Surrey Heartlands Integrated Care System
Area Prescribing Committee (APC)

Integrated Care Partnership - Surrey Downs, Guildford & Waverley, North-West Surrey, and East Surrey Places & associated partner organisations.

NICE Technology Appraisals (TA) briefing paper for local implementation

NICE TA Guidance name and number	**Deucravacitinib for treating moderate to severe plaque psoriasis** [TA907]		
Available at	Overview | Deucravacitinib for treating moderate to severe plaque psoriasis | Guidance | NICE		
Date of issue	28 June 2023	**Implementation deadline**	3 months

Medicine details[1]	
Name and brand name	Deucravacitinib (SOTYKTU)
Manufacturer	Bristol Myers Squibb
Mode of action	www.medicines.org.uk Deucravacitinib selectively inhibits the TYK2 enzyme (TYK2 belongs to the JAK family). Deucravacitinib binds to the regulatory domain of TYK2, stabilizing an inhibitory interaction between the regulatory and the catalytic domains of the enzyme. This results in allosteric inhibition of receptor-mediated activation of TYK2 and its downstream functions in cells. TYK2 mediates signalling of interleukin-23 (IL-23), interleukin-12 (IL-12), and type I interferons (IFN), which are naturally occurring cytokines involved in inflammatory and immune responses. Deucravacitinib inhibits the release of proinflammatory cytokines and chemokines.
Licensed indication	www.nice.org.uk Deucravacitinib (SOTYKTU, Bristol Myers Squibb) is indicated for 'the treatment of moderate to severe plaque psoriasis in adults who are candidates for systemic therapy'.
Formulation	Film-coated tablet (tablet) Pink, round, biconvex, film-coated tablet of 8 mm diameter, printed with “BMS 895”, and “6 mg” on one side in two lines, plain on the other side.

Dosage	Posology (link in NICE guidelines provided) The recommended dose is 6 mg taken orally once daily. If a patient shows no evidence of therapeutic benefit after 24 weeks, treatment discontinuation should be considered. The patient's response to treatment should be evaluated on a regular basis. Tablets can be taken with or without food. Tablets should be swallowed whole and should not be crushed, cut, or chewed. This is the current dose considered by NICE as part of this NICE evaluation. Subsequent changes in the license following NICE publication will need to be considered by the Area Prescribing Committee and will not be routinely funded by local commissioners, as the incremental cost per QALY would not have been considered.
Comparison of NICE TA with Summary of Product Characteristics (SmPC)[2]	www.nice.org.uk The company positioned deucravacitinib as an alternative only to apremilast, dimethyl fumarate and systemic biological treatments. These treatments are used fourth line after methotrexate, ciclosporin or acitretin. The positioning was therefore narrower than the marketing authorisation, which covers any adults with moderate to severe plaque psoriasis when systemic treatment is suitable.

NICE TA recommendations[2]
Recommendations
www.nice.org.uk **1. Recommendations** 1.1. Deucravacitinib is recommended as an option for treating moderate to severe plaque psoriasis in adults, only if: • the Psoriasis Area and Severity Index (PASI) score is 10 or more and the Dermatology Life Quality Index (DLQI) score is more than 10 • the condition has not responded to other systemic treatments, including ciclosporin, methotrexate and phototherapy, or these options are contraindicated or not tolerated • the company provides deucravacitinib according to the commercial arrangement. 1.2. Consider stopping deucravacitinib between 16 weeks and 24 weeks if there has not been at least a 50% reduction in the PASI score (PASI 50) from when treatment started. 1.3. Consider stopping deucravacitinib at 24 weeks if the psoriasis has not responded adequately. An adequate response is defined as: • 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 when treatment started. 1.4. If people with the condition and their clinicians consider deucravacitinib to be 1 of a range of suitable treatments (see section 3.18), after discussing the advantages and disadvantages of all the options, use the least expensive. Take account of administration costs, dosage, price per dose and commercial arrangements. 1.5. Take into account how skin colour could affect the PASI score and make any adjustments needed. 1.6. Take into account any physical, sensory or learning disabilities, or communication difficulties that could affect the responses to the DLQI and make any adjustments needed.

1.7. These recommendations are not intended to affect treatment with deucravacitinib that was started in the NHS before this guidance was published. People having treatment outside these recommendations may continue without change to the funding arrangements in place for them before this guidance was published, until they and their NHS clinician consider it appropriate to stop.

Why the committee made these recommendations.
Treatment for moderate to severe plaque psoriasis that has not responded to conventional systemic non-biological treatments or phototherapy includes apremilast, dimethyl fumarate and systemic biological treatments.

Clinical trial evidence shows that deucravacitinib improves symptoms of plaque psoriasis compared with placebo and apremilast. Deucravacitinib was indirectly compared with apremilast, dimethyl fumarate and several systemic biological treatments. The indirect comparison suggests it improves symptoms better than apremilast and dimethyl fumarate, and works as well as some biological treatments but not as well as others.

Decision making framework (DMF)

National guidance and priorities

The ICS has a legal obligation to commission this medicine in line with the NICE TA.

- This NICE TA has been assigned an implementation deadline of 3 months.
- The implementation deadline is 26/09/2023
  (Please note: NICE Implementation deadline will be breached by 7 days)

Clinical effectiveness

www.nice.org.uk

- Clinical trial evidence shows that deucravacitinib improves symptoms of plaque psoriasis compared with placebo and apremilast. Deucravacitinib was indirectly compared with apremilast, dimethyl fumarate and several systemic biological treatments. The indirect comparison suggests it improves symptoms better than apremilast and dimethyl fumarate and works as well as some biological treatments but not as well as others.

Patient safety

- The product should be used within its product license.
- http://www.medicines.org.uk It is not known whether TYK2 inhibition may be associated with the adverse reactions of JAK inhibition. Deucravacitinib (TYK2) is a member of the JAK family.
- An MHRA issued a Drug Safety Update on 26th April 2023 to inform healthcare professionals of new risk minimisation measures for JAK inhibitors used to treat chronic inflammatory disorders This is available at: Janus kinase (JAK) inhibitors: new measures to reduce risks of major cardiovascular events, malignancy, venous thromboembolism, serious infections and increased mortality - GOV.UK (www.gov.uk)
- Deucravacitinib is a Black Triangle drug – all suspected adverse reactions should be reported to identify rare adverse effects.
- Primary care prescribers should be aware that their patient is receiving this medicine and ensure that this is recorded in the patient's notes in order to be alert to potential side-effects and interactions with other medicines prescribed in primary care. This will also ensure that GP records, which are accessed by other healthcare providers, are a true and accurate reflection of the patient's medication.
- The safety and efficacy of deucravacitinib in children and adolescents below the age of 18 years have not yet been established. No data are available.

Patient factors

- Deucravacitinib is an oral medication (alongside Dimethyl Fumarate and Apremilast).
- An additional treatment option would be valued by patients because deucravacitinib is a new mode of action for this pathway. Therefore, a new line of treatment added to the Psoriasis pathway. (7 different modes of action available in the pathway)
- Some people might favour oral non-biological treatments because they do not need refrigeration, or because of the burden associated with subcutaneous injection.
- This medicine is available under a homecare service so will be delivered directly to the patient.
- No dose titration required.

Environmental impact

- Packaging will be generated and will be an environmental impact with regards to waste management. But less plastic compared to alternative injectable preparations would be generated.
- Homecare deliveries to patients' home (additional carbon – increase air pollution) but offset by less transport to hospital by patients.
- Discharge into wastewater (post metabolism unknown effect)

Equality & diversity

Age

- Deucravacitinib is only licensed for adult patients – younger patients will not be able to access this treatment.

Race

- The PASI which is used to assess response to treatments for plaque psoriasis was noted to have the potential to underestimate psoriasis severity in people with black or brown skin. (Applies in all cases where PASI is used, not just for deucravacitinib)

Disability

- Take into account any physical, sensory or learning disabilities, or communication difficulties that could affect the responses to the DLQI and make any adjustments needed.

Pregnancy & maternity

- www.medicines.org.uk It is unknown if the use of deucravacitinib will affect a baby during pregnancy or whilst breast feeding.

Place in therapy relative to available treatments

- Biosimilar adalimumab is the least costly preparation in the Psoriasis immunomodulator pathway, however. see information below from NICE re evidence from clinical trials.
- **www.nice.org.uk**
  Cost-effectiveness results compared with adalimumab, bimekizumab and tildrakizumab showed deucravacitinib was dominated, which means that it was found to be less effective and more expensive. This means that deucravacitinib would not be a cost-effective use of NHS resources if used when adalimumab, bimekizumab or tildrakizumab were considered to be suitable treatment options. But when compared with apremilast, dimethyl fumarate and most other biological treatments, deucravacitinib was considered a cost-effective option and an effective use of NHS resources.
- Deucravacitinib is an alternative to apremilast, dimethyl fumarate and systemic biological treatments.
- **Information from NICE committee papers (information proved by Bristol Myers Squibb)** Although TYK2 is a member of the JAK family, there is a potential for different therapeutic response. As a small molecule medication, it is anticipated that deucravacitinib will not develop immunogenicity and it therefore presents patients with an option for a treatment with good durability and less need for switching.

Stakeholder views

- The paper was sent out for consultation and comments are listed on the front sheet.

Cost-effectiveness

www.nice.org.uk

- The cost-effectiveness estimates for deucravacitinib compared with apremilast, dimethyl fumarate and most biological treatments are within the range that NICE normally considers an acceptable use of NHS resources. So, deucravacitinib is recommended.

Cost of the technology

Annual cost per patient (or complete course if shorter)
Costs in secondary care:
The list price per 28-tablet pack of deucravacitinib is £690 (excluding VAT; information from published NICE TA

Annual treatment costs - £8,995 per year (using list price above)

Availability of CAP/PAS price:
The company has a commercial arrangement. This makes deucravacitinib available to the NHS with a discount. The size of the discount is commercial in confidence. It is the company's responsibility to let relevant NHS organisations know details of the discount.

Price relative to comparable medicines:
This is the first TYK2 available to treat Psoriasis and is a new mode of action for this pathway. As mentioned above there are now 7 modes of action for this pathway and another treatment line for this pathway.

Other options for use in Psoriasis

Information from the Blueteq Database (since 2008), is provided in the tables below each mode of action to show the initiations for each drug within class (at any line). The treatment with the most initiations has been highlighted in each table
The team have received 1049 (since 2008)– note that 64 of these patients have since deceased or moved out of area)

Colour coding
Treatments highlighted: Least costly preparation in class.
Treatments highlighted: Treatment most initiated in class.

Oral Preparations

Fumaric Acid Ester	
Dimethyl Fumarate	3
Phosphodiesterase (PDE4) inhibitor	
Apremilast	125

Subcutaneous injections

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TNF alpha inhibitor	
Adalimumab	330
Infliximab	20
Etanercept	65
Certolizumab	13

Interleukin 17A/RA inhibitor	
Bimekizumab	3

Brodalumab	10
Secukinumab	108
Ixekizumab	48

Interleukin (IL)23 protein	
Guselkumab	86
Tildrakizumab	1
Risankizumab	63

Interleukin 12/23 inhibitor	
Ustekinumab	169

Deucravacitinib is an oral preparation which is more costly than biosimilar adalimumab, etanercept, subcutaneous infliximab and dimethyl fumarate (another oral tablet). It costs less than all other treatments in the psoriasis pathway.

To date Surrey Heartlands ICB patients have received 1st, 2nd 3rd & 4th line treatments. To date there are no patients (on Blueteq) being treated for 5th or subsequent lines.

For those patients being treated at 4th line (4 patients) The IL23 proteins Risankizumab (3) & Guselkumab (1) have been proposed and agreed by the dermatology MDT

NICE resource impact statement
www.nice.org.uk
Resource impact statement
Although NICE states that a significant impact on resources is not expected, there is still a new cost pressure even though this may be below the £8,800 per 100,000 population thresholds for NICE, as this TA represents a new line of treatment.

At £8,800 per 100,000 population, this represents:

	East Surrey	**Guildford and Waverley**	**Surrey Downs**	**North-West Surrey**	**Surrey Heartlands ICB**
Population*	193,532	232,784	316,690	388,466	1,131,472
Cost	**£17,031**	**£20,485**	**£27,869**	**£34,185**	**£99,570**

* August 2022 population figures from NHS Prescription Services through ePACT.

The drug costs for deuvravacitinib is not expected to exceed the £100,000 per Place threshold

In conclusion

- **Deucravacitinib is more costly than biosimilar adalimumab, etanercept, subcutaneous infliximab and dimethyl fumarate (oral tablets). It costs less than all other treatments in the psoriasis pathway.**
- **Based on the information from the Blueteq database and the number of lines of treatment available to patients with psoriasis. There is an expectation that there will be minimal financial impact with implementation of this NICE guidance.**
- **As noted above over 1000 requests for initiation of high cost immunomodulator treatments have been initiated for patients with psoriasis and there have been 4 requests to initiate 4th line treatment to date**

Traffic light recommendation to APC

NHS Payment Scheme (NHSPS) excluded high-cost drug:
Yes

Recommended traffic light status and rationale:
RED –.

- Excluded treatment from national tariff payment system
- Treatment should be initiated under the guidance and supervision of a physician experienced in the diagnosis and treatment of psoriasis
- Commercial arrangement has been agreed which is a simple discount patient access scheme available for NHS organisations.

PAD definitions, available at: Traffic Light Status (res-systems.net)

Implementation

NICE TA implementation must be within 90 days of publication.

Actions to implement:

Primary care

- This is a National Tariff excluded high-cost drug and is commissioned by ICSs. There should be no prescribing in primary care.
- Primary care prescribers should be aware that their patient is receiving this medicine and ensure that this is recorded in the patient's notes in order to be alert to potential side-effects and interactions with other medicines prescribed in primary care. This will also ensure that GP records, which are accessed by other healthcare providers, are a true and accurate reflection of the patient's medication.

Secondary care

- Providers are NHS hospital trusts.
- Trusts to follow internal governance procedures to add to their formulary and initiate homecare.
- The initiation, administration and on-going treatment is managed by secondary care.
- Specialists will be required to notify the high-cost drugs teams of initiation and response to treatment using the Blueteq® system.
- Homecare arrangements will be managed by the trust. Information from Bristol Myers Squibb notes that the homecare providers for this product are
    - LPCH (Lloyds Pharmacy Clinical Homecare)
    - Healthnet Homecare
    - Polar speed Homecare
- Note – information from company,
    - fewer screening and ongoing monitoring of blood tests than biologics
    - potential for improved appointment capacity

ICS

- This technology is commissioned by integrated care systems.
- Pathway to be discussed with Dermatology Network Group to consider
    - Place in Psoriasis Pathway

PAD and Joint Formulary

- Remove Psoriasis Pathway from all treatments for this condition from PAD and replace with revised pathway.
- New PAD profile for Deucravacitinib will be required.

Proposed tick box forms

Blueteq® forms have been developed.

References:

1 Summary of Product Characteristics. emc. Available at: SOTYKTU 6 mg film coated tablets - Summary of Product Characteristics (SmPC) - (emc) (medicines.org.uk)Accessed 16th August 2023
2 NICE Technology Appraisal Guidance: . Available at: Overview | Deucravacitinib for treating moderate to severe plaque psoriasis | Guidance | NICE Accessed 16th August 2023
3 www.medicines.org.uk Deucravacitinib license [accessed 23rd August 2023]

Declaration of interest:

	Name	Role	Date	Declaration of interests (please give details below)
Prepared by	Lorraine Kelly	Pharmacy Technician MRU	16/08/2023	None
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Explanation of declaration of interest:
None.

Version control sheet:

Version	Date	Author	Status	Comment
1			Draft	Out for consultation
			Final	Out for clinical comment