHS Foundation Trust, London

Ruth Murphy

Adult and Paediatric Consultant Dermatologist, Nottingham University Hospitals NHS Trust

Jillian Peters

Dermatology Nurse Practitioner, NHS Suffolk

Natasha Smeaton

GP, London

Claire Strudwicke

Patient member

Roderick Tucker

Community Pharmacist, East Yorkshire

Richard Warren

Consultant Dermatologist, Salford Royal Foundation Trust, Manchester

Christine Bundy

Consultant Health Psychologist, Central Manchester University Hospitals NHS Foundation Trust
(expert adviser)

James Ferguson

Consultant Dermatologist, Ninewells Hospital and Medical School, Dundee (expert adviser –
phototherapy)

Neil McHugh

Consultant Rheumatologist, Royal National Hospital for Rheumatic Diseases, Bath (expert
adviser)

National Clinical Guideline Centre**Amelia Ch'ng**

Project Manager (May 2012–October 2012)

Jill Cobb

Information Scientist

Bernard Higgins

Clinical Director

Jill Parnham

Operations Director

Nancy Pursey

Senior Project Manager (until May 2012)

Silvia Rabar

Project Manager (until January 2011)

Eleanor Samarasekera

Research Fellow

Laura Sawyer

Senior Health Economist

Katrina Sparrow

Senior Research Fellow (May 2011–April 2012)

NICE project team

Philip Alderson

Associate Director

Sarah Dunsdon

Guideline Commissioning Manager

Natalie Boileau

Guideline Coordinator

Judith Thornton

Technical Lead

Prashanth Kandaswamy

Health Economist

Catharine Baden-Daintree

Editor

Jaimella Espley

Editor (July 2012–October 2012)

Appendix B: Information to facilitate discussion of risks and benefits of treatments for people with psoriasis

Data are provided for the proportions of people achieving remission, withdrawing due to adverse events and experiencing specific adverse events (as prioritised by the GDG) for interventions that have been recommended in this guideline. Data are based on pooled estimates where possible and from trials with populations and dosing appropriate to the intervention. For full details of the duration of treatment and dosing schedules please refer to the main text of the guideline.

Text is labelled with an asterisk when the GDG had very low confidence in the absolute estimates, for example due to confounding and inadequate sample size.

For a landscape version of the following table, please refer to the [pdf of appendix B](#).

Topical therapies (short-term)

Population (psoriasis phenotype)	N achieving remissions (clear/nearly clear or PASI75)	N experiencing:	
		Withdrawal due to drug toxicity	Serious/named adverse events
Vitamin D or vitamin D analogues			
Chronic plaque psoriasis of trunk and limbs	Intervention	Intervention	Intervention
	Once daily: 220/1000 Twice daily: 487/1000	Once or twice daily: 23/1000	Skin atrophy Twice daily: 1.9/1000
	Placebo	Placebo	Placebo

	Once daily: 76/1000 Twice daily: 122/1000	Once or twice daily: 29/1000	Skin atrophy Twice daily: 3.2/1000
	No active comparator ¹		
Children with chronic plaque psoriasis of trunk and limbs*	Intervention	Intervention	Intervention
	Twice daily: 605/1000*	NA*	NA*
	Placebo	Placebo	Placebo
	Twice daily: 441/1000*	NA*	NA*
	No active comparator ¹		NA*
Scalp psoriasis	Intervention	Intervention	Intervention
	Once daily: 387/1000	Once daily: 81/1000	NA
	Placebo	Placebo	Placebo
	Once daily: 219/1000	Once daily: 52/1000	NA
	No active comparator ¹		
Potent corticosteroids			
Chronic plaque psoriasis of trunk and limbs	Intervention	Intervention	Intervention
	Once or twice daily: 394/1000	Once daily: 10/1000 Twice daily: 25/1000	Skin atrophy Once or twice daily: 5.5/1000

	Placebo	Placebo	Placebo
	Once or twice daily: 77/1000	Once daily: 79/1000 Twice daily: 0/1000	Skin atrophy Once or twice daily: 0/1000
	No active comparator ¹		
Scalp psoriasis	Intervention	Intervention	Intervention
	Once or twice daily: 632/1000	Once or twice daily: 9.5/1000	NA
	Placebo	Placebo	Placebo
	Once or twice daily: 223/1000	Once or twice daily: 41/1000	NA
	No active comparator ¹		
Vitamin D or analogue and potent steroid, applied one in the morning and one in the evening			
Chronic plaque psoriasis of trunk and limbs	Intervention	Intervention	Intervention
	611/1000	13/1000	NA
	No placebo		
	Active comparator	Active comparator	Active comparator
	Calcipotriol Twice daily	Calcipotriol Twice daily	NA

	469/1000	26/1000	
Combined vitamin D or analogue and potent steroid			
Chronic plaque psoriasis of trunk and limbs	Intervention	Intervention	Intervention
	Once daily: 494/1000	Once daily: 7.5/1000	Skin atrophy Once daily: 4.2/1000
	No placebo		
	Active comparator	Active comparator	Active comparator
	Vitamin D Once daily: 193/1000	Vitamin D Once or twice daily: 27/1000	Skin atrophy Vitamin D Twice daily: 1.8/1000
Scalp psoriasis	Intervention	Intervention	Intervention
	Once daily: 800/1000	Once daily: 17/1000*	NA
	Placebo	Placebo	Placebo
	Once daily: 500/1000	Once daily: 0/1000*	NA
	No active comparator ¹		
Very potent corticosteroids			
Chronic plaque psoriasis of trunk and limbs	Intervention	Intervention	Intervention
	Once or twice daily: 625/1000	Once or	Skin atrophy

		twice daily: 4.6/1000	Once or twice daily: 23/1000
	Placebo	Placebo	Placebo
	Once or twice daily: 13/1000	Once or twice daily: 6.0/1000	Skin atrophy Once or twice daily: 0/1000
	No active comparator ¹		
Scalp psoriasis	Intervention	Intervention	Intervention
	Once or twice daily: 646/1000	Once or twice daily: 0/1000	Skin atrophy Once or twice daily: 0/1000
	Placebo	Placebo	Placebo
	Once or twice daily: 80/1000	Placebo Once or twice daily: 5.9/1000	Placebo Skin atrophy Once or twice daily: 11/1000
	No active comparator ¹		
Tazarotene			
Chronic plaque psoriasis of trunk and limbs	Intervention	Intervention	Intervention
	Once daily: 58/1000	Once daily: 107/1000	Skin atrophy Once daily: 0/1000
	Placebo	Placebo	Placebo

	Once daily: 20/1000	Once daily: 44/1000	Skin atrophy Once daily: 0/1000
	No active comparator ¹		
Short-contact dithranol²			
Chronic plaque psoriasis of trunk and limbs	Intervention	Intervention	Intervention
	Once daily: 430/1000	Once daily: 82/1000	NA
	No placebo		
	Active comparator	Active comparator	Active comparator
	Calcipotriol twice daily: 588/1000	Calcipotriol twice daily: 39/1000	NA
Coal tar			
Chronic plaque psoriasis of trunk and limbs*	Intervention	Intervention	Intervention
	Once or twice daily: 111/1000 to 519/1000 depending on formulation and follow-up*	Once or twice daily: 0–56/1000 depending on formulation and follow-up*	NA*
	No placebo		

	Active comparator	Active comparator	Active comparator
	Calcipotriol Twice daily: 214/1000 to 723/1000 depending on follow-up*	Calcipotriol Twice daily: 0–40/1000 depending on follow- up*	NA*
Tacromilus			
Psoriasis of the face and flexures*	Intervention	Intervention	Intervention
	Twice daily: 652/1000*	Twice daily: 0/1000*	NA*
	Placebo	Placebo	Placebo
	Twice daily: 309/1000*	Twice daily: 25/1000*	NA*
	No active comparator ¹		
Pimecrolimus			
Psoriasis of the flexures*	Intervention	Intervention	Intervention
	Twice daily: 714/1000*	Twice daily: 0/1000*	Skin atrophy Twice daily: 0/1000*
	Placebo	Placebo	Placebo
	Twice daily: 207/1000*	Twice daily: 0/1000*	Skin atrophy Twice daily:

			0/1000*
	No active comparator ¹		

Abbreviations: NA, not available.

* GDG had very low confidence in the absolute estimates, for example due to confounding and inadequate sample size.

¹ An active comparator will only be included if no placebo comparison is available; the standard intervention will be chosen if multiple active comparators are available.

² 2/3 studies reported home-use of dithranol and in 1/3 studies the setting was unclear.

Phototherapy (short-term)

Population (psoriasis phenotype)	N achieving remissions (clear/nearly clear or PASI75)	N experiencing:	
		Withdrawal due to drug toxicity	Serious/named adverse events
NBUVB vs PUVA			
Plaque psoriasis	Intervention	Intervention	Intervention
	Twice weekly 647/1000	Twice weekly 38/1000	NA
	No placebo		
	Active comparator	Active comparator	Active comparator
	Oral PUVA (twice weekly) 915/1000	Oral PUVA (twice weekly) 47/1000	NA
PUVA (oral)			
Palmoplantar pustulosis	Intervention	Intervention	Intervention
	3–4 times weekly 941/1000	3–4 times weekly 29/1000*	Burn 3–4 times weekly 147/1000*
	Placebo	Placebo	Placebo
	No treatment	No treatment	No treatment

	500/1000	0/1000*	0/1000*
	No active comparator ¹		
PUVA (cream)			
Palmoplantar pustulosis*	Intervention	Intervention	Intervention
	3 times weekly 952/1000*	3 times weekly 45/1000*	NA*
	No placebo		
	Active comparator	Active comparator	Active comparator
	NBUVB 3 times weekly 429/1000*	NBUVB 3 times weekly 0/1000*	NA*
NBUVB plus vitamin D or analogues			
Plaque psoriasis*	Intervention	Intervention	Intervention
	3 times weekly UV + Twice daily topical 900/1000*	3 times weekly UV + Twice daily topical 50/1000*	Burn 3 times weekly UV + Twice daily topical 200/1000*
	No placebo		
	Active comparator	Active comparator*	Active comparator*
	3 times weekly NBUVB alone 611/1000*	3 times weekly NBUVB alone 28/1000*	Burn 3 times weekly NBUVB alone

			111/1000*
BBUVB plus vitamin D or analogues			
Plaque psoriasis*	Intervention	Intervention	Intervention
	Up to 3 times weekly UV + Twice daily topical 449/1000 8 weeks*	Up to 3 times weekly UV + Twice daily topical 41/1000*	NA*
	No placebo*		
	Active comparator	Active comparator	Active comparator
	BBUVB alone up to 3 times weekly 208/1000*	BBUVB alone up to 3 times weekly 19/1000*	NA*
Liquor carbonic distillate (equivalent 2.3% coal tar) plus NBUVB			
Plaque psoriasis*	Intervention	Intervention	Intervention
	Clear (3 times weekly UV+ twice daily topical) 583/1000*	3 times weekly UV + twice daily topical 0/1000*	Burn 3 times weekly UV + twice daily topical 167/1000*
	No placebo		
	Active comparator	Active comparator	Active comparator
	3 times weekly NBUVB alone	3 times weekly NBUVB alone	Burn NBUVB alone 3 times

	500/1000*	0/1000*	weekly 167/1000*
Dithranol plus BBUVB			
Psoriasis*	Intervention	Intervention	Intervention
	3 times weekly UV + twice daily topical 625/1000*	NA*	NA*
	No placebo		
	Active comparator	Active comparator	Active comparator
	3 times weekly BBUVB alone 458/1000*	NA*	NA*

Abbreviations: BBUVB, broadband UVB; NA, not available, NBUVB, narrowband UVB; PUVA, psoralen plus UVA.

* The GDG had very low confidence in the absolute estimates, for example due to confounding and inadequate sample size.

¹ An active comparator will only be included if no placebo comparison is available; the standard intervention will be chosen if multiple active comparators are available.

Systemic, non-biologic therapies (short-term)

Population (psoriasis phenotype)	N achieving remissions (clear/nearly clear or PASI75)	N experiencing:	
		Withdrawal due to drug toxicity	Serious/named adverse events
Methotrexate; incremental dosing (plus folic acid)			
Chronic plaque psoriasis	Intervention	Intervention	Intervention
	415/1000	55/1000*	Elevated liver enzymes (>1.5–2.5 ULN) 91/1000*
	Placebo	Placebo	Placebo
	188/1000	20/1000*	Elevated liver enzymes (>1.5–2.5 ULN) 75/1000*
Ciclosporin			
Chronic plaque psoriasis	Intervention	Intervention	Intervention
	2.5–3 mg 232/1000	0/1000*	Hypertension 391/1000
	5 mg 600/1000		Decrease in GFR >15% 3 mg/kg: 333/1000 5 mg/kg: 500/1000*
	Placebo	Placebo	Placebo

	44/1000	0/1000*	Hypertension 333/1000 Decrease in GFR >15% 0/1000*
Ciclosporin			
Palmoplantar pustulosis	Intervention	Intervention	Intervention
	652/1000	NA	Hypertension 37/1000*
	Placebo	Placebo	Placebo
	200/1000	NA	Hypertension 0/1000*
Acitretin – 25 mg			
Plaque, pustular and erythrodermic psoriasis*	Intervention	Intervention	Intervention
	480/1000*	18/1000*	Cheilitis 850/1000 Hair loss 150/1000 Elevated liver enzymes (>ULN) 200/1000 Elevated cholesterol (>ULN) 0/1000*

	Placebo	Placebo	Placebo
	188/1000*	0/1000*	Cheilitis 300/1000 Hair loss 100/1000 Elevated liver enzymes (>ULN) 0/1000 Elevated cholesterol (>ULN) 53/1000*

Abbreviations: GFR, glomerular filtration rate; NA, not available; ULN, upper limit of normal.

* The GDG had very low confidence in the absolute estimates, for example due to confounding and inadequate sample size.

Systemic, biologic therapies (short-term)

Population (psoriasis phenotype)	Prior biologics received	N achieving remissions (clear/nearly clear or PASI75)	N experiencing withdrawal due to drug toxicity or serious adverse events
Infliximab			
Adults with severe plaque psoriasis and prior biologic exposure	Unclear	Intervention	Intervention
		723/1000	NA
		Placebo	Placebo

		0/1000*	NA
		No active comparator ¹	
Etanercept			
Adults with severe plaque psoriasis and prior biologic exposure*	Included etanercept, infliximab, and adalimumab (proportions unclear)*	Intervention	Intervention
		370/1000*	NA*
		Placebo	Placebo
		NA*	NA*
		Active comparator	Active comparator
		Ustekinumab 556/1000*	NA*
Ustekinumab			
Adults with severe plaque psoriasis and prior biologic exposure	Included etanercept, infliximab, and adalimumab (proportions unclear)	Intervention	Intervention
		619/1000	NA
		Placebo	Placebo
		170/1000	NA
		No active comparator ¹	
Adalimumab			
Adults with severe plaque psoriasis*	Etanercept (32.1%), alefacept (23.1%), ustekinumab (23.1%), efalizumab	Intervention	Intervention
		654/1000*	NA*
		Placebo	Placebo

	(21.8%), infliximab (20.5%), and other (17.9%)*	NA*	NA*
		Active comparator	Active comparator
		No prior biologic 744/1000*	NA*

Abbreviations: NA, not available.

* The GDG had very low confidence in the absolute estimates, for example due to confounding and inadequate sample size.

¹ An active comparator will only be included if no placebo comparison is available; the standard intervention will be chosen if multiple active comparators are available.

Long-term risks

Outcome(s)	Population – psoriasis phenotype	Number experiencing event										
PUVA (oral)												
Skin cancer – SCC	Plaque (84%), guttate (12%) and erythrodermic (4%) psoriasis	Relative risk compared with the general population										
		<table border="1"> <tr> <td>PUVA exposures</td> <td>RR</td> </tr> <tr> <td><100</td> <td>5.1 (3.5–7.2)</td> </tr> <tr> <td>100–159</td> <td>8.4 (5.6–12.1)</td> </tr> <tr> <td>160–336</td> <td>26.5 (22.2–31.4)</td> </tr> <tr> <td>≥337</td> <td>68.5 (54.9–84.5)</td> </tr> </table>	PUVA exposures	RR	<100	5.1 (3.5–7.2)	100–159	8.4 (5.6–12.1)	160–336	26.5 (22.2–31.4)	≥337	68.5 (54.9–84.5)
		PUVA exposures	RR									
		<100	5.1 (3.5–7.2)									
		100–159	8.4 (5.6–12.1)									
		160–336	26.5 (22.2–31.4)									
≥337	68.5 (54.9–84.5)											
Absolute increase in risk												

		PUVA exposures	SCCs	% increase in 10-year risk
		<100	18	1.7%
		100–159	15	2.7%
		160–336	68	8.8%
		≥337	34	12.7%
NBUVB				
Skin cancer	Insufficient data available			
Methotrexate				
Liver fibrosis, bone marrow suppression and pneumonitis	No long-term data available			
Ciclosporin				
Hypertension, renal impairment, gout and hyperuricaemia	No long-term data available			
Acitretin				
Hyperlipidaemia, hepatotoxicity, skeletal AEs and cheilitis	No long-term data available			
Abbreviations: PUVA, psoralen plus UVA; RR, relative risk; SCC, squamous cell carcinoma.				

About this guideline

NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales.

The guideline was developed by the National Clinical Guideline Centre, which is based at The Royal College of Physicians. The Centre worked with a group of healthcare professionals (including consultants, GPs and nurses), patients and carers, and technical staff, who reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

The methods and processes for developing NICE clinical guidelines are described in [The guidelines manual](#).

The recommendations from this guideline have been incorporated into a [NICE pathway](#). We have produced a [summary for patients and carers](#). Tools to help you put the guideline into practice and information about the evidence it is based on are also [available](#).

Your responsibility

This guidance represents the view of NICE, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer, and informed by the summary of product characteristics of any drugs they are considering.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

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Contact NICE

National Institute for Health and Clinical Excellence

Level 1A, City Tower, Piccadilly Plaza, Manchester M1 4BT

www.nice.org.uk

nice@nice.org.uk

0845 033 7780