

# P1637 - Improvements in Skin Elasticity and Cohesion from a Petrolatum Depositing Bodywash

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## INTRODUCTION

Aging skin is frequently characterized by an increase in dryness<sup>1</sup> and subsequent flaking, as well as a general loss of elasticity<sup>2</sup>. Daily activities such as bathing can exacerbate these issues. For example, many bar soaps can initiate or worsen cosmetic xerosis. While moisturizing bodywashes are readily available in the market, few purport to make improvements in skin condition beyond skin dryness. Here we report data that not only shows moisturization benefits, but also skin elasticity and cohesion benefits from a petrolatum depositing bodywash, indicating that such products can be used to improve the overall condition of skin.

## METHODS

Wash Study Protocol - A modified Leg Controlled-Application Test (LCAT) methodology<sup>3</sup> was conducted over 29 consecutive days, including a 7-day preconditioning phase, a 21-day treatment phase. Females, aged 35-65 inclusive with Fitzpatrick skin type I-IV and baseline visual dryness grade on each site on both legs of > 2.5 and < 4.0 were enrolled in the study. Participants had their legs washed once daily with 0.7 ml (dose targeted at 10µl/cm<sup>2</sup>) of the randomly assigned body wash products and water alone treatment as control (~50 per treatment group). Typical moisturization measures were taken, including expert dryness grading, corneometer and TEWL. These measurements were recorded pretreatment and approximately 3 hrs post treatment on days 8, 10, 12, 21, 28 and 29.

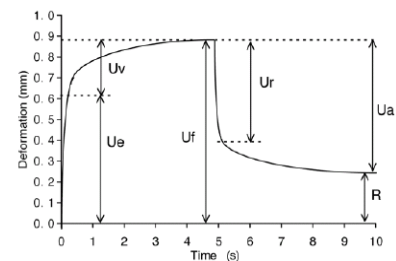
## OBJECTIVE

**In an effort to improve the overall condition, health and viability of aging skin, we have developed a petrolatum depositing bodywash that is aesthetically pleasing to use and will deliver benefits beyond typical moisturization.**

- Improved Moisturization
- Improved Barrier Function
- Improved Elasticity
- Improved Stratum Corneum Cohesiveness

**These benefits combine to leave skin in an improved condition and in better health than prior to treatment.**

Elasticity - Non-invasive skin viscoelasticity measurements were taken 1 hr post treatment with a Cutometer SEM 575 equipped with an 8 mm probe at 200 mbar pressure. Each measurement consisted of 3 cycles of vacuum pressure and release, with the vacuum being applied for 5 seconds and then released for 4 seconds. The figure below indicates typical data obtained.

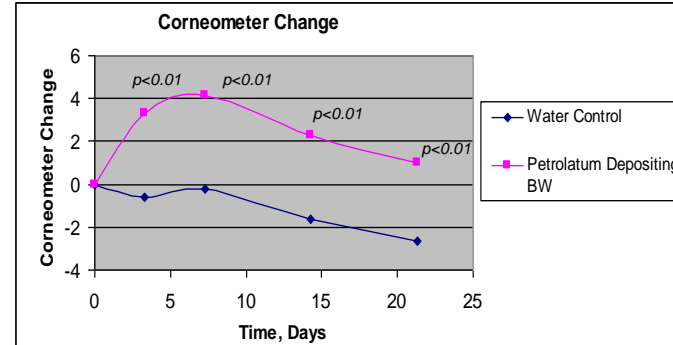
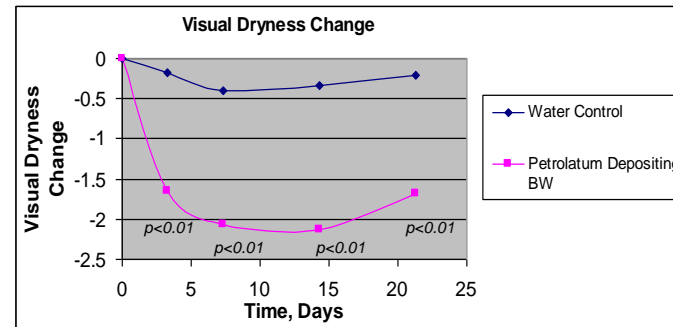


Cohesion - 6 successive D-squame tapes were taken from virgin areas within each treatment site at baseline and at the end of each treatment week (24 hrs post treat). The strips were then analyzed for total protein with a SquameScan 850 as a measure of stratum corneum cohesiveness. A reduction in protein adhered to the strips indicates improved skin cohesion.

## RESULTS

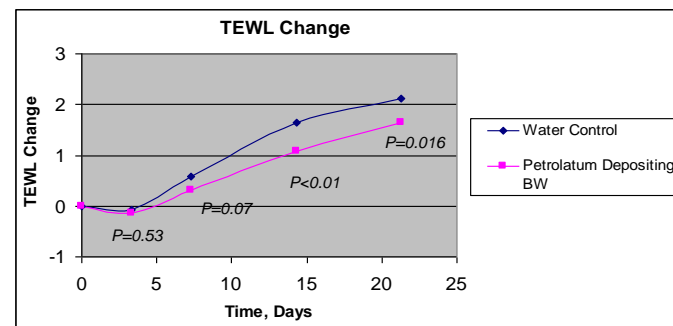
### Improved Moisturization

Measured 3 hrs after treatment, below the data shows both visual and functional improvement in skin moisturization compared to water control at all time points.



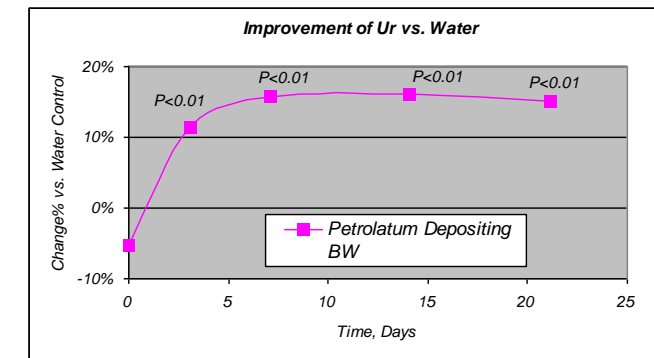
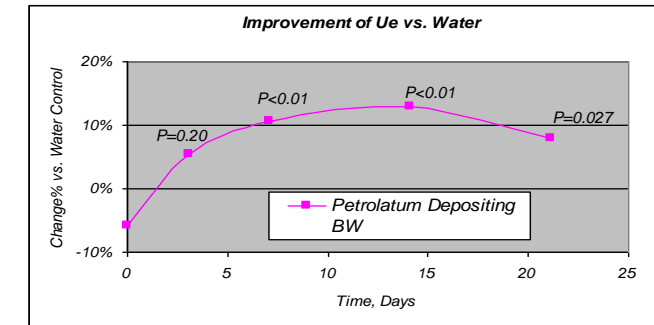
### Improved Barrier Function

Trans-Epidermal Water Loss (TEWL) was used to investigate the effect of treatment on the barrier function of skin. As can be seen below, the petrolatum depositing bodywash was significantly better at maintaining barrier function through the cleansing process than the water control.



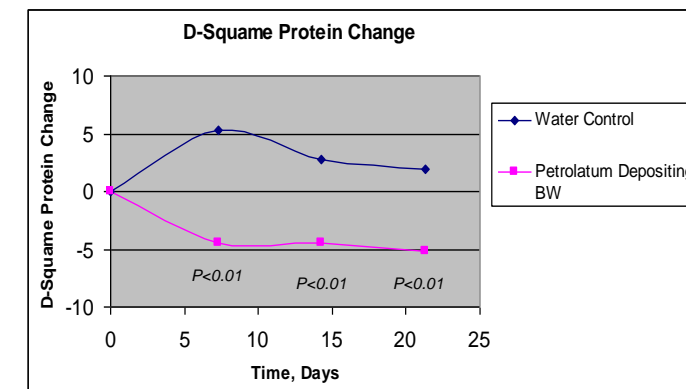
### Improved Elasticity

Cutometer measurements were taken approximately 1 hr after treatment. Below, improvements in both the elastic distension (Ue) and recovery (Ur) of skin compared to the water control is shown.



### Improved Cohesion

D-Squame tape strips were collected 24 hrs after treatment on the specified day (prior to the next treatment.) Below the data shows significantly improved skin cohesion compared to water control based on a reduction in protein.



## CONCLUSIONS

The results show significant improvements in:

- Overall skin moisturization
- Skin elasticity
- Barrier function of the skin
- Cohesion of the SC

Skin aging is a function of numerous contributing factors, both intrinsic and extrinsic<sup>4</sup>. Personal heredity and biology contributions are difficult to mediate. However, extrinsic factors such as sun damage, chemical exposure and mechanical disruption can be controlled. While cleansing is a necessary part of overall skin care, many cleansers deplete the SC of water<sup>5</sup>. Such chemical insult contributes to skin deterioration, frequently leaving skin dry, tight and flaking<sup>6</sup> or cosmetic xerosis.

While some have previously proposed that skin moisturization does not necessarily lead to enhanced elasticity<sup>7</sup>, others propose that moisturization and elasticity are related<sup>8</sup>. We set out with the goal to not only improve skin moisturization, but to improve elasticity and the overall condition of skin. The results indicate that the petrolatum depositing bodywash strengthened the SC barrier by improving skin cohesion and elasticity, thus leaving the skin in better overall condition. Importantly, these improvements are realized in a rinse-off context with dual benefits of both cleansing and skin conditioning.

### References

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