SOUTH AFRICAN PRIMARY HEALTHCARE LEVEL ESSENTIAL MEDICINES LIST
CHAPTER 5: SKIN CONDITIONS
NEMLC RECOMMENDATIONS FOR MEDICINE MANAGEMENT (2016 – 2018)

Medicine amendment recommendations, with supporting evidence and rationale are listed below. Kindly review the medicine amendments in the context of the skin conditions chapter.

SECTION	MEDICINE	ADDED/AMENDED/DELETED?RETAINED
5.3 Acne vulgaris	Benzoyl peroxide, topical	Amended
	Azelaic acid 20%, topical	Not added
	Doxycycline, oral	Directions for use amended
	Retinoids, topical	Caution in pregnancy retained
5.5.2.3 Scalp infections – tinea capitis	Fluconazole, oral	Dosing amended for adults only
5.5.2.4 Pityriasis versicolor – tinea versicolor	Selenium sulphide	Retained
	Clotrimazole, topical	Not added
5.5.1 Candidiasis, skin	Imidazoles, topical	Agents of therapeutic class listed
5.5.2.1 Ringworm– tinea corporis	Imidazoles, topical	Agents of therapeutic class listed
5.5.2.2 Athlete's foot – tinea pedis	Imidazoles, topical	Agents of therapeutic class listed
5.6.2 Paronychia, chronic	Potent topical corticosteroids	Added as a therapeutic class
	Betamethasone 0.1%, topical	Added as example of potent topical steroids therapeutic class
	Imidazoles, topical	Deleted
5.7.2 Scabies	Benzyl benzoate 25% lotion	Directions for use amended
5.8.1 Eczema, atopic	Betamethasone 0.1%, topical	Application amended from twice daily to once daily
- For itching	Chlorphenamine, oral	Directions for use amended from '8 hourly' to be used 'at night for a maximum of 2 weeks'
	Cetirizine, oral	Amended
5.8.2 Eczema, acute, moist or weeping	Chlorphenamine, oral	Directions for use amended from '8 hourly' to be used 'at night for a maximum of 2 weeks'
	Cetirizine, oral	Amended
5.8.3 Dermatitis, seborrhoeic (Severe dermatitis)	Betamethasone 0.1%, topical	Application amended from twice daily to once daily
5.9 Nappy rash	Corticosteroids, topical	Not added
	Imidazoles, topical	Agents of therapeutic class listed
5.10.3 Fixed drug eruptions	Hydrocortisone, 1%, topical	Indication added
	Clobetasole, topical ointment	Not added
5.11 Pityriasis rosea	Chlorphenamine, oral	Directions for use amended from '8 hourly' to be used 'at night for a maximum of 2 weeks'
	Cetirizine, oral	Added
5.18.1 Albinism	Zinc oxide cream	Added
	Titanium dioxide ointment/cream (UV block)	Added
5.18.2 Vitiligo	Titanium dioxide ointment/cream (UV block)	Added with specific directions for use
5.19 Pressure ulcers/sores	Zinc and castor oil ointment	Added

5.3 ACNE VULGARIS

Benzoyl peroxide, topical*: amended*

Topical products containing benzoyl peroxide (as monotherapy) are no longer available on the South African market.

Benzoyl peroxide (as monotherapy formulation) were reported to be no longer available on the South African market[1]. However, this product is currently available (with revised packaging) and the agent was retained in the STG, with amended directions for use, aligned with the SAMF, 2016.
Level of Evidence: III Guidelines[2]

Azelaic acid, 20% topical: *not added*

Azelaic acid, 20% topical has been *s*hown to reduce the number of acne lesions in a 3-month double blind study comparing 20% azelaic acid cream vs. its vehicle (n=92) and comparable to 0.05% tretinoin cream in reducing the number of comedones and with respect to overall response in a single blind study (n=289)[3]. Azelaic acid cream was better tolerated with less side-effects than topical retinoid. Guidelines[4] recommend mention azelaic acid as an 'adjuct treatment´ for acne, used rather for hyperpigmentation associated with acne. The current SEP price of azelaic acid, 20% topical (30 g) is R 172.75.[5]

Level of Evidence: III Disease oriented RCT, Guidelines, Expert opinion

Doxycycline, oral: *directions for use amended*

Management aligned with the Adult STGs and EML, 2015 as follows:

- Doxycycline, oral, 100 mg daily for 3 months.
  - Review patient after 3 months of treatment.
  - It should be taken with meals.
  - Do not take it together with iron preparations.

Level of Evidence: III Guidelines

Topical retinoids: *caution in pregnancy retained*

Studies suggest that there is no increased risk of congenital malformations associated with topical isotretinoins[6] [7]. However, topical retinoids should be avoided in pregnancy because of questionable risk/benefit ratio. Isolated case reports[8] propose a link between topical retinoid embryopathy and topical tretinoin use.

Level of Evidence: I Meta-analysis

[1] Minutes of the NEMLC meeting of 29 June 2017 and 12 April 2018.
[2] SAMF, 2016
[3] Katsambas A, Graupe K, Stratigos J. Clinical studies of 20% azelaic acid cream in the treatment of acne vulgaris. Comparison with vehicle and topical tretinoin. Acta Derm Venereol Suppl (Stockh). 1989;143:35-9.
[4] Zaenglein AL, Pathy AL, Schlosser BJ, Alikhan A, Baldwin HE, Berson DS, Bowe WP, Graber EM, Harper JC, Kang S, Keri JE, Leyden JJ, Reynolds RV, Silverberg NB, Stein Gold LF, Tollefson MM, Weiss JS, Dolan NC, Sagan AA, Stern M, Boyer KM, Bhushan R. Guidelines of care for the management of acne vulgaris. J Am Acad Dermatol. 2016 May;74(5):945-73.e33.
[5] SEP database 27 May 2017.
[6] Panchaud A, Csajka C, Merlob P, Schaefer C, Berlin M, De Santis M, Vial T, Ieri A, Malm H, Eleftheriou G, Stahl B, Rousso P, Winterfeld U, Rothuizen LE, Buclin T. Pregnancy outcome following exposure to topical retinoids: a multicenter prospective study. J Clin Pharmacol. 2012 Dec;52(12):1844-51.
[7] Kaplan YC, Ozsarfati J, Etwel F, Nickel C, Nulman I, Koren G. Pregnancy outcomes following first-trimester exposure to topical retinoids: a systematic review and meta-analysis. Br J Dermatol. 2015 Nov;173(5):1132-41.
[8] Browne H, Mason G, Tang T. Retinoids and pregnancy: an update. The Obstetrician & Gynaecologist 2014;16:7–11.

5.5.1 CANDIDIASIS, SKIN *and* **5.5.2.1 RINGWORM– TINEA CORPORIS** *and* **5.5.2.2 ATHLETE'S FOOT – TINEA PEDIS** *and* **5.6.2 PARONYCHIA, CHRONIC** *and* **5.9 NAPPY RASH**

Imidazoles, topical: *agents of therapeutic class listed*

Imidazole derivatives are indicated for the topical treatment of cutaneous candidiasis and dermatophytoses. Agents currently available on the South African market include:

Medicine	Formulation	Directions for use (applications/day)[9]
Bifonazole 1%	Cream	Daily
	Solution	Daily
Clotrimazole 1%	Cream	2-3 times daily
Econazole 1%	Spray	3 times daily
	Cream	3 times daily
Ketoconazole 2%	Cream	Twice daily
MIconazole 2%	Cream	Twice daily

Level of Evidence: III Guidelines

5.5.2.3 SCALP INFECTIONS – TINEA CAPITIS

Fluconazole, oral: *dosing amended for adults only*

Children: Dosing retained as daily dose of 6 mg/kg once daily, for 28 days.

- *Guidelines do not recommend weekly dosing of fluconazole in children:*
  - *Paediatric Hospital Level STGs and EML, 2017* does not provide guidance and cross refers to the PHC STGs and EML.
  - *SAMF, 2016*[10] does not provide dosing for *T capitis* in paediatrics.
  - *BNF for children, 2016-7*[11] recommends fluconazole for child, 1 to 17 years at a dose of 6 mg/kg daily (max. per dose 300 mg) for 2–4 weeks.
- *Cochrane review*[12] was the basis for the PHC STGs and EML, 2018 recommendation of fluconazole, oral, 6 mg/kg once daily, for 28 days. RCTs reviewed in Cochrane review for the systemic antifungal therapy for *T capitis* in children recommended daily dosing of fluconazole.

Level of Evidence: I Systematic review

Adults: Dosing aligned with Adult Hospital Level STGs and EML, 2015[13] as 200 mg[14] weekly for 6 weeks; as suggested by RCTs[15] [16].

Level of Evidence: I RCTs, Guidelines, Expert opinion

5.5.2.4 PITYRIASIS VERSICOLOR – TINEA VERSICOLOR

Selenium sulfide, 2.5% suspension: *directions for use amended*

Directions for use aligned to SAMF, 2016, as follows:

[9] SAMF, 2016.

[10] SAMF, 2016

[11] BNF for children, 2016-7

[12] Chen X, Jiang X, Yang M, González U, Lin X, Hua X, Xue S, Zhang M, Bennett C. Systemic antifungal therapy for tinea capitis in children. Cochrane Database Syst Rev. 2016 May 12;(5):CD004685. https://www.ncbi.nlm.nih.gov/pubmed/27169520

[13] National Department of Health, Essential Drugs Programme: Adult Hospital level STG, 2015. http://www.health.gov.za/

[14] Contract circular RT301-2017. http://www.health.gov.za/

[15] Nozickova M, Koudelkova V, Kulikova Z, Malina L, Urbanowski S, Silny W. A comparison of the efficacy of oral fluconazole, 150 mg/week versus 50 mg/day, in the treatment of tinea corporis, tinea cruris, tinea pedis, and cutaneous candidosis. Int J Dermatol. 1998 Sep;37(9):703-5. http://www.ncbi.nlm.nih.gov/pubmed/9762826

[16] Faergemann J, Mörk NJ, Haglund A, Odegård T. A multicentre (double-blind) comparative study to assess the safety and efficacy of fluconazole and griseofulvin in the treatment of tinea corporis and tinea cruris. Br J Dermatol. 1997 Apr;136(4):575-7. http://www.ncbi.nlm.nih.gov/pubmed/91559

- Selenium sulfide,2.5% suspension
  - Lather shampoo on affected parts.
  - Apply daily for 3 successive days and leave on for 30 minutes, then wash off; or leave on overnight once a week for 3 weeks.

Clotrimazole, topical: *not added*

Efficacy: Pubmed search found no head-to-head studies comparing clotrimazole vs. selenium sulfide for management of pityriasis versicolor. However, a small RCT[17] (n=20) suggested that clotrimazole has similar efficacy to topical ketoconazole.

Price: Clotrimazole 1% topical cream considered too costly, as a course of therapy (i.e. application 12 hourly for 7 days, resulting in a maximum of 28 tubes being used) would cost a maximum of R 112.84[18], per course of therapy.

Recommendations:

- Selenium sulphide, 2.5% be retained as the treatment option for pityriasis versicolor.

Level of Evidence: III Standard of care

5.6.2 PARONYCHIA, CHRONIC

Potent topical corticosteroids: *added as a therapeutic class*

Betamethasone 0.1%, topical: *added as example of potent topical steroids therapeutic class*

Imidazoles, topical: *deleted*

Refer to the medicine review: Topical corticosteroids for paronychia, 20 March 2018.

Corticosteroids-top
ical for Chronic Paro

Potent topical corticosteroids (group III) recommended for the management of chronic paronychia as opposed to topical antifungal agents, with betamethasone 0.1% listed as an example of the therapeutic class (potent topical corticosteroids)[19], as it is the cheapest option currently on tender.

Rationale: Evidence of efficacy for potent topical corticosteroids for management of chronic paronychia as opposed to antifungals.

Level of Evidence: III Disease-oriented RCT of low methodological quality, Guidelines, Expert opinion

5.7.2 SCABIES

Adults and children >6 years of age

Benzyl benzoate 25% lotion: *directions for use amended*

Directions for use was aligned with the package insert of the product, currently available in the public sector, as follows:

- Benzyl benzoate 25% lotion, applied undiluted to the whole body from neck to feet and rub in well.
  - Allow the lotion to remain on the body for 24 hours, then wash off using soap and water.
  - For severe infestation treatment may be after 24 hours or once within 5 days.
  - All infected persons living in the household, or likely to contract the infection, should be treated at the same time.

Level of Evidence: III Guidelines

[17]Balwada, R.P.; Jain, V.K.; Dayal, S. A double-blind comparison of 2% ketoconazole and 1% bole in the treatment of pityriasis versicolor. Indian J. Dermatol. Venereol. Leprol. 1996, 62, 298–300. https://www.ncbi.nlm.nih.gov/pubmed/20948094

[18] Contract circular HP02-205AI (R4.03/ 20 gm tube)

[19] SAMF 2016: Potent topical corticosteroids (Group III) includes beclomethasone 0.1%, betamethasone dipropionate 0.05%, betamethasone valerate, 15 g, diflucortolone 0.1%, fluocinolone 0.025%, fluticasone 0.05%, hydrocortisone butyrate 0.1%, methylprednisolone aceponate 0.1%, mometasone 0.1%.

5.8.1 ECZEMA, ATOPIC

Betamethasone 0.1%, topical: *application amended from twice daily to once daily*

Evidence:

- Authors of a Health Technology Assessment[20] concluded that the available literature suggests that clinical effectiveness of once-daily and more frequent application of potent topical corticosteroids is similar. It was noted that the RCTs reviewed referred mostly to moderate to severe atopic eczema (10 RCTs), whilst patients generally have mild disease. Some statistically significant differences favouring twice-daily treatment were identified; however, these were inconsistent between outcome assessors (physicians versus patients) and outcomes selected for analysis.
- *Effect sizes:*
    - Proportion with at least a good response (at least 50% improvement) comparing once daily versus more frequent application:
        i. Potent corticosteroids:
            a. RR 1.03 (95% CI 0.83 to 1.28)
            b. ARR 0.06 (events: 654/802 vs. 678/785); NNT 18
        ii. Very potent corticosteroids:
            a. RR 0.99 (95% CI 0.89 to 1.10)
            b. ARR 0.01 (events: 99/116 vs. 100/116); NNT 100

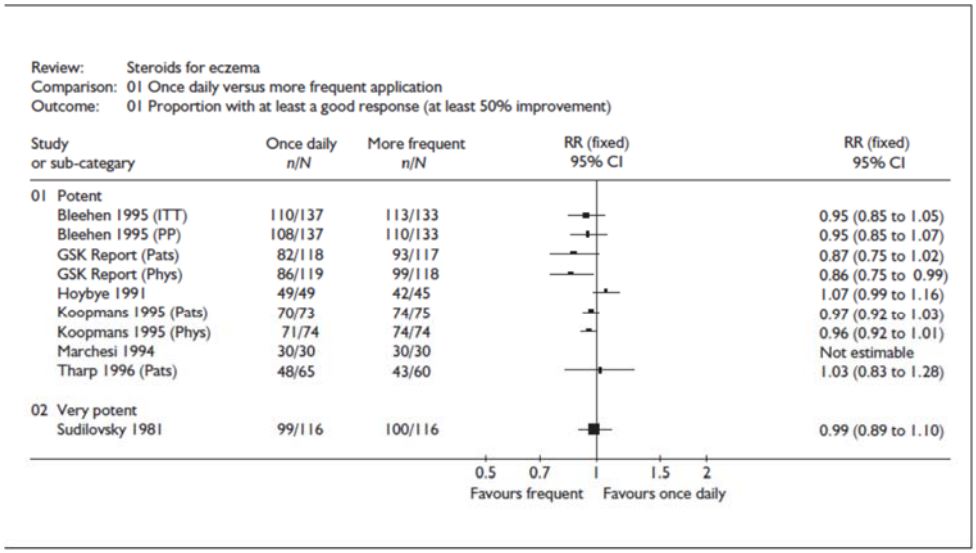


FIGURE 4 Patients with at least a good response at end of treatment: risk ratios. Note: the patients in the studies by Bleehen and colleagues[43], GSK Report[46] and Koopmans and colleagues[44] are included twice in the figure for illustration of different assessments. ITT, intention-to-treat analysis; Pats, patients' assessment; Phys, physicians' assessment; PP, per-protocol analysis.

    - Proportion cleared comparing once daily versus more frequent application:
        i. Potent corticosteroids:
            a. RR 0.88 (95% CI 0.72 to 1.09)
            b. ARR 0.11 (events: 337/723 vs. 365/700); NNT 10

[20] Green C, Colquitt JL, Kirby J, Davidson P, Payne E. Clinical and cost-effectiveness of once-daily versus more frequent use of same potency topical corticosteroids for atopic eczema: a systematic review and economic evaluation. Health Technol Assess. 2004 Nov;8(47):iii,iv, 1-120. https://www.ncbi.nlm.nih.gov/pubmed/15527669

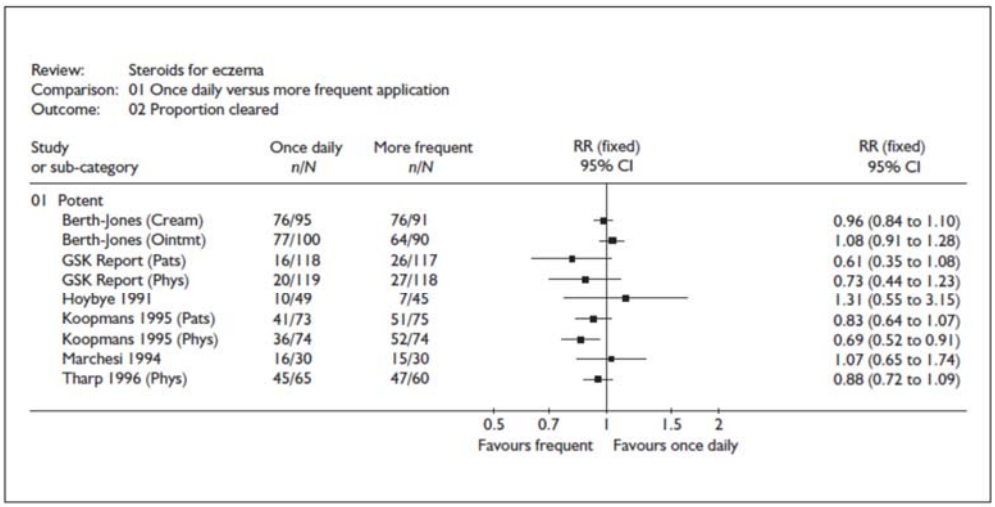


FIGURE 5 *Patients with controlled or cleared atopic eczema: risk ratios. Note: the patients in the studies by Koopmans and colleagues[44] and GSK Report[46] are included twice in the figure for illustration of the different assessments. Pats, patients' assessment; Phys, physicians' assessment.*

Note: The patients in the studies by Koopmans et al[21]and GSK Report[22] were included twice in the above figures for illustration of the different assessments (i.e. ITT, per protocol analysis. Patient and physician assessments).

Evidence quality: Systematic review was of good methodological quality (clear research question, various data sources used and appropriate assessment of quality of systematic review RCTs). Steps were taken to minimise risk of bias for study selection, data extraction and quality assessment with disagreements between reviewers resolved through discussion. Publication bias was likewise minimised as unpublished data was included in the review. Although, meta-analysis was considered inappropriate as the studies were very heterogeneous, the above forest plots with risk ratios were presented to describe the most commonly reported outcomes.

PHC Expert Review Committee recommendation: Potent topical corticosteroids to be recommended for daily rather than twice daily application.

Rationale: Available RCT evidence suggests that clinical effectiveness of once-daily and more frequent application of potent topical corticosteroids is similar for the management of moderate to severe eczema.

Level of Evidence: I Health technology assessment

For itching

Chlorphenamine, oral: *directions for use amended from "8 hourly" to be used "at night for a maximum of 2 weeks"*

Cetirizine, oral: *amended*

Switch to non-sedating antihistamine, cetirizine, recommended if symptoms of itch experienced during the day-time.

Level of Evidence: III Expert opinion

5.8.2 ECZEMA, ACUTE, MOIST OR WEEPING

Chlorphenamine, oral: *directions for use amended from "8 hourly" to be used "at night for a maximum of 2 weeks"*

[21] Koopmans B, Lasthein AB, Mork NJ, Austad J, Suhonen RE. Multicentre randomized double-blind study of Locoid Lipocream fatty cream twice daily versus Locoid Lipocream once daily and Locobase once daily. J Dermatol Treat 1995;6:103–6.

[22] GSK. A four week multicentre, double blind study to compare safety and efficacy with an OD and BD administration of fluticasone propionate 0.005% ointment in the treatment of atopic eczema. Report 135L, Protocol No. GL/FLT/002. 1995.

Aligned with Section 5.8.1 Eczema.
Level of evidence: III Expert opinion

Cetirizine, oral: *added*
Switch to non-sedating antihistamine, cetirizine, recommended if symptoms of itch experienced during the day-time.
Level of Evidence: III Expert opinion

5.8.3 DERMATITIS, SEBORRHOEIC

Severe dermatitis
Betamethasone, topical: *application amended from twice daily to once daily*
Recommendation: Similar to section 5.8.1: Eczema, atopic, potent topical corticosteroids to be recommended for daily rather than twice daily application.
Rationale: Available RCT evidence suggests that clinical effectiveness of once-daily and more frequent application of potent topical corticosteroids is similar for the management of moderate to severe eczema.
Level of Evidence: I Health technology assessment

5.9 NAPPY RASH

Corticosteroids, topical: *not added*
Evidence: The available published literature on nappy rash acknowledges that nappy rash is an irritant dermatitis but discourages the use of topical corticosteroids in babies because of possible development of skin atrophy. No available RCT evidence could be sourced for topical corticosteroids and expert recommendations promotes preventative measures and advise prescription of topical antifungals only for secondary fungal infection.
Recommendation: Topical corticosteroids not be recommended for treatment of nappy rash, whilst topical antifungals only be recommended for secondary fungal infection.
Rationale: No available RCT evidence could be retrieved from the published literature for topical corticosteroids to treat nappy rashes.
Level of Evidence: III Expert opinion

Text of the STG was further amended for clarity purposes:

If rash involves the flexures, suspect candida:
- Imidazole, e.g.:
- Clotrimazole 1% cream ~~followed by zinc and castor oil ointment applied after each nappy change.~~applied beneath zinc and castor oil ointment ~~applied~~ after each nappy change until symptoms are resolved.

5.10.3 FIXED DRUG ERUPTIONS

Clobetasole, topical: *not added*
External comment was received to recommend clobetasole ointment twice daily with referral to dermatologist. However, no supporting evidence was submitted and clobetasole is currently not listed on the PHC EML. The STG recommends topical hydrocortisone 1% for acute/active stage for a period of 5 days.

Hydrocortisone, 1%, topical: *indication added*
The specific indication for topical hydrocortisone was added to the text of the STG as follows, to prevent routine use:

Acute/active stage

- Hydrocortisone 1%, topical, apply daily for 5 days.

Level of Evidence: III Expert opinion

5.11 PITYRIASIS ROSEA

Chlorphenamine, oral: *directions for use amended from "8 hourly" to be used "at night for a maximum of 2 weeks"*

Cetirizine, oral: *added*

Aligned with Section 5.8.1 Eczema, atopic.

However, switch to non-sedating antihistamine, cetirizine, recommended if symptoms of itch experienced during the day-time.

Level of Evidence: III Expert opinion

5.18.1 ALBINISM

The following new STG was recommended for inclusion to the chapter, as the condition is common:

Description

Congenital disorder characterised by the complete or partial absence of pigment in the skin, hair and eyes.
Albinism is associated with a number of vision defects such as photophobia, nystagmus, squint and amblyopia.
Lack of skin pigmentation increases a person's susceptibility to sunburn and skin cancers.

General measures

To avoid sunburn and skin damage:

» Avoid going out when the sun is at its strongest (between 10 am and 3 pm).
» When out in the sun to wear a wide-brimmed hat and long-sleeved top.
» To wear sunscreens with a high sun protection factor (SPF); a SPF of between 20 and 30 will provide adequate protection. The product should also provide protection against both UVA and UVB rays.
» To reduce photophobia and prevent retinal damage:
    - Wear sunglasses that preferably have UV filters.
    - Check skin regularly for signs of skin cancer such as a new spot or growth on their skin.

Medicine treatment

- Zinc oxide ointment.
    - Apply evenly to all sun exposed areas at least 15 minutes before going out into the sun.

OR

Titanium dioxide ointment/cream (UV block).

- Apply evenly to all sun exposed areas at least 15 minutes before going out into the sun.

Referral

» To dermatologist for regular skin checks.
» To ophthalmologist for visual rehabilitation and regular eye checks.

Aligned with the SAMF (2016) that states, "A minimum SPF of 16 is advised for patients with photosensitivity disorders; physical barriers contain titanium disoxide, zinc oxide - they protect the skin by forming a reflectant barrier to the sun's rays and offer protection over a broad spectrum of wavelengths".

Level of Evidence: III Guidelines[23]

5.18.2 VITILIGO

The following new STG was recommended for inclusion to the chapter, as the condition is common:

Autoimmune disease characterised by patches of the skin losing their pigment. Often the patches begin in areas of skin that are exposed to the sun.

[23] SAMF, 2016.

New patches appear over time and can occur over large portions of the body or located to a particular area.
Presents as pale patchy areas of depigmented skin which tend to occur on the extremities. They are most prominent on the face, hands and wrists. The loss of pigmentation is particularly noticeable around body orifices such as the mouth, eyes, nostrils genitalia and umbilicus

General measures
Avoid sun exposure when the sun is at its strongest particularly between 10 am and 3 pm.

Referral
All patients.

Titanium dioxide ointment/cream (UV block): *added with specific directions for use*
Evidence: Cochrane review[24] showed that, "the majority of the studies reporting successful re-pigmentation were combinations of various interventions with light, indicating this is an effective, though not necessarily permanent, treatment for generalised vitiligo".
Level of evidence: I Systematic review

Text was amended as follows:

Avoid sun exposure when the sun is at its strongest particularly between 10 am and 3 pm.
As moderate sun exposure is beneficial, sunscreen is not needed at other times.

- Titanium dioxide ointment/cream (UV block):
  - Only use when sun is at it is strongest i.e. between 10:00 and 15:00.
  - Apply evenly to all sun exposed areas at least 15 minutes before going out into the sun during this time.

5.19 PRESSURE ULCERS/SORES

The following STG was developed to support management and care of palliative patients, aligned with recommendations made in an evidence-based analysis for pressure ulcer prevention[25]:

Description
Localised damage to the skin and underlying tissue that usually occurs over bony prominences as a result of pressure, or pressure in combination with sheer and/or friction. The most common sites are the skin overlying the sacrum, coccyx, heels or the hips but other sites can be affected.
Pressure ulcers most commonly develop in individuals who are immobile, such as being bedridden or confined to a wheelchair.
Other factors increasing the risk of pressure ulcer development are:
» Skin wetness e.g. incontinence
» Reduced blood flow e.g. arteriosclerosis
» Reduced skin sensation e.g. paralysis or neuropathy.

General measures
Skin care
The skin should be kept clean and dry. Ensure that the skin folds are dried thoroughly.

Wound odour
Regular cleansing, debridement and management of infection.
Activated charcoal dressings may be used.

Pressure redistribution
» Repositioning and turning at regular intervals, every 2-4 hours. For individuals receiving palliative care they should be repositioned in accordance with the individual's wishes, comfort and tolerance.
» If erythema is present avoid positioning the individual on the area.

Medicine treatment

[24] Whitton ME, Pinart M, Batchelor J, Leonardi-Bee J, González U, Jiyad Z, Eleftheriadou V, Ezzedine K. Interventions for vitiligo. *Cochrane Database of Systematic Reviews* 2015, Issue 2. Art. No.: CD003263. DOI: 10.1002/14651858.CD003263.pub5.
[25] Medical Advisory Secretariat. Pressure ulcer prevention: an evidence-based analysis. Ontario Health Technology Assessment Series 2009;9(2).

Cleanse the skin prior to application of a barrier product.

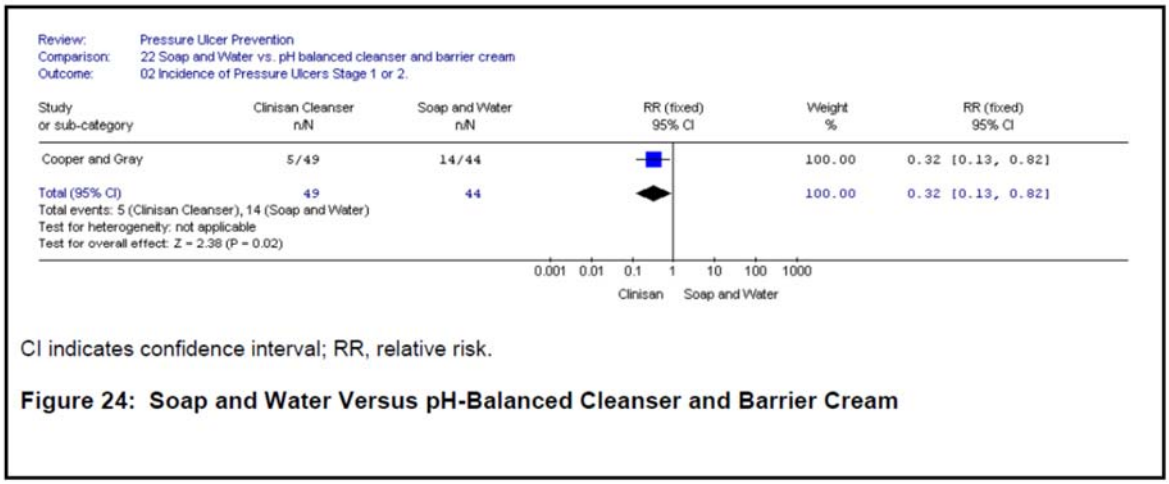
- Zinc and castor oil ointment.

For pain:

See chapter 20: Pain.

Evidence:

- *RCT:* Only available low quality RCT included in the analysis compared soap and water vs. pH-balanced cleanser and barrier cream. The incidence of pressure ulcer development grade 1 or 2 was 5/49 in the treatment group and 14/44 in the control group (ITT analysis); RR 0.32, 95% CI 0.13 to 0.82 for pH-balanced cleanser and barrier cream vs. soap and water. Risk of bias contributed by attrition rate of 7% and lack of treatment concealment.



CI indicates confidence interval; RR, relative risk.

Figure 24: Soap and Water Versus pH-Balanced Cleanser and Barrier Cream

- *Guidelines:* Palliative care guidelines recommend barrier creams as a preventative measure for pressure ulcers.

Level of Evidence: III Low quality disease-oriented RCT, Guidelines[26]

[26] Langemo D, Haesler E, Naylor W, Tippett A, Young T. Evidence-based guidelines for pressure ulcer management at the end of life. Int J Palliat Nurs. 2015 May;21(5):225-32. https://www.ncbi.nlm.nih.gov/pubmed/26107544