

DOUBLEBASE® DAYLEVE® GEL: A PRODUCT REVIEW

Polly Buchanan

KEY WORDS

- ▶ Doublebase Dayleve Gel
- ▶ Emollients
- ▶ Dry and Inflammatory skin conditions
- ▶ Skin hydration

Introduction

Emollient therapy remains the cornerstone of many dermatological topical treatments.¹ In recent years there has been considerable focus on the science and evidence supporting the use of emollients.^{2,3} This provides the rationale and evidence base for the essential skin care required for those living with long-term, often life-long, inflammatory skin conditions.^{1,4,5} The management of chronic inflammatory skin conditions requires consideration of three principles of care:⁵

1. **Manage the underlying skin condition** (e.g. dry, scaly, inflamed, sun-damaged, aged)
2. **Manage the condition** (e.g. eczema, psoriasis, xerosis, ichthyosis vulgaris)
3. **Manage any complications** (e.g. pruritus, infection, psychological morbidity)

The use of emollients is essential within all three principles of care as an active topical treatment and preventative regimen.⁵ A well-considered emollient programme can be highly effective in rehydrating skin, reducing inflammation, repairing the skin barrier, reducing topical corticosteroid use and preventing complications such

Polly Buchanan is a Community Dermatology Nurse Specialist, Queen's Nurse, NHS Fife, and Clinical Editor, *Dermatology Nursing*.

as breakdown in skin integrity, pruritus and secondary infection of the skin.^{6,7}

With so many emollients available, choice can be confusing, as so many factors need to be considered such as efficacy, formulation, ease of application, patient concordance and patient acceptability.

Simple emollients main aims are to hydrate, soothe and smooth skin. Enhanced emollients contain ingredients which provide an additional effect, such as urea and glycerol which are humectants which attract and retain water in the skin.

Clinical evidence demonstrates that Doublebase Dayleve Gel is effective when applied twice a day.

This article represents a product review of a leave-on enhanced emollient, Doublebase Dayleve Gel.

What is Doublebase Dayleve Gel?

Doublebase Dayleve Gel (Dermal Laboratories Ltd) is an enhanced emollient recommended for dry skin conditions which may also be inflamed and itchy. The active ingredients are isopropyl myristate, a synthetic oil, and liquid paraffin, a mineral oil. Both act to hydrate dry skin, lock in the skin's natural moisture and prevent excessive water loss from the skin, in a similar way to the mortar in a 'bricks and mortar' analogy between skin cells. Doublebase Dayleve Gel also contains glycerol, a humectant, which attracts and retains water in the skin, and povidone which acts like an occlusive film to retain water and oils in the skin.

Is it easy to apply and use?

I have included Doublebase Dayleve Gel in my clinical practice as part of emollient programmes I discuss with patients. Finding the emollient that suits the patient is vital. If they do not like the feel of a product on their skin then it is pointless trying to persuade them to use it. Clinically, we often suggest that a greasier emollient has a greater occlusive, soothing and hydrating effect on the skin. However, I constantly hear from patients how they feel uncomfortable and greasy with heavier creams and ointments. One of the things I discovered about Doublebase Dayleve Gel is that the feel of the emollient on the skin is smooth and silky rather than greasy. Being in a gel formulation it is easy to apply and absorbs quickly into the skin. I have asked patients and health professionals to try Doublebase Dayleve Gel as an alternative emollient to ointments and heavy creams.

Is it a high quality product?

Some of the qualities of Doublebase Dayleve Gel is that it contains glycerol and povidone, both of which enhance hydration and skin protection. It absorbs quickly into skin and needs only to be applied twice a day. The one thing that stood out for me was how the skin felt 'velvety' after application. The skin felt soft and smooth, with little or no sticky residue.

Is there an evidence base to support Doublebase Dayleve Gel?

There is considerable evidence supporting the use of emollients in the management of skin conditions and repair of skin integrity.^{1-3,6,7} Regular use of emollients is fundamental to dermatology nursing care especially for chronic dry skin and inflammatory skin conditions.

Two randomised control trials (RCTs) have been published in peer reviewed journals demonstrating the efficacy of Doublebase Dayleve Gel.^{8,9} These small studies were sponsored by Dermal Laboratories Ltd. Using corneometry, Djokic-Gallagher *et al* measured the moisturising efficacy of Doublebase Dayleve Gel and Diprobase[®] Cream in female subjects aged between 18 and 65 years.⁸ This was a randomised, double blinded, bilateral concurrent comparative study. Part one compared the moisturising effects of a single application of the two emollients on the volar aspect of the forearms of 34 females with dry skin over a 24-hour period. Part two measured the moisturising effects on the lower legs of 36 females with eczema who applied the emollients twice daily for five days. The authors reported that when comparing the area under the curve (AUC) change in hydration from baseline corneometer readings over the 24 hour period following single applications of the emollients to the volar forearms of respondents, the hydration for Doublebase Dayleve Gel was more than three times than that seen for Diprobase Cream ($p < 0.0001$) and demonstrated longer lasting moisturisation qualities. In Part two, results indicated both emollients significantly increased skin hydration from baseline with the AUC measurements for Doublebase Dayleve Gel being approximately five times that for Diprobase Cream ($p < 0.0001$).

The same group also compared Doublebase Dayleve Gel and Zerobase[®] Cream in a similar single centre randomised concurrent, double blind, bi-lateral study in 18 females with dry skin and atopic eczema of the lower legs.⁹ Both emollients were applied twice daily for four days and once on the fifth day. Skin hydration was measured using corneometry, three times daily for the five-day study period. Results indicated that the cumulative hydration efficacy was approximately ten times higher for Doublebase Dayleve Gel compared to Zerobase Cream which failed to demonstrate significant cumulative skin hydration improvement from baseline. Authors concluded that Doublebase Dayleve Gel achieved long lasting,

substantial and cumulative skin hydration compared to Zerobase cream and consideration should be given to how emollients perform.

An *ex-vivo* study compared hydration efficacy, as measured by corneometry, for Doublebase Dayleve Gel and two other emollient creams (Cetomacrogol cream, Aqueous cream), and included a 'no treatment' arm following a single application over a 24-hour period. A similar sister study was also conducted comparing Doublebase Dayleve Gel, Cetraaben[®] Cream and E45[®] cream. Results were presented as a poster presentation at the 2018 AAD conference in San Diego.¹⁰ In both studies, skin hydration levels following application of Doublebase Dayleve Gel were elevated by approximately 75% when measured one hour after application, and after 24 hours were still approximately 30% higher than at baseline or 50% higher compared to untreated sites.

Suitability and acceptability

I have found Doublebase Dayleve Gel acceptable by most patients with dry skin or inflammatory skin conditions who like a gel formulation. In particular, children, teenagers, the elderly and those with very dry skin. If concordance is an issue, twice daily applications suits busy lifestyles and those less able to apply emollients more frequently.

Have patients had good experiences? What has their feedback been?

In the Djokic- Gallagher *et al* study comparing Doublebase Dayleve Gel and Diprobase Cream⁸ 'acceptability' was measured subjectively using a Likert scale for overall acceptability, willingness to use the product again, product attributes and product preference. Authors reported that 69% of respondents 'Like Slightly' or 'Like Strongly' Doublebase Dayleve

Gel compared to 33% for Diprobase cream ($p = 0.025$). 72% of respondents indicated they would use Doublebase Dayleve Gel again compared to 33% for Diprobase cream ($p = 0.033$). 75% of subjects preferred Doublebase Dayleve Gel, 17% preferred Diprobase cream and 8% of respondents expressed no preference ($p = 0.0004$).⁸

Doublebase Dayleve Gel is the only emollient gel that contains povidone which enhances the skin's natural barrier integrity by forming a surface film

In my clinical experience, patients prefer a gel, lotion or cream formulation as opposed to an ointment. Following demonstration of how to apply emollients most patients inform me they are happy to apply an emollient twice a day. Any more frequently than that becomes burdensome. Clinical evidence



demonstrates that Doublebase Dayleve Gel is effective when applied twice a day. Positive feedback I have received is that Doublebase Dayleve Gel can be used as a soap substitute and a moisturiser. It can be applied before bathing or showering, as well as before and after swimming. One patient commented on how “soft and velvety her elbow skin was after just two or three applications”.

What are the pro and cons of the product?

Some of the benefits of Doublebase Dayleve Gel are that it feels ‘light’ on the skin yet has a longer lasting softening, soothing effect than some more traditional emollients. Little or no sticky residue is left on the skin following application and the product being a twice daily application suits busy lifestyles and can avoid the frequently felt embarrassment of taking emollients to school, college or workplace. It represents one of the ‘Green light’ recommended emollients featured in *Pulse* (2020) as having minimal wastage due to the pump dispenser and containing povidone.¹¹

Doublebase Dayleve Gel contains liquid paraffin which is a paraffin based mineral oil used in many emollient products. Paraffin based products applied to the skin can impregnate fabrics and bandages which are also close to the skin. Paraffin soaked clothing or bed linen can then potentially be a fire hazard. As with all emollients, a written warning (on pharmacy labelling) and verbal warnings, by the health care professional, should be provided for all patients, instructing them not to smoke or be near naked flames when using Doublebase Dayleve Gel. I also remind patients to regularly wash bed linen on a hot wash and take extra care when cooking on a gas hob.

The current published evidence supporting Doublebase Dayleve Gel comprises small but statistically powered single centre studies compared to a number of marketed emollient creams. More research is required with larger, multi-centred randomised controlled trials using other isopropyl myristate/liquid paraffin gels.

What alternatives are available?

There are a number of alternative isopropyl myristate /liquid paraffin gels listed in the BNF (78) (Aproderm[®] gel, Doublebase[®] gel, Exmabase[®] gel, Hypobase[®] gel, Isomol[®] gel, Myribase[®] gel and Zerodouble[®] gel). Whilst all contain isopropyl myristate 150mg/g and liquid paraffin 150mg/g, products differ in some of the other ingredients included. Doublebase Dayleve Gel is the only emollient gel that contains povidone which enhances the skin’s natural barrier integrity by forming a surface film on the skin and represents a unique selling factor. It is the whole formulation and the way it is manufactured which defines the performance of different gels.

Is it cost effective?

Doublebase Dayleve Gel can be considered cost effective as it is effective when applied only twice a day, as compared to other emollients which are recommended to be applied more frequently. It is available in two pack sizes: 100g tube (NHS Price: £2.65) and 500g pump dispenser (NHS Price: £6.29). Doublebase Dayleve Gel is slightly higher priced than the other isopropyl myristate/liquid paraffin gels available and similarly priced to the emollient creams used in the studies (E45, Cetraben, Zerobase). If being applied less frequently with good clinical efficacy, cost effectiveness can be considered as the product lasts longer. Regular use of an emollient can also be cost effective in the sense of being steroid sparing, saving in application time and health care professional time or visits. This is applicable for all emollients so finding an emollient the patients will apply regularly reduces wastage, time and effort. Finding an emollient the patient likes enhances patient experiences and outcomes which in turn is cost effective.

Conclusion

This article represents a product review of Doublebase Dayleve Gel which can be considered as an appropriate and effective emollient when used twice daily. If concordance is an issue, twice daily application suits busy lifestyles and those unable to apply emollients more frequently e.g. children, teenagers, the elderly and

those with very dry skin. It can be used within a complete intensive emollient programme or as maintenance therapy. Doublebase Dayleve Gel appears to be better than some other commercial products as shown in small but statistically powered studies published by the manufacturer. Further larger multicentred clinical trials using similar comparators are recommended. **DN**

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