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Urea

Urea is naturally present in healthy skin. It is one of three natural moisturising factors (NMF) in the outer horny layer of our skin. The other two NMF are lactic acid and amino acids. There are markedly reduced amounts of urea in dry skin conditions.

Topical preparations of synthetically manufactured urea, either alone or in combination with other medicines, can be particularly useful in treating scaly and itchy dry skin conditions including:

- [Atopic dermatitis](#) (eczema)
- [Psoriasis](#)
- [Ichthyosis](#)

How does urea work?

Urea preparations are [emollients](#) that are essential in the management of dry skin conditions. Emollients moisturise dry skin by reducing water loss from the epidermis (upper layer of skin) resulting in softer and more supple skin.

The specific actions of urea include:

- Hydrating effects – urea is strongly hygroscopic (water-loving) and draws and retains water within skin cells
- Keratolytic effects – urea softens the horny layer so it can be easily released from the surface of the skin
- Regenerative skin protection – urea has a direct protective effect against drying influences and if used regularly improves the capacity of the epidermal barriers for regeneration
- Irritation-soothing effects – urea has anti-pruritic activity based on local anaesthetic effects
- Penetration-assisting effects – urea can increase the penetration of other substances, e.g. corticosteroids as it increases skin hydration

Urea preparations

Urea preparations come in several forms and strengths. Available dosage forms include cream, lotion, shampoo, gel and shower/bath washes. Strengths of urea preparations range from 3–40%. The form and strength chosen depends on the condition that is being treated and the severity of the condition.

The most commonly used urea preparation in New Zealand is a 10% cream. The cream helps urea to retain water for longer in the stratum corneum and prevents water loss by slowing down evaporation. Urea 40% aqueous solution can be made up by a pharmacist and has been used for the treatment of black hairy tongues, [acne conglobata](#), and to dissolve and remove diseased nails.

Most urea preparations are available from your pharmacy. Higher strength preparations and preparations that contain other active ingredients, e.g. corticosteroids (hydrocortisone), may only be available on a doctor's prescription.

How to use urea preparations

- Urea preparations are for external use only
- Avoid contact with eyes

- Do not use on broken (cracked or bleeding) skin or on any area that is infected or oozing, or where there is severe widespread reddening of the skin
- Urea preparations may be used in children from 1 year and upwards if there is a diagnosed dry skin condition and it has been recommended by the doctor
- For non-diagnosed conditions (normal dry skin), low strength urea preparations may be used from 3 years and upwards

Side Effects

Urea preparations are usually well tolerated. Side effects that may occur include mild stinging, itching and skin rash. These usually do not require medical attention unless they continue and become bothersome.

Related information

References:

On DermNet NZ:

- [Scaly skin diseases](#)
- [Emollients and moisturisers](#)

Other websites:

- [Eucerin Skin Care Products](#)

Books about skin diseases:

See the [DermNet NZ bookstore](#)

Author: Vanessa Ngan, staff writer

DermNet does not provide an on-line consultation service.

If you have any concerns with your skin or its treatment, see a [dermatologist](#) for advice.

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