

# What does caffeine have to do with men's skin?

The „stronger“ sex has more sensitive skin! New findings by the University Clinic in Hamburg and Dr. Kurt Wolff-Research show that men's skin is more sensitive than that of women. This is due to the male hormone testosterone. It significantly weakens the skin's natural protective function and makes it more sensitive to irritation e.g. through hair washing, shaving and environmental impacts. Testosterone also has a negative effect on the skin's regenerative cells – the skin is slower in its recovery.

If male skin or the male scalp is treated with a caffeine complex, the negative impact of testosterone can be eliminated. Thanks to caffeine, the skin is better protected and regenerates more quickly, as was shown by surprising laboratory results.

## Testosterone attack on the scalp

With the help of a skin model, the impact of testosterone was researched at the University of Hamburg. Using different biological parameters, the condition of healthy skin that came in contact with testosterone (normal physiological concentration of 5 ng/ml) was assessed. The result:

- **Testosterone damages the skin's natural barrier**

Under the influence of testosterone, it is more difficult for the skin to retain its moisture. „Transepidermal water loss“ increases significantly.

- **Testosterone makes the skin permeable**

Using a special indicator (Nile red), the scientists measured whether substances can penetrate the skin. The photo shows: In unaffected skin, the red will remain on the outside. Skin weakened by testosterone allows Nile red to penetrate.

- **Testosterone weakens the skin's regenerative ability**

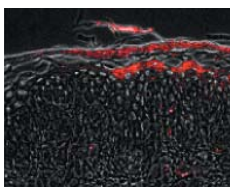
The measurement of the keratinocytes' activity showed that cell division was significantly reduced due to testosterone.

Microscopic image of the skin.

Top: The intact skin barrier prevents penetration by Nile red.



Bottom: Nile red penetrates the skin layer weakened by testosterone.

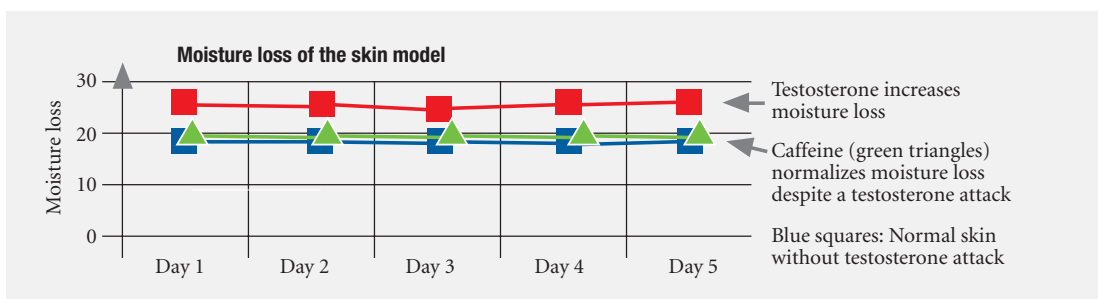


## The effect of caffeine against testosterone

Next, caffeine was applied to the testosterone-stressed skin model with an amazing result:

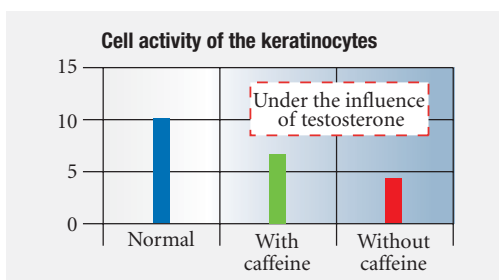
### Caffeine restores the skin barrier

Despite the hormonal attack, the „transepidermal water loss“ was reduced to a normal level. The harmful impact of testosterone was practically fully compensated.



### Cell activity of the keratinocytes

Cell division is significantly activated by the applied caffeine, as shown by the graphic:



### Summary:

Caffeine represents excellent protection against the harmful impacts of testosterone on the skin. If applied regularly, the skin barrier remains functional and the keratinocytes' cell regeneration is strengthened.

For more information, please visit [www.Alpecin.com](http://www.Alpecin.com).