

## PSORIASIS in adults, sequential use of biological agents

**The Pan Mersey Area Prescribing Committee recommends the sequential use of biological agents, adalimumab, bimekizumab, brodalumab, certolizumab, etanercept, guselkumab, infliximab, ixekizumab, risankizumab secukinumab, tildrakizumab and ustekinumab, in the management of psoriasis according to the attached flowchart.**

### RED

Any of the listed biologic agents can be considered as 1<sup>st</sup> line therapy in the management of psoriasis, provided the chosen agent is initiated in accordance with the relevant NICE technology appraisal:

1. [NICE TA 103](#): Etanercept for the treatment of adults with psoriasis
2. [NICE TA 134](#): Infliximab for the treatment of adults with psoriasis
3. [NICE TA 146](#): Adalimumab for the treatment of adults with psoriasis
4. [NICE TA 180](#): Ustekinumab for the treatment of adults with moderate to severe psoriasis
5. [NICE TA 350](#): Secukinumab for the treatment of adults with moderate to severe psoriasis
6. [NICE TA 442](#): Ixekizumab for treating moderate to severe plaque psoriasis
7. [NICE TA 511](#): Brodalumab for treating moderate to severe plaque psoriasis
8. [NICE TA 521](#): Guselkumab for treating moderate to severe plaque psoriasis
9. [NICE TA 574](#): Certolizumab pegol for treating moderate to severe plaque psoriasis
10. [NICE TA 575](#): Tildrakizumab for treating moderate to severe plaque psoriasis
11. [NICE TA 596](#): Risankizumab for treating moderate to severe plaque psoriasis
12. [NICE TA 723](#): Bimekizumab for treating moderate to severe plaque psoriasis

[NICE Clinical Guideline 153](#) on the management of psoriasis states that consideration should be given to changing to an alternative biological therapy in adult patients if:

1. **primary failure:** i.e. the psoriasis does not respond adequately to a first biological drug as defined in the NICE technology appraisals (that is, at 10 weeks after starting treatment for infliximab; 12 weeks for brodalumab, etanercept, ixekizumab and secukinumab; 16 weeks for adalimumab, bimekizumab, certolizumab, guselkumab, risankizumab and ustekinumab; and 28 weeks for tildrakizumab **or**
2. **secondary failure:** i.e. the psoriasis initially responds adequately but subsequently loses this response; **or**
3. the first biological drug cannot be tolerated or becomes contraindicated.

Supra-specialist advice from a clinician with expertise in biological therapy should be sought for patients who fail to respond to a second biological agent. The algorithm overleaf provides guidance on the locally approved sequential use of biologics in psoriasis.

**Prescribing and monitoring of therapy must be retained by a dermatologist specialising in the management of psoriasis.**

**Note:** Patients who are not eligible for treatment under this statement may be considered on an individual basis where their GP or consultant believes exceptional circumstances exist that warrant deviation from the rule of this policy. In this situation, follow locally defined processes.

## ALGORITHM FOR PATIENTS REQUIRING BIOLOGICAL THERAPY FOR PSORIASIS

- Chronic Plaque Psoriasis fulfilling NICE criteria for a biologic to start on either class 1,2, or 3
- Very severe chronic plaque psoriasis (PASI >20 and DLQI >18) and/or generalised pustular forms of psoriasis fulfilling NICE criteria for infliximab use\*

### *Class 1: TNF-alpha inhibitors*

**Adalimumab  
Certolizumab  
Etanercept  
Infliximab\***

### *Class 2: IL 12/23*

**Guselkumab  
Risankizumab  
Tildrakizumab  
Ustekinumab**

*Class 3: IL 17*  
**Bimekizumab  
Brodalumab  
Ixekizumab  
Secukimumab**

Assess at the appropriate time for the prescribed agent, as outlined in each NICE Technology Appraisal and summarised on page 1 of this document. If successful, continue uninterrupted therapy with follow up as recommended by the British Association of Dermatologists' Biologics Guidelines unless secondary failure, intolerance or new contraindication subsequently occurs. This applies at this stage and after each new biological agent is initiated.

### **Guide to preferences:**

1. High body mass index with appropriate levels of severity strongly favours infliximab.
2. Women in childbearing age planning pregnancies favours TNF-alpha inhibitors
3. Patients with vulnerability to recurrent infection favour the use of etanercept, and ustekinumab
4. A variety of medical co-morbidities favours the use of certain biologic drug classes over the others e.g. inflammatory bowel diseases, multiple sclerosis, heart failure and epilepsy.

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**For patients requiring subsequent biologic agents:**

Response to one biological agent in the management of psoriasis is not predictive of a patient's likely response to alternative agents in an alternative class. The available agents for the management of psoriasis have different mechanisms of action, so using an agent with a different mechanism of action to the failed therapy may result in disease control.

Choice of subsequent agent should be taken following review by a specialist with consideration given to the mechanism of action of previous agent, the severity and current level of disease control, and the presence of co-existing psoriatic arthritis, as well as the patient's past medical history and with regards to contraindications and precautions to individual agents.

Patients must meet the criteria laid out in the relevant NICE Technology Appraisal for initiation on 2<sup>nd</sup> or 3<sup>rd</sup> line therapy.

**For patients clinically responding to a biologic therapy but suffering a side effect:**

Patients needing to stop a biologic due to a drug specific side effect but achieving a good clinical response might benefit from trying an alternative biologic in the same class prior to switching to a different class as this is not classified as a failure.

At all stages consider relevant contraindications and precautions before prescribing.

**Consult the Summary of Product Characteristics for up to date prescribing information:**

<http://www.medicines.org.uk/emc/>

## PSORIASIS in adults, sequential use of biological agents

### SUPPORTING INFORMATION

Psoriasis is an inflammatory skin disease that typically follows a relapsing and remitting course. The estimated UK prevalence of psoriasis is estimated to be around 1.3-2.2%, with a significant proportion of patients having associated joint disease (psoriatic arthritis). Psoriasis may have profound function, psychological and social morbidity, with consequent reduce levels of employment and income. [1]

#### **Clinical Evidence**

Each of the treatment options included in this policy have been considered by the NICE single technology appraisal process and approved for use in the NHS. The evidence to support their use is available in the NICE TA documents for each drug [2-13].

NICE considered the evidence available to support the use of subsequent biologic agent and concluded that there is a definite clinical benefit of a second biologic agent, particularly when compared to no care, but acknowledged that there is no robust evidence upon which to recommend using biologic drugs in a particular order. [1] Local evidence from a cohort of patients has demonstrated that 83% of patients who failed on etanercept were subsequently controlled by the use of a second biological agent. [14] Additionally, given that secukinumab came to market after other agents, many patients enrolled in the pivotal studies for this agent had been on, and failed, previous biological therapy. [15]

There is no specific evidence relating to the use of a third agent, but the evidence to support a second agent has been extrapolated.

#### **Cost Effectiveness**

NICE concluded that there was no economic evidence from the published literature to determine the cost-effectiveness of offering a second biologic agent to patients who have not responded to, lost response to or been intolerant to a first biological agent. [1] NICE stated that switching to a second biological drug may be more cost-effective than switching to best-supportive care without biological therapy, but there was uncertainty around this conclusion. [1] However, prior to the approval of this policy statement, local practice in the region where sequential use was not permitted was to maintain the patient on their biological agent wherever possible and using an oral agent to chaperone the biological agent in an attempt to maintain or prolong the clinical response. This was associated with additional costs, both from prescribing and monitoring of the additional therapy and because this was associated with increased toxicities. The costing template associated with NICE CG 153 predicts a cost saving of approximately £50,000 across the Pan Mersey health economy, if switching from no use of second line agents to 100% of patients receiving second line agents, meaning that that the implementation of this policy is likely to be cost-neutral or represent a small cost-saving for CCGs.

#### **References**

1. NICE Clinical Guidelines 153. Assessment and management of psoriasis (October 2012)
2. NICE TA 103 Etanercept for the treatment of adults with psoriasis
3. NICE TA 134 Infliximab for the treatment of adults with psoriasis
4. NICE TA 146 Adalimumab for the treatment of adults with psoriasis
5. NICE TA 180 Ustekinumab for the treatment of adults with moderate to severe psoriasis
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9. NICE TA 521: Guselkumab for treating moderate to severe plaque psoriasis
10. NICE TA 574: Certolizumab pegol for treating moderate to severe plaque psoriasis
11. NICE TA575: Tildakizumab for treating moderate to severe plaque psoriasis
12. NICE TA596: Risankizumab for treating moderate to severe plaque psoriasis
13. NICE TA 723: Bimekizumab for treating moderate to severe plaque psoriasis
14. Alsharqi A, Parslew R, et al. Is there a benefit from using a subsequent Anti TNF  $\alpha$  medication in psoriasis patients who failed their first and / or second Anti TNF  $\alpha$  agent? *Australas J Dermatol.* 2012 May;53(2):e45-7.
15. Langley R., Elewski B. et al. Secukinumab in Plaque Psoriasis — Results of Two Phase 3 Trials. *N Engl J Med* 2014; 371:326-338.

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