**Table S1: SUMMARY OF LICENSED INDICATIONS AND POSOLOGY FOR BIOLOGIC THERAPY FOR PSORIASIS**

Please cross-reference with individual drugs' summary of product characteristics (SPC) and NICE technology appraisal guidance

| | Adults | Dosing (SPC) | Children and young people | Dosing (children and young people) | Indications for stopping (SPC) | NICE timelines for evaluating response to therapy[a] | Use in pregnancy (SPC)[b] | Half life |
|---|---|---|---|---|---|---|---|---|
| **TNF** | | | | | | | | |
| **Adalimumab** (Humira, Amgevita, Hulio, Hyrimoz, Imraldi) | Moderate to severe chronic plaque psoriasis in adult patients who are candidates for systemic therapy | Initial dose of 80 mg administered subcutaneously, followed by 40 mg subcutaneously given every other week starting one week after the initial dose. Beyond 16 weeks, patients with inadequate response may benefit from an increase in dosing frequency to 40 mg every week | Severe chronic plaque psoriasis in children and adolescents from 4 years of age who have had an inadequate response to or are inappropriate candidates for topical therapy and phototherapies | 20 mg every other week (for 10 kg to <30 kg body weight) and 40 mg every other week (for ≥30 kg body weight) | Continued therapy beyond 16 weeks should be carefully reconsidered in a patient not responding within this time period | 16 weeks | Should only be used during pregnancy if clearly needed | Mean 14 days approx. (range 10 to 20 days) |
| **Certolizumab pegol** (Cimzia) | Moderate to severe plaque psoriasis in adults who are candidates for systemic therapy | 400 mg (given as two subcutaneous injections of 200 mg each) at weeks 0, 2, and 4. Maintenance dosing of 200 mg every 2 weeks, escalated to 400 mg every 2 weeks where response is insufficient | Not licensed | N/A | Continued therapy should be carefully reconsidered in patients who show no evidence of therapeutic benefit within the first 16 weeks of treatment | 16 weeks | Should only be used during pregnancy if clinically needed | 14 days approx. |
| **Etanercept** (Enbrel, Benepali, Erelzi) | Moderate to severe plaque psoriasis in adults who failed to respond to, or who have a contraindication to, or are intolerant to other systemic therapy, including ciclosporin, MTX or PUVA | 50 mg administered once weekly; alternatively, 50 mg given twice weekly may be used for up to 12 weeks followed, if necessary, by a dose of 50 mg once weekly | Severe chronic plaque psoriasis in children and adolescents from the age of 6 years who are inadequately controlled by, or are intolerant to, other systemic | 0.8 mg/kg (up to a maximum of 50 mg per dose) once weekly for up to 24 weeks | Treatment should be discontinued in patients who show no response after 12 weeks | 12 weeks | Women of childbearing potential should consider the use of appropriate contraception to avoid becoming pregnant during etanercept therapy and for 3 weeks after | Mean 3 days approx. (range 0.3 to 12.5 days) |



Source: British Journal of Dermatology (2020), DOI 10.1111/bjd.19039

| | Adults | Dosing (SPC) | Children and young people | Dosing (children and young people) | Indications for stopping (SPC) | NICE timelines for evaluating response to therapy[a] | Use in pregnancy (SPC)[b] | Half life |
|---|---|---|---|---|---|---|---|---|
| | | | therapies or phototherapies | | | | discontinuation of therapy | |
| **Infliximab** (Remicade, Inflectra, Remsima, Zessly, Flixabi) | Moderate to severe plaque psoriasis in adults who failed to respond to, or who have a contraindication to, or are intolerant to other systemic therapy including ciclosporin, MTX or PUVA | 5 mg/kg given as an intravenous infusion followed by additional 5 mg/kg infusion doses at 2 and 6 weeks after the first infusion, then every 8 weeks thereafter | Not licensed | N/A | If a patient shows no response after 14 weeks (i.e. after 4 doses), no additional treatment with infliximab should be given | 10 weeks | Should only be used during pregnancy if clearly needed | Median 8 to 9.5 days |
| **IL12/23** | | | | | | | | |
| **Ustekinumab** (Stelara) | Moderate to severe plaque psoriasis in adults who failed to respond to, or who have a contraindication to, or are intolerant to other systemic therapies including ciclosporin, MTX or PUVA | 45 mg (90 mg if >100 kg), administered subcutaneously, followed by a 45 mg (90 mg) dose 4 weeks later, and then every 12 weeks thereafter | Moderate to severe plaque psoriasis in adolescent patients from the age of 12 years and older, who are inadequately controlled by, or are intolerant to, other systemic therapies or phototherapies | <60 kg: 0.75 mg/kg; otherwise, dosing as for adults | Consideration should be given to discontinuing treatment in patients who have shown no response up to 28 weeks of treatment | 16 weeks | As a precautionary measure it is preferable to avoid during pregnancy | Median 21 days (range15 to 23 days) |
| **IL17** | | | | | | | | |
| **Brodalumab** (Kyntheum) | Moderate to severe plaque psoriasis in adult patients who are candidates for systemic therapy | 210 mg administered by subcutaneous injection at weeks 0, 1, and 2 followed by 210 mg every 2 weeks. Consideration should be given to discontinuing treatment in patients who | Not licensed | N/A | Consideration should be given to discontinuing treatment in patients who have shown no response after 12-16 weeks of treatment. | 12 weeks | As a precautionary measure it is preferable to avoid during pregnancy | 10.9 days approx. at a steady state after every other week subcutaneous dose of 210 mg |



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| | Adults | Dosing (SPC) | Children and young people | Dosing (children and young people) | Indications for stopping (SPC) | NICE timelines for evaluating response to therapy[a] | Use in pregnancy (SPC)[b] | Half life |
|---|---|---|---|---|---|---|---|---|
| | | have shown no response after 12-16 weeks of treatment. Some patients with initial partial response may subsequently improve with continued treatment beyond 16 weeks. | | | Some patients with initial partial response may subsequently improve with continued treatment beyond 16 weeks | | | |
| **Ixekizumab** (Taltz) | Moderate to severe plaque psoriasis in adults who are candidates for systemic therapy | Initial dose of 160 mg by subcutaneous injection (two 80 mg injections) at week 0, followed by 80 mg (one injection) at weeks 2, 4, 6, 8, 10, and 12, then maintenance dosing of 80 mg (one injection) every 4 weeks | Not licenced | N/A | Consideration should be given to discontinuing treatment in patients who have shown no response after 16-20 weeks of treatment. Some patients with initial partial response may subsequently improve with continued treatment beyond 20 weeks. | 12 weeks | As a precautionary measure it is preferable to avoid during pregnancy | Mean 13 days |
| **Secukinumab** (Cosentyx) | Moderate to severe plaque psoriasis in adults who are candidates for systemic therapy | 300 mg of secukinumab by subcutaneous injection with initial dosing at weeks 0, 1, 2 and 3, followed by monthly maintenance dosing starting at week 4. Each 300 mg dose is given as two subcutaneous injections of 150 mg. | Not licensed | N/A | Consideration should be given to discontinuing treatment in patients who have shown no response by 16 weeks of treatment. Some patients with an initial partial response may subsequently improve with continued treatment beyond 16 weeks | 12 weeks | As a precautionary measure it is preferable to avoid during pregnancy | Mean 27 days (range 18 to 46 days) |
| **IL23** | | | | | | | | |



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| | Adults | Dosing (SPC) | Children and young people | Dosing (children and young people) | Indications for stopping (SPC) | NICE timelines for evaluating response to therapy[a] | Use in pregnancy (SPC)[b] | Half life |
|---|---|---|---|---|---|---|---|---|
| **Guselkumab** (Tremfya) | Moderate to severe plaque psoriasis in adults who are candidates for systemic therapy | 100 mg by subcutaneous injection at weeks 0 and 4, followed by maintenance dose every 8 weeks | Not licensed | N/A | Consideration should be given to discontinuing treatment in patients who have shown no response after 16 weeks of treatment | 16 weeks | As a precautionary measure it is preferable to avoid during pregnancy | 15-18 days |
| **Risankizumab** (Skyrizi) | Moderate to severe plaque psoriasis in adults who are candidates for systemic therapy | 150 mg (two 75 mg injections) administered by a subcutaneous injection at weeks 0, 4, and every 12 weeks thereafter | Not licensed | N/A | Consideration should be given to discontinuing treatment in patients who have shown no response after 16 weeks of treatment. Some patients with initial partial response may subsequently improve with continued treatment beyond 16 weeks | 16 weeks | As a precautionary measure, it is preferable to avoid during pregnancy | Mean 28 to 29 days |
| **Tildrakizumab** (Ilumetri) | Moderate to severe plaque psoriasis in adults who are candidates for systemic therapy | 100 mg by subcutaneous injection at weeks 0, and 4 and every 12 weeks thereafter. In patients with certain characteristics (e.g. high disease burden, body weight ≥ 90 kg) 200 mg may provide greater efficacy. | Not licensed | N/A | Consideration should be given to discontinuing treatment in patients who have shown no response after 28 weeks of treatment | 12-28 weeks | As a precautionary measure it is preferable to avoid during pregnancy | Mean 23.4 days (23% coefficient of variation) |

[a]To be discontinued if response criteria not met as defined by failure to achieve PASI75 or PASI50 and 5-point drop in DLQI.
[b]Statements according to the summary of product characteristics. Consider on a case by case basis. Healthcare professionals and patients should refer to the recommendations in the guideline on use of biologic drugs in conception and pregnancy (R27-R33) as the primary source to guide decision-making.


Source: British Journal of Dermatology (2020), DOI 10.1111/bjd.19039

**TABLE S2: DECISION AID – BIOLOGICAL THERAPY FOR PSORIASIS**

This is a decision aid to help clinicians and patients decide their treatment choice and not a comprehensive data source or replacement for the individual drug Summary of Product Characteristics. Please use in conjunction with the published guidelines, pathway algorithm and discussions in the online supporting information document (see File S2, Appendix D).

| | How do I take it? | | How effective is it? | | How common are the side effects? | | Is there anything else to consider? | |
|---|---|---|---|---|---|---|---|---|
| **Questions you might want to ask** | **How often do I need to inject the treatment?[a]** | **For how long has this treatment been around?[b]** | **Roughly what proportion of people becomes clear or nearly clear (PASI90) after 3-4 months?[c]** | **What is the likelihood of staying on this treatment past 1 year?[d]** | **Roughly what proportion of people stops their treatment in the first 3-4 months due to unwanted effects?[c]** | **Roughly what proportion of people gets a serious infection in the first 3-4 months?[e]** | **What are *some* of the conditions that would make your doctor hesitant about giving you the treatment?[f]** | **What if I have psoriatic arthritis?** |
| TNF | | | | | | | | |
| Adalimumab | 1 injection under the skin, every other week | Since 2008 |  41% | 77-81% chance[1] |  2% |  < 1% | Moderate or severe heart failure, multiple sclerosis (or other conditions affecting the nerves) | Recommended treatment for psoriatic arthritis |
| Certolizumab pegol | 1 or 2 injections under the skin, every 2 weeks | Since 2019 |  41-48% | Not known at present |  2% |  < 1% | Moderate or severe heart failure, multiple sclerosis (or other conditions affecting the nerves) | Recommended treatment for psoriatic arthritis |
| Etanercept | 1 injection under the skin, once or twice a week | Since 2004 |  23% | 67-73% chance[1] |  2% |  < 1% | Moderate or severe heart failure, multiple sclerosis (or other conditions affecting the nerves) | Recommended treatment for psoriatic arthritis |
| Infliximab | 1 injection in the vein,[g] every 8 weeks | Since 2006 |  53% | 54-74% chance[1] |  5% | Not known at present | Moderate or severe heart failure, multiple sclerosis (or other conditions affecting the nerves) | Recommended treatment for psoriatic arthritis |
| IL12/23 | | | | | | | | |
| Ustekinumab | 1 injection under the skin, every 12 weeks | Since 2009 |  46% | 86-92% chance[1] |  1% |  < 1% | No particular condition | Recommended treatment for psoriatic arthritis only when TNF inhibitors have failed |
| IL17 | | | | | | | | |
| Brodalumab | 1 injection under the skin, every 2 weeks | Since 2018 |  73% | Not known at present |  2% |  < 1% | Inflammatory bowel disease (e.g. Crohn's disease or ulcerative colitis), recurrent candida infection (i.e. thrush) | This treatment is not licensed[h] for psoriatic arthritis |
| Ixekizumab | 1 injection under the skin, every 4 weeks | Since 2016 |  72% | Not known at present |  3% |  < 1% | Inflammatory bowel disease (e.g. Crohn's disease or ulcerative colitis), recurrent candida infection (i.e. thrush) | Recommended treatment for psoriatic arthritis |



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| Questions you might want to ask | How do I take it? | | How effective is it? | | How common are the side effects? | | Is there anything else to consider? | |
|---|---|---|---|---|---|---|---|---|
| | How often do I need to inject the treatment?[a] | For how long has this treatment been around?[b] | Roughly what proportion of people becomes clear or nearly clear (PASI90) after 3-4 months?[c] | What is the likelihood of staying on this treatment past 1 year?[d] | Roughly what proportion of people stops their treatment in the first 3-4 months due to unwanted effects?[c] | Roughly what proportion of people gets a serious infection in the first 3-4 months?[e] | What are *some* of the conditions that would make your doctor hesitant about giving you the treatment?[f] | What if I have psoriatic arthritis? |
| Secukinumab | 2 injections under the skin, every month | Since 2015 |  60% | Not known at present |  2% |  < 1% | Inflammatory bowel disease (e.g. Crohn's disease or ulcerative colitis), recurrent candida infection (i.e. thrush) | Recommended treatment for psoriatic arthritis |
| IL23 | | | | | | | | |
| Guselkumab | 1 injection under the skin, every 8 weeks | Since 2018 |  68% | Not known at present |  2% |  < 1% | No particular condition | This treatment is not licensed[h] for psoriatic arthritis |
| Risankizumab | 2 injections under the skin, every 12 weeks | Since 2019 |  74% | Not known at present |  1% |  < 1% | No particular condition | This treatment is not licensed[h] for psoriatic arthritis |
| Tildrakizumab | 1 or 2 injections under the skin, every 12 weeks | Since 2019 |  39% | Not known at present |  2% |  < 1% | No particular condition | This treatment is not licensed[h] for psoriatic arthritis |
| Placebo | | | | | | | | |
| No active treatment | Does not apply | Does not apply |  2% | Does not apply |  2% |  < 1% | Does not apply | Does not apply |

NICE eligibility criteria, infliximab: PASI ≥20, DLQI >18; other biologic therapies: PASI ≥10, DLQI >10

[a]Only licensed maintenance doses are featured; see File S1: Table S1 for information on initiation dosing schedules.

[b]First approval of the drug for moderate to severe plaque psoriasis.

[c]The evidence is drawn from clinical trials including a mixed biologic-naïve and experienced population; figures quoted are based on anticipated absolute effects derived from network meta-analyses of licensed biologic doses.

[d]The evidence is drawn from a real-world UK biologic-naïve population; it may not apply to biologic choice for subsequent lines of treatment.

[e]The evidence is drawn from clinical trials including a mixed biologic-naïve and experienced population; figures quoted are based on Peto odds ratio analyses of all biologic doses.

[f]Please refer to individual drugs' summary of product characteristics for a more comprehensive list (www.medicines.org.uk).

[g]Requires attendance to hospital.

[h]A treatment that is not licensed for a particular condition means it has not been awarded a Market Authorisation from the U.K. Medicines Healthcare Products Regulatory Agency (MHRA) for that condition. Once awarded, the licensed treatment can be marketed and sold in the U.K.



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