



Menthoderm® – A product review

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This product review highlights the use and role of Menthoderm®, an aqueous cream which contains menthol which is available in different strengths: 0.5%, 1%, 2% and 5%. It is free from sodium lauryl sulphate (SLS) and is paraben free. This product is a topical treatment that is used to manage dry, heated, irritated and itchy skin and is supported by NICE guidelines.¹ Healthcare professionals treating and advising patients with itchy skin should aim to understand all treatments that are available to treat pruritus. Healthcare professionals should follow good practice in prescribing treatment and take into account patient preference and needs and find a treatment plan that fits into their daily life.

What is menthol?

Menthol has been shown to improve itch by working in the same effective way as cooling the skin. Menthol is a natural alcohol compound derived from plants such as peppermint which produces a cooling sensation on the skin.² Menthol produces a topical analgesic through a collaboration with the network of nerves that are implanted in the skin's dermal-epidermal junction. This is how menthol works as an antipruritic.³ Menthol has multiple uses within dermatology, as it is used as a topical antipruritic, antiseptic, analgesic, and cooling formulation.⁴ Topical menthol is a traditional antipruritic agent, which is added to aqueous cream in different percentage strengths (1-5%).⁵

The problem of pruritus

Pruritus is the medical term for itch, which is classified as an unpleasant sensation that encourages the desire to rub or scratch an area of skin to acquire relief.⁶ Itch is defined as either acute (when symptoms last less than six weeks) or chronic (when symptoms last more than six weeks).¹

One of the most common dermatology complaints (and most common symptom) is pruritus, which can have a detrimental impact on an individual's quality of life.⁷ It can affect all aspects of an individual's life, as it can cause sleep disturbance, which can affect concentration in their daily lives, and can prevent individual's socialising due to constant scratching. This can also result in self-trauma by replacing the itch with pain, which can result in chronic skin changes, such as lichenification, erythema, excoriation and even lacerations.⁸ Pruritus is normally a symptom of an underlying condition such as a skin problem, systemic disease, or abnormal nerve impulses. Widespread itch is also a common symptom of menopause.⁶

Pruritus is divided into four different classifications: cutaneous, neuropathic, neurogenic and psychogenic. Cutaneous pruritus is an itch coming from the skin, normally caused by a skin condition such as atopic eczema, contact dermatitis or dry skin. Neuropathic itch is caused by damage to the spinal nerve, normally caused by herpes zoster virus or multiple sclerosis. Neurogenic itch is a dysfunction in the nervous system in the absence of peripheral neuropathy. Conditions that cause this include

Menthoderm® 5% is the only 5% strength SLS-free menthol in aqueous cream in the market

<p>Summary: This product review highlights role of Menthoderm®, an aqueous cream which contains menthol. Menthol is a natural alcohol compound derived from plants and it produces a cooling sensation when applied to the skin. It has multiple uses within dermatology, including assisting as a topical antipruritic, antiseptic and analgesic. This review will consider the management of itch, the mechanism of action, the available formulations of Menthoderm®, and the evidence to support its use.</p>	<p>Keywords: Menthoderm®, Itch, Menthol, Pruritus</p>
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	<p>Citation: Galbraith C. Menthoderm® – A product review. <i>Dermatological Nursing</i> 2024. 23(1):XX-X</p>



liver disease, chronic renal failure, and malignancies. Psychogenic itch entails psychological factors. One example of this is "contagious itching", which is when an individual watches someone else scratching, they then want to scratch themselves.⁸

Pruritus can have hostile effects on an individual's wellbeing and, if severe, can be incapacitating. Scratching the skin can cause further damage to the skin which can prolong the problem.⁸ Chronic itch can have a negative impact on an individual's quality of life, sleep, and mood, which can make individuals desperate for relief.⁹

Mechanisms involved

Itch and pain sensations ascend by the stimulation of the primary sensory neurone.¹⁰ The pathophysiology of pruritus is very complicated, multifactorial, and not fully understood, although a collaboration between histamine and other mediators may be involved.¹ The itch signal is transmitted

The Menthoderm® range is less expensive than the quoted drug tariff price across all comparable pack sizes.

through itch-selective C-fibres within the skin as well as histamine, and non-histamine triggered itch.⁶

How does menthol work to treat itch and heated skin?

Menthol can help soothe and treat itchy, heated, irritated dry skin for patients experiencing pruritus. When menthol is applied to the skin it dilates blood vessels, which causes the cooling sensations which is then followed by an analgesic effect.¹¹ In 2002, Mckemy et al and Peier et al recognised that menthol works by activating a thermos-receptor (or ion channel) called 'transient receptor potential cation channel sub family member 8' or TRPM8.⁴

This receptor TRPM8 is stimulated by thermal stimuli in the cool to cold temperature range of 8-28 degrees Centigrade and belongs to a family of excitatory ion channels responsible for thermo-sensation.⁴

There is a limited evidence base as to what the optimal concentration of topical menthol is required for managing pruritus. Concentrations of 0.5%-5% are currently recommended.⁴

Yosipovitch et al suggests low doses such as this are safe and tolerable for the patient, whilst concentrations above 10% have been found to be no more effective.⁴

Management of pruritus

Management of pruritus is dependent on the individual's specific situation and underlying issue. A detailed medical history and clinical examination is required. In some cases, further testing may be required for any potential underlying issues. Tests include: blood test – standard pruritus screen (FBC, ferritin, CRP, U&E, creatinine, LFT, bone, TFT and glucose), urinalysis, and chest X-ray.¹⁰

Emollients and soap substitutes are considered first-line treatments and are regularly prescribed in the management of pruritus. When emollient alone is unable to provide satisfactory symptom relief, a trial of an emollient with added menthol should be considered.¹

Other topical treatments that are sometimes still used or have been prescribed are detailed below.

Topical capsaicin is a natural alkaloid which is extracted from chilli peppers, has been considered an antipruritic agent but it isn't currently recommended in treatment of pruritus. Topical doxepin (an antihistamine) has been a successful treatment for pruritus, however treatment should be limited to eight days and concerns around toxicity mean its use should be limited to 10% of the body surface area. This is considered a second line treatment.⁹ Topical corticosteroids can help with symptoms of pruritus with their anti-inflammatory properties and are more useful when there are secondary skin changes present. This is also a second-line treatment pathway.⁸

Menthol used in pregnancy and menopause

Obstetric cholestasis normally occurs in the second or third trimester with pruritus being the main maternal impact. It is normally worse at night and most intense in the palms of hands and the soles of the feet. Insomnia is common due to severe pruritus, and this can have a massive impact on the individual's quality of life, both physically and mentally.¹² Menthol can assist to cool the skin and reduce itch that is associated with stretch marks.

Menthol is popular amongst women going through the menopause and people undergoing breast cancer treatment that results in experiencing hot flushes. Menthol's cooling properties assist with managing hot flushes.¹³

Where else is menthol used topically

Pain: Menthol can be found in a variety of topical pain relief medications because of its counter-irritant and local anaesthetic properties. In concentrations of 1% or less, menthol depresses cutaneous sensory receptors, while at concentrations between 1.25% and

16% it stimulates sensory receptors and therefore acts as a counter-irritant.⁴

Local anaesthetic: In a recent study, Haeseler et al concluded that menthol blocks voltage-gated neuronal and skeletal muscle sodium channels in a concentration-dependent manner in resting and inactivated states. Additionally, the authors suggested that this effect provided a molecular basis for the antinociceptive and local anaesthetic properties of this compound.⁴

Antibacterial and antifungal: Menthol also has antibacterial and antifungal activity. Both peppermint oil and menthol have

Given a review of the literature, the well-established safety profile for menthol makes Menthoder[®] an appropriate choice for healthcare professionals

Anecdotal references

Patient A: I was given samples of Menthoder[®] to help relieve the itch caused by my eczema. My skin was extremely excoriated and traumatised due to my scratching. Once I started using Menthoder[®] I noticed rapid relief, the soothing and cooling sensation eased the urge to scratch. I have since gotten Menthoder[®] added to my repeat prescription and I have noticed a massive improvement to my eczema as I'm not scratching my skin and it has been given a chance to heal.

Patient B: I was prescribed Menthoder[®] 5% cream after a drug reaction. Before using this product, I was unable to sleep, and was consistently scratching which resulted in me causing a lot of trauma to my skin. As soon as I started using Menthoder[®] 5% cream, I experienced instant relief. I didn't have the urge to scratch, and I was able to sleep again. This product was extremely helpful, and I would recommend it to anyone that is experiencing itchy skin.

Nurse A: Patients using Menthoder[®] report itch is reduced due to its unique formulation, so I frequently prescribe Menthoder[®] to assist in soothing and cooling irritated and itchy skin.

Nurse B: We get several comments from patients that the cooling effect of the unique formula soothes and settles itchy skin. They also like the smell.

been shown to be active against a variety of microorganisms, including gram-positive and negative bacteria, as well as fungi. The toxic effect on the membrane structure and function of microorganisms has generally been used to explain the antimicrobial activity of peppermint oil and menthol, although the exact mechanism of action is not fully understood.⁴

Daily self-care

Daily self-care is very important in relieving pruritus. Keeping the body cool is key. This can be achieved by wearing loose-fitting cotton clothing, keeping room temperature down and bathing or showering in tepid water only once a day. In addition to this, avoid using soaps as they can dry the skin further (use soap substitutes instead) and use emollients frequently. It is recommended to try and avoid stressful situations that may cause you to scratch, and try and pat or rub the skin instead of scratching as this can reduce traumatising the skin.¹⁴

The Methoderm® range

Methoderm® is a menthol in aqueous cream, which does not contain sodium lauryl sulfate (SLS), it is paraben free and is available in four strengths of 0.5%, 1.0%, 2.0% and 5.0%. The Methoderm® range is less expensive than the quoted drug tariff price across all comparable pack sizes. All strengths of Methoderm® cream are also SLS free.

There are three pack options – 100g tubes, 500g pots and 500g pumps. The 100g tubes are available in many pharmacies and are ideal for homecare and daily use. The 500g airless pump dispensers dispense 98% of the product

and are best used in situations where cross contamination is a risk. The 500g pots are ideal for patients who need to apply large amounts of the product or who may have manual dexterity issues with a pump dispenser.

Rather than just one preservative, Methoderm® is unique as it has been formulated to contain two preservatives – phenoxyethanol and undecylenic acid. These two preservatives help provide double the protection against cross contamination, making it ideal for those patients who may have compromised hygiene in their home environment.

Methoderm® is available on prescription and listed on the NHSBSA dm+d database and is available from many pharmacies.

Samples

Derma UK provide healthcare professionals with product samples as a one-off request, or you can subscribe to the sampling service to provide your department with samples every three months. This allows patients to sample the product and promotes patient choice and encourages compliance with the prescribed treatment.

Samples of Methoderm® 1.0%, 2.0% and 5.0% are all available in a tube. This provides a good patient experience, supports patient choice, and ensures the patient receives enough of the product to establish an opinion on their preferences. Healthcare professional samples are available to request via <https://dermauk.co.uk/professional-product/methoderm/>

Conclusion

Given a review of the literature, the well-established safety profile for menthol makes Methoderm® an appropriate choice for healthcare professionals. It is a useful product for the management of patients experiencing pruritus. Menthol has many uses, as it works as an antipruritic, analgesic, local anaesthetic, antiseptic and cooling preparation. This makes Methoderm® an appropriate and cost-effective product for healthcare professionals to prescribe to their patient to assist in treating dry, heated, irritated and itchy skin.

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Menthol Strength Guide

- **0.5%** recommended for any child/elderly person/vulnerable skin
- **1%** general pruritus/starting point for most adults
- **2% or 5%** for increasing severity of itchy skin

Methoderm should only be used on infants below two years under the direction of a clinician.