

Sunscreens

This bulletin focuses on prescribing of sunscreens for Advisory Committee on Borderline Substances (ACBS) approved indications. Borderline substances are mainly foodstuffs but also include some toiletries, such as sunscreens for use by people with conditions such as photodermatoses which are a group of skin disorders characterised by an abnormal reaction to sunlight exposure.¹

Sunscreens protect skin against ultraviolet (UV) radiation, which is divided into ultraviolet A (UVA) and ultraviolet B (UVB).¹ This bulletin provides the available evidence for use in the approved indications. It may be used to support a review of sunscreens as a medicines optimisation project.

Recommendations

- Ensure that prescribing of sunscreens is in line with ACBS approved indications.
- If ACBS prescribing criteria are not met, then review and stop prescribing the sunscreen.
- For optimum photoprotection:
 - » Use sunscreens from spring to autumn in people with photodermatoses.
 - » Apply sunscreens thickly and frequently (approximately two hourly).
- Only prescribe sunscreen preparations that are included in the ACBS list.
- Prescribe sunscreen preparations with highest sun protection factor (SPF) to provide maximum protection (protects against UVB) and a four or five star rating (protects against UVA).
- Review all patients on sunscreens:
 - » Check that the sunscreen is included in the ACBS list.
 - » Check indications for using a sunscreen meet the ACBS criteria.
 - » Advise any patients who don't meet an ACBS approved indication to purchase an appropriate sunscreen over-the-counter (OTC).
 - » Remind patients that sunscreens are not a substitute for covering the skin and avoiding sunlight.
 - » Regularly review patients who meet the ACBS criteria to ensure they are using the sunscreen correctly (applying them thickly and liberally, approximately every two hours from spring to autumn).
 - » Endorse all appropriate prescriptions with "ACBS".

Background

Sunscreens marked as "ACBS" in the British National Formulary (BNF) are regarded as drugs when prescribed for skin protection against UV radiation in abnormal cutaneous photosensitivity causing severe cutaneous reactions in genetic disorders, severe photodermatoses and in those with increased risk of ultraviolet radiation causing adverse effects due to chronic disease, medical therapies and/or procedures. Prescribing for other indications is not permitted on FP10.¹

Photosensitivity refers to a wide range of skin conditions associated with an abnormal reaction to UV radiation. Photosensitivity can be broadly split into two groups:²

Photoaggravated dermatoses

These are pre-existing skin conditions that can be aggravated or exacerbated by sunlight on exposed areas of skin, e.g. herpes simplex, systemic lupus erythematosus, rosacea and vitiligo.³

Photodermatoses

Photodermatoses are skin disorders that are caused (rather than aggravated) by exposure to sunlight.⁴

They can be broadly classified into four groups:

- Idiopathic photodermatoses. This includes polymorphic light eruption (PLE) which is the most common photodermatosis.⁵
- Genetic photodermatoses. Due to, for example, chromosomal abnormalities and defective DNA repair which can cause xeroderma pigmentosum.
- Metabolic photodermatoses. This includes porphyrias which are a group of disorders in which there is a defect in the production of haem that is used to make haemoglobin. This leads to a build-up of haem precursors including porphyrins. When porphyrins build up in the skin, it becomes very sensitive to sunlight.⁶
- Exogenous photodermatoses. This includes drug-induced photosensitivity. The BNF states that certain drugs, such as demeclocycline, phenothiazines, or amiodarone can cause photosensitivity. Therefore, sunscreens may need to be prescribed alongside these drugs.¹

Whereas UVB is the predominant factor in causing sunburn, UVA is largely responsible for photodermatoses. These conditions (as well as sunburn) may occur after relatively short periods of exposure to the sun. The effects of exposure over longer periods include ageing changes and more importantly the initiation of skin cancer. Both UVA and UVB contribute to the changes responsible for skin cancer and ageing.¹

Sunscreens

Sunscreen preparations contain substances that protect the skin against UVA and UVB radiation, but they are no substitute for covering the skin and avoiding sunlight.¹

The SPF provides guidance on the degree of protection offered against UVB; it indicates the multiples of protection provided against burning, compared with unprotected skin; for example, an SPF of eight should enable a person to remain eight times longer in the sun without burning. However, in practice, users do not apply sufficient sunscreen product and the protection is lower than that found in experimental studies.¹ For example, the British Association of Dermatologists states that the protection that a person may actually receive is about one-third to one-half of the labelled SPF and therefore recommends that for people planning to spend several hours in strong sunshine, a preparation with SPF 30 be reapplied every two to three hours in order to protect areas where the sunscreen may have rubbed or sweated off.⁷

The amount of sunscreen needed for the body of an average adult to achieve the stated SPF is around 35 ml or six to eight teaspoons of lotion.⁸

Some manufacturers use a star rating system to indicate the protection against UVA relative to protection against UVB for sunscreen products. However, the usefulness of the star rating system remains controversial. Stars are categorised on a scale from zero to five, with five providing the highest and zero the lowest protection. Preparations that also contain reflective substances, such as titanium dioxide, provide the most effective protection against UVA.¹

A sunscreen with an SPF of 30 and a UVA rating of four or five stars is generally considered a good standard of sun protection.^{2,7}

Clinical evidence

The NICE Guideline [NG34] “Sunlight exposure: risks and benefits”, does not give specific guidance on the use of sunscreens in abnormal skin photosensitivity.⁸ The efficacy of sunscreens has been well documented in the photodermatoses of PLE, solar urticaria, and lupus erythematosus.⁹

Key to the management of photodermatoses is photoprotection, which includes seeking shade; wearing photoprotective clothing, wide brimmed hats, and sunglasses; and applying sunscreens. Sunscreens with a SPF over 30 that incorporate photostabilized UVA filters are usually the appropriate choice for adequate photoprotection.⁹

There is also a reported lack of compliance among patients suffering from photodermatoses and this may account for the variable effect of sunscreens.¹⁰ This is important since the use of a broad-spectrum sunscreen SPF 50+ in a correct amount has been shown to be highly effective in protecting very UV-sensitive patients suffering from idiopathic solar urticaria when tested in a standardised setting.¹¹ The prescriber must therefore ensure patients are counselled in the appropriate application of sunscreens.

In the 2018 NHS England guidance on ‘Conditions for which over the counter items should not be prescribed in primary care’, sun protection is described as one of the areas where “most people manage sun burn symptoms themselves or prevent symptoms developing, using sun protection, by using products that can easily be bought in a pharmacy or supermarket” and hence CCGs are advised that a prescription for sun protection should not routinely be offered in primary care, except for the ACBS approved indications.¹² To support this medicines optimisation workstream, PrescQIPP has published a number of resources.¹³⁻¹⁵ Patients can be signposted to information sources available at <https://www.nhs.uk/live-well/healthy-body/sunscreen-and-sun-safety/> and <https://patient.info/skin-conditions/sun-and-sunburn>

Costs

Table 1: Sunscreens included in the ACBS list and their cost per pack^{16,17}

| Product | SNOMED Code | Pack size | Cost | Cost per 35ml | Number of packs per 28 days (980ml) | Cost per 28 days |
|-------------------------------|-------------------|-----------|--------|---------------|-------------------------------------|------------------|
| Uvistat Lipscreen SPF 50 | 11537711000001105 | 5g | £2.99 | n/a | 1 | £2.99 |
| Uvistat Sun Cream SPF 30 | 11538211000001104 | 125ml | £7.66 | £2.15 | 8 | £61.28 |
| Uvistat Sun Cream SPF 50 | 11486711000001109 | 125ml | £8.68 | £2.43 | 8 | £69.44 |
| Sunsense Ultra Lotion SPF 50+ | 11489511000001109 | 50ml | £5.09 | £3.56 | 20 | £101.80 |
| | | 125ml | £8.26 | £2.31 | 8 | £66.08 |
| | | 500ml | £18.43 | £1.29 | 2 | £36.86 |

The Drug Tariff states that these products are regarded as drugs when prescribed for skin protection against UV radiation and/or visible light in abnormal cutaneous photosensitivity causing severe cutaneous reactions in genetic disorders (including xeroderma pigmentosum and porphyrias), severe photodermatoses (both idiopathic and acquired) and in those with increased risk of UV radiation causing adverse effects due to chronic disease (such as haematological malignancies), medical therapies and/or procedures.¹⁷

Savings available

In England and Wales, 34,024 sunscreen items at a cost of £418,168 were prescribed annually (NHSBSA, January to March 2021). 32% of the sunscreens prescribed were for preparations not on the ACBS list. £38,566 savings on sunscreens have been made over the last year (NHSBSA January to March 2021.) **Reviewing patients and prescribing 50% fewer sunscreens would save around £209,566 in England and Wales annually. This equates to savings of £328 per 100,000 patients.**

Switching products

When there is an ACBS indication for a sunscreen, consider using a cost effective product depending on:

Previous use of SPF 30

| Product | SNOMED Code | Pack size | Cost |
|-------------------------------|-------------------|-----------|-------|
| Sunsense Ultra Lotion SPF 50+ | 11489511000001109 | 125ml | £8.26 |
| Uvistat Sun Cream SPF 50 | 11486711000001109 | 125ml | £8.68 |

Historic quantity use

| Product | SNOMED Code | Pack size | Cost |
|-------------------------------|-------------------|-----------|--------|
| Sunsense Ultra Lotion SPF 50+ | 11489511000001109 | 500ml | £18.43 |

Summary of actions to consider

- Take the opportunity to remind all patients on the harms of prolonged sunlight exposure (including ageing changes and more importantly the initiation of skin cancer) and how to adequately protect their skin from strong sunlight. For example, use the resources from the British Association of Dermatologists.^{18,19}
- Use the template clinical audit tool to ensure that prescribing of sunscreens on FP10 prescriptions meet the ACBS criteria. The only ACBS approved indication is for skin protection against UV radiation in abnormal cutaneous photosensitivity, and the only preparations that meet ACBS criteria are listed in table 1.
- If ACBS prescribing criteria are met, ensure that:
 - » The preparations prescribed have the highest SPF available to provide maximum protection (protects against UVB) and a four or five star rating (protects against UVA).
 - » The preparations prescribed are the most cost-effective.
 - » All appropriate prescriptions are endorsed with “ACBS”.
 - » All patients are reminded of the correct application of these products using the template patient information leaflet.
- If ACBS prescribing criteria are not met:
 - » Review and stop prescribing the sunscreen whilst keeping patients fully informed with the template letter which advises patients to purchase an appropriate sunscreen OTC and how to use a sunscreen.
 - » Review and change the sunscreen to one on the ACBS list in table 1. Again, keep patients fully informed with the template letter which advises patients of the change and reminds them how to use a sunscreen.
 - » Consider using the additional patient resources available from NHS England¹⁹ and PrescQIPP¹⁴ following the publication in 2018 of guidance for conditions for which OTC items should not routinely be prescribed in primary care.¹²

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Additional PrescQIPP resources

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|  Briefing | https://www.prescqipp.info/our-resources/bulletins/bulletin-289-sun-screens/ |
|  Implementation tools | |
|  Data pack | https://data.prescqipp.info/views/B289_Sunscreens/Front-Page?.iid=1&isGuestRedirectFromVizportal=y&embed=y |

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