



MYTHS VS. FACTS IN SCALP CARE

11 COMMON MYTHS
DEBUNKED WITH
EVIDENCE-BASED
FACTS ON DANDRUFF
AND TREATMENT

11 COMMON MYTHS DEBUNKED

WITH EVIDENCE-BASED FACTS ON DANDRUFF AND TREATMENT

MYTH 1

Dandruff is just a cosmetic condition.

MYTH 2

Dandruff is more common in colder months.

MYTH 3

All antifungal anti-dandruff treatments are equally effective.

MYTH 4

All zinc pyrithione (ZPT) shampoos are created equally.

MYTH 5

You only need to use Head & Shoulders shampoo when you see flakes.

MYTH 6

Head & Shoulders shampoo must sit for at least 5 minutes after lathering to ensure contact with the scalp and efficacy.

MYTH 7

Conditioner is prohibited after using Head & Shoulders.

MYTH 8

Overusing anti-dandruff shampoo leads to tachyphylaxis.

MYTH 9

Using Head & Shoulders too often can damage your hair and scalp.

MYTH 10

Frequent hair washing causes hair loss.

MYTH 11

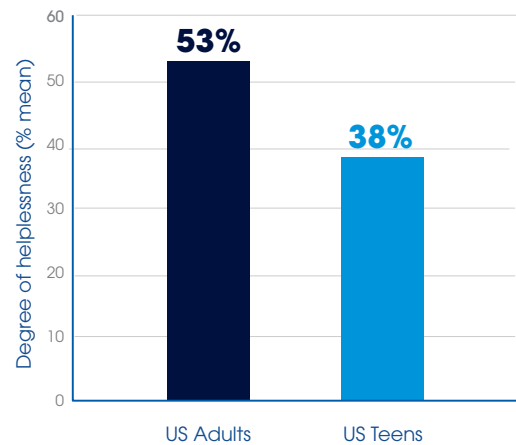
Head & Shoulders is only for dandruff sufferers.

MYTH 1:

DANDRUFF IS JUST A COSMETIC CONDITION.

FACT: Dandruff is more than just flakes – it can significantly impact mental well-being. Research from one of the largest and most in-depth studies on the psychosocial impact of dandruff and seborrheic dermatitis found that dandruff sufferers, including teens younger than 18, reported increased feelings of helplessness. This sense of helplessness has been found to be highly predictive of decreased health-related quality of life. Healthcare providers can support dandruff sufferers beyond treating their dandruff by encouraging positive coping strategies rather than avoidant behaviors (e.g. wearing hats or head coverings) and actively striving to decrease social stigma associated with dandruff through education and awareness.

Reference: Webinar Powerpoint (Slide 8) 2215_FY2425_Head & Shoulders Lnl Deck_v5

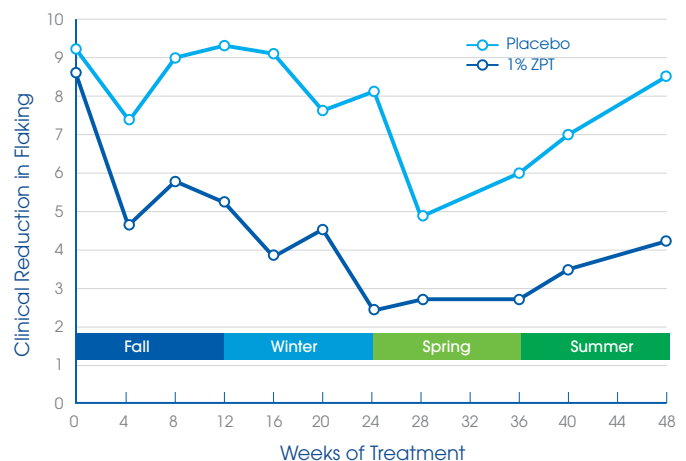


MYTH 2:

DANDRUFF IS MORE COMMON IN COLDER MONTHS.

FACT: Dandruff is a chronic condition that can persist year-round, regardless of the season. While many people associate dandruff flare-ups with winter dryness, clinical research has shown that dandruff is not strictly seasonal. Studies indicate that dandruff and seborrheic dermatitis are linked to the overgrowth of *Malassezia* yeast on the scalp. According to scalp experts, three conditions are required simultaneously for the development of dandruff and seborrheic dermatitis: sebum production, *Malassezia* overgrowth, and an innate susceptibility, which refers to our body's reaction to the triggers. These conditions are not directly tied to weather changes, though a common practice of wearing darker clothing in the winter months can make dandruff more noticeable, even though it persists year-round.

A long-term clinical study on scalp seborrheic dermatitis treatment with zinc pyrithione (ZPT) found no evidence of seasonal variation affecting treatment efficacy or symptom recurrence. The study emphasized that regular use of ZPT-based shampoos effectively controlled dandruff, independent of external environmental factors.



Regular use of ZPT-based shampoos effectively controls dandruff, regardless of the season

MYTH 3:

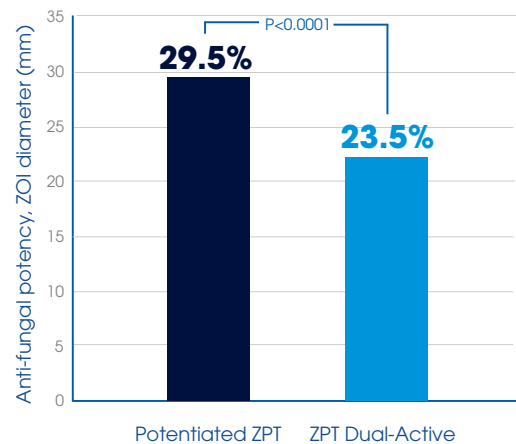
ALL ANTIFUNGAL ANTI-DANDRUFF TREATMENTS ARE EQUALLY EFFECTIVE.

FACT: While all antifungal shampoos work by reducing *Malassezia* yeast—the primary cause of dandruff—their effectiveness in real-world use depends on factors like cosmetic appeal, safety profile, and patient compliance. Consistent use is key, as dandruff and seborrheic dermatitis are chronic conditions that require ongoing management.

Zinc pyrithione (ZPT), the active ingredient in Head & Shoulders Classic Clean, improves common symptoms of dandruff and seborrheic dermatitis. Clinical studies have demonstrated ZPT's anti-fungal action in removing *Malassezia*, the irritant trigger of dandruff. When measuring the minimal inhibitory concentration (MIC) against *Malassezia*, ZPT demonstrates high intrinsic antifungal activity, comparable to ketoconazole and selenium sulfide. A Potentiated ZPT shampoo demonstrated superior antifungal performance even when compared to a Dual Active shampoo containing two different antifungal agents. ZPT-based shampoos are also cost-conscious, safe, and pleasant to use long term.

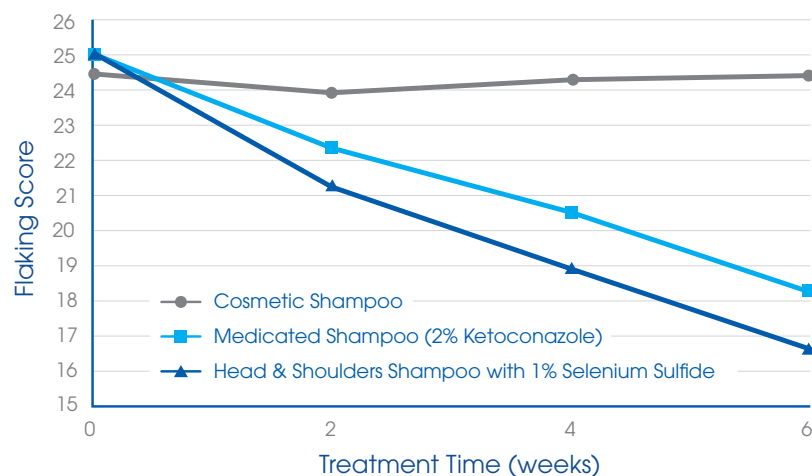
Selenium sulfide, the active ingredient in Head & Shoulders Clinical Strength, is an effective treatment for severe dandruff and seborrheic dermatitis.

While it may be more effective for severe dandruff and seborrheic dermatitis, it has a higher cost and is less pleasant to use than ZPT-based shampoos because of its odor. In a key biomarker scientific trial, Head & Shoulders Clinical Strength significantly reduced *Malassezia*, antimicrobial peptides (S100A12), inflammatory cytokines IL-1a and IL-8), and histamine – known modifiable risk factors for seborrheic dermatitis – after just 3 weeks of continuous use. It also outperformed prescription-grade 2% ketoconazole shampoo in reducing scalp flaking.



REDUCTION IN FLAKING

A Potentiated ZPT shampoo demonstrated superior antifungal performance even when compared to a Dual Active shampoo containing two different antifungal agents.



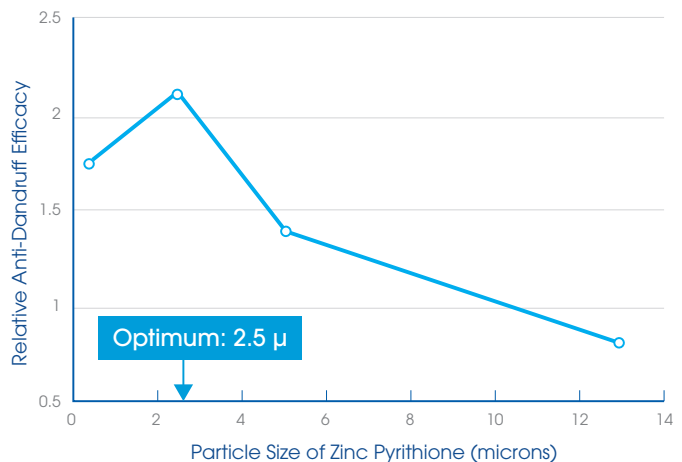
References:

Schwartz JR. Product Pharmacology and Medical Actives in Achieving Therapeutic Benefits. J Investig Dermatol Symp Proc. 2005;10(3):198-200. doi:10.1111/j.1087-0024.2005.10105.x.
Schwartz JR, Bacon RA, Shah R, Mizoguchi H, Tosti A. Therapeutic efficacy of anti-dandruff shampoos: A randomized clinical trial comparing products based on potentiated zinc pyrithione and zinc pyrithione/climbazole. Int J Cosmet Sci. 2013;35(4):381-387. doi:10.1111/ics.12055.
Schwartz JR, and Bacon RA. Comprehensive Scalp Care for Severe Dandruff / Seborrheic Dermatitis with Selenium Sulfide. 23rd World Congress of Dermatology, Canada, Vancouver, BC, 8-13 June 2015. 2230.-FY2425_Head_Shoulders_Clinical_Strength_Leave_Behind_Updates_v4
<https://www.pgsciencebehind.com/en-us/head-shoulders/clinical-data#TheClinicalDandruffDefenseCollection>

MYTH 4: ALL ZINC PYRITHIONE (ZPT) SHAMPOOS ARE CREATED EQUALLY.

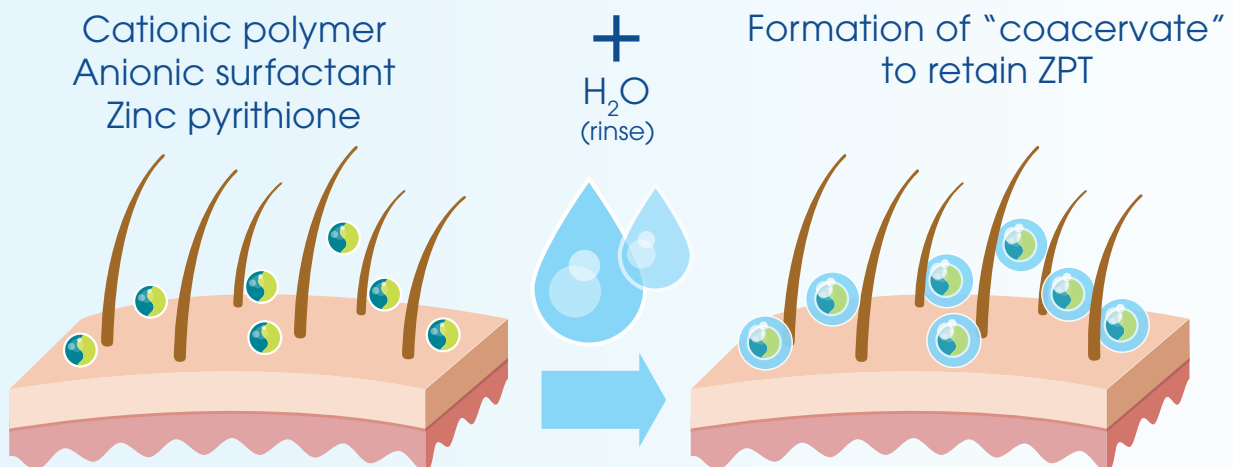
FACT: While many anti-dandruff shampoos contain Zinc Pyrithione (ZPT) as the active ingredient, not all ZPT formulations are equally effective. Head & Shoulders Classic Clean contains a Potentiated ZPT formula, optimized for superior scalp coverage, retention, and efficacy.

Potentiated ZPT formulas help ensure the optimal amount of the active ingredient is delivered to and retained on the scalp. In addition, select particle shape and size distribution are important to maximize the anti-dandruff efficacy. ZPT particle shape in many products has a cuboidal structure. This particle morphology is not the most effective way to cover the scalp surface. Instead, Procter & Gamble researchers took the ZPT molecule and sliced it into flatter platelet particles, which offers improved scalp coverage. The size of the ZPT particle was also optimized for effective coverage and retention on the scalp. ZPT particles that are too small are not retained well on the scalp. A 2.5 microns-sized ZPT particle offers optimized coverage to ensure that the *Malassezia* are surrounded by the antifungal actives.



Deposition and retention are key for ZPT's effectiveness as an anti-dandruff treatment. By using electrostatic properties of certain agents added in Head & Shoulders Classic Clean, potentiated ZPT particles are

protected during washing and remain on the scalp after rinsing. The trigger for this important deposition step is dilution or rinsing during shampooing.



MYTH 5: YOU ONLY NEED TO USE HEAD AND SHOULDERS SHAMPOO WHEN YOU SEE FLAKES.

FACT: Dandruff is a preventable and treatable dermatologic condition. However, it is incurable. The primary trigger for dandruff is the fungus *Malassezia Globosa*. *Malassezia* is an integral part of the microbiome. It is ubiquitous to the scalp environment. Once you stop using Head & Shoulders to control the colonization of *Malassezia*, it will recolonize rapidly. It is recommended to use Head & Shoulders Classic Clean on a regular basis for mild dandruff. To treat and prevent more severe dandruff, it is recommended to start the treatment with Head & Shoulders Clinical Strength and then switch or alternate with Clinical Strength. For seborrheic dermatitis, regular use of Head & Shoulders Clinical Strength is recommended for ongoing management.

Reference: Piérard-Franchimont C, Xhauffaire-Uhoda E, Piérard GE. Revisiting dandruff. *Int J Cosmet Sci*. 2006;28(5):311-318. doi:10.1111/j.1467-2494.2006.00326.x.

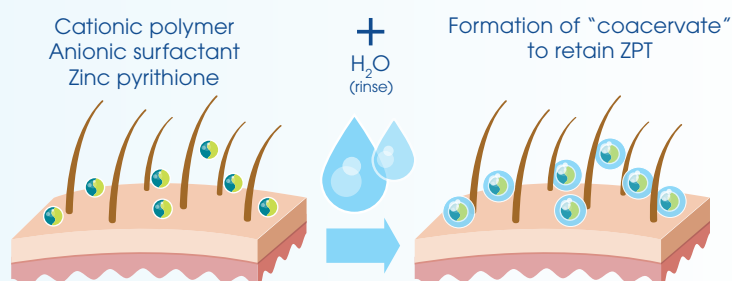


MYTH 6: HEAD & SHOULDERS SHAMPOO MUST SIT FOR AT LEAST 5 MINUTES AFTER LATHERING TO ENSURE CONTACT WITH THE SCALP AND EFFICACY

FACT: Lathering and leaving the shampoo on the scalp does not increase its effectiveness and is not required for Head & Shoulders Classic Clean shampoo to work. What allows ZPT to remain on the scalp for dandruff treatment occurs during rinsing. ZPT is a particle that is insoluble in water. The deposition technology used in Head & Shoulders Classic Clean allows ZPT to be delivered to the scalp and remain there. *Malassezia* evades treatment by hiding in

the infundibulum. Nevertheless, Head & Shoulders Classic Clean's unique form of ZPT is delivered into the follicular infundibulum and is considered one factor in its efficacy for dandruff treatment. It is recommended to use Head & Shoulders Classic Clean as a normal

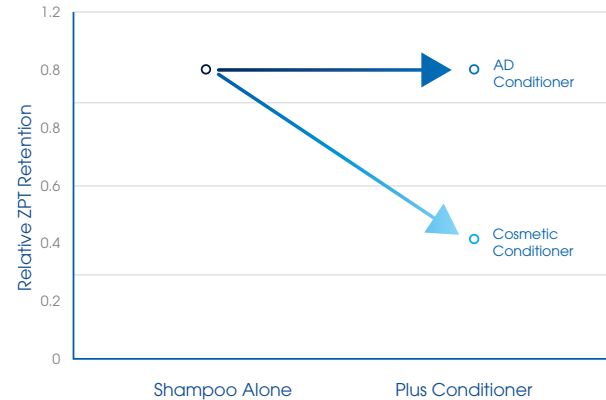
shampoo, lather, rinse, and repeat if needed. It won't hurt to leave the lather for a while, but it's not necessary to achieve the anti-dandruff treatment and prevention benefits of Head & Shoulders.



MYTH 7: CONDITIONER IS PROHIBITED AFTER USING HEAD & SHOULDERS.

FACT: Regular cosmetic conditioners wash away the active ingredients deposited and retained from ZPT-based shampoos. When a cosmetic conditioner is used after Head & Shoulders Classic Clean, approximately half of the deposited ZPT can be washed away. Head & Shoulders Classic Clean conditioner, which contains 0.5% ZPT is an accompaniment to the shampoo, and retains and replenishes ZPT on the scalp. Combining Head & Shoulders Classic Clean shampoo and conditioner maintains the level ZPT on the scalp.

Reference: Punyani, S., Tosti, A., Hordinsky, M., Yeomans, D., & Schwartz, J. (2021). The Impact of Shampoo Wash Frequency on Scalp and Hair Conditions. *Skin appendage disorders*, 7(3), 183-193.

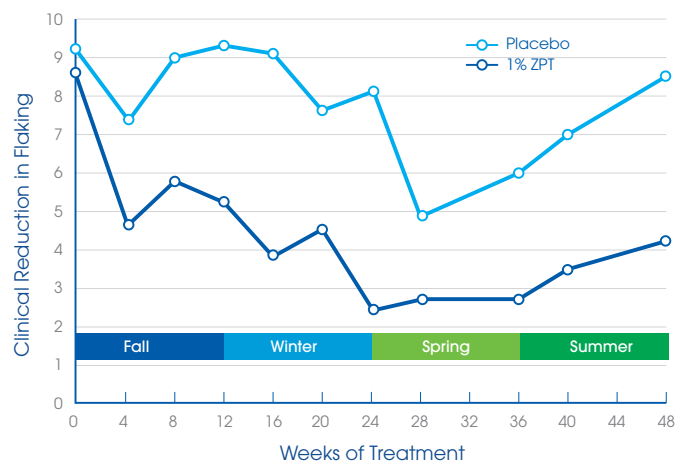


MYTH 8: OVERUSING ANTI-DANDRUFF SHAMPOO LEADS TO TACHYPHYLAXIS.

FACT: Concerns about tachyphylaxis and the negative impact of overusing anti-dandruffshampoos have resulted a practice of alternating hair care with a cosmetic shampoo. A 2009 study published in the *International Journal of Dermatology* explored whether people should alternate shampoos to maintain the efficacy of anti-dandruff treatments. The research included two double-blind, randomized clinical trials lasting 24 and 48 weeks, respectively. Participants used either a 1% or 2% zinc pyrithione (ZPT) shampoo or a placebo throughout the study periods. The severity of scalp flaking was assessed at baseline and at specified intervals.

The findings indicated that ZPT shampoos consistently outperformed the placebo at all time points, with no evidence of reduced efficacy over 24 and 48 weeks. Therefore, the study concluded that tachyphylaxis does not occur with long-term use of ZPT-based shampoos in treating scalp seborrheic dermatitis.

References: Schwartz, J., H. Rocchetti, P. Asawononda, F. Luo, et al., Does tachyphylaxis occur in long-term management of scalp seborrheic dermatitis with pyrithione zinc-based treatments? *Int J Derm*, 2009. 48: p. 79-85

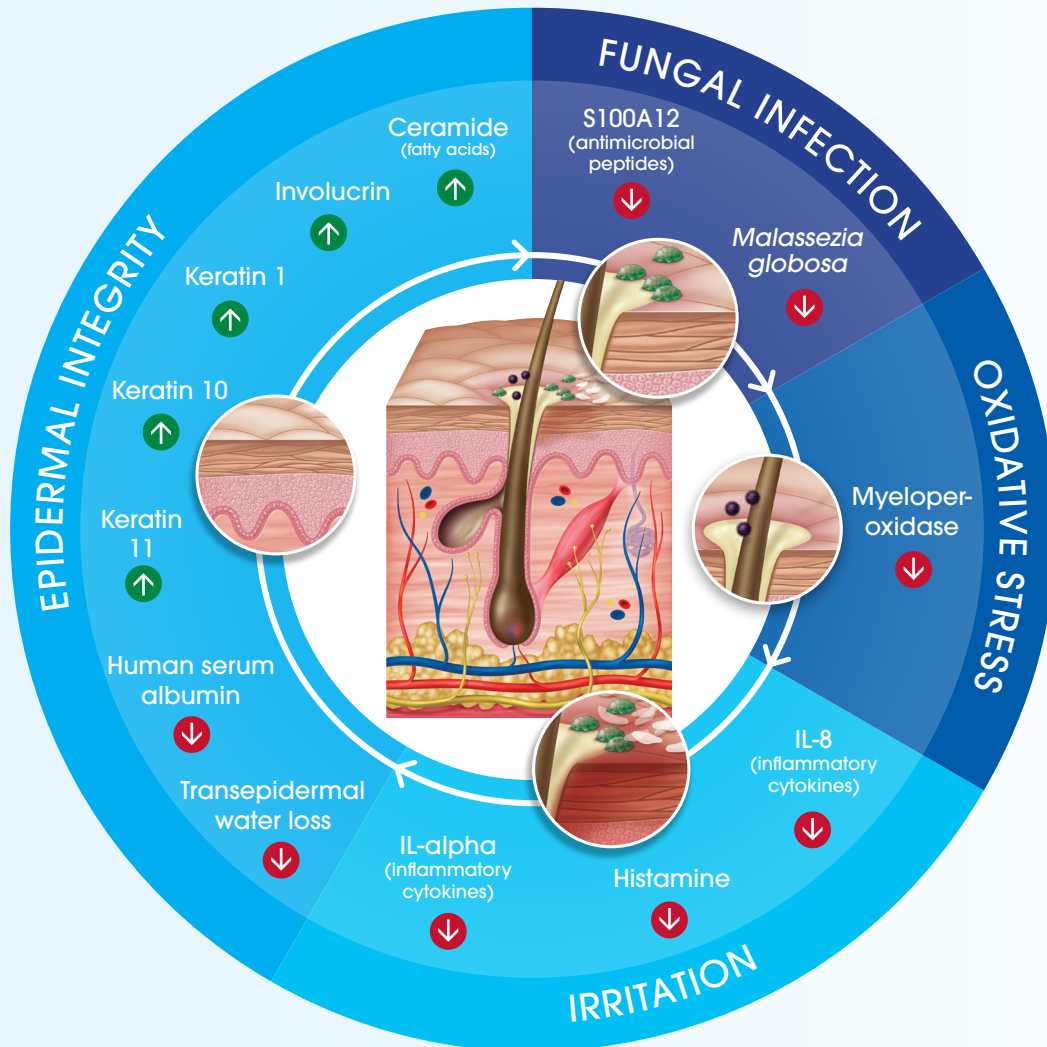


It's important to note that while the study found no evidence of tachyphylaxis, maintaining consistent treatment adherence is crucial for managing scalp seborrheic dermatitis effectively.

MYTH 9: USING HEAD & SHOULDERS TOO OFTEN CAN DAMAGE YOUR HAIR AND SCALP.

FACT: Head & Shoulders Classic Clean and Clinical Strength are designed to be gentle enough for daily use, providing the benefits of a cosmetic shampoo while offering clinically proven dandruff control. They also control other manifestations of dandruff such as itchiness, irritation, and scalp discoloration, which may appear red on lighter skin tones or pink to purple on darker skin tones.

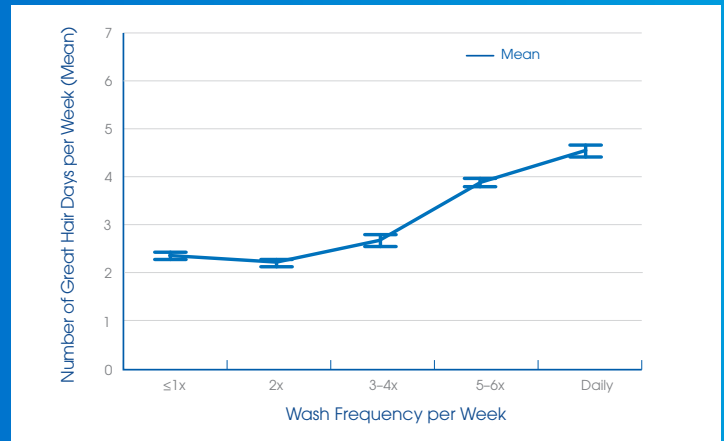
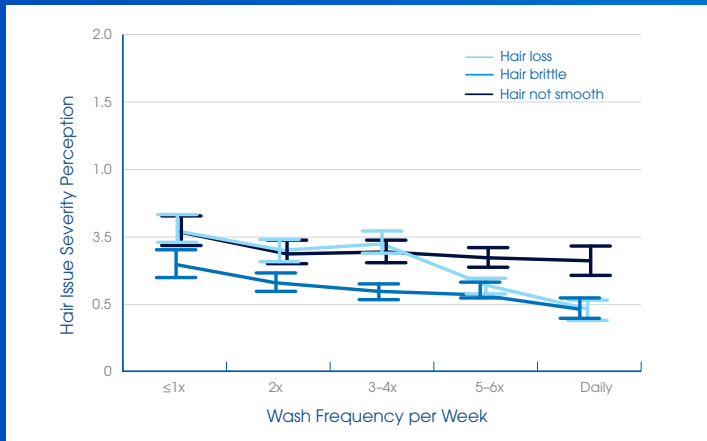
With its pH-balanced formula, Head & Shoulders Classic Clean is designed for everyday use in all hair types, even color-treated or permed hair. It is also formulated to restore a healthy moisture balance to the scalp.



MYTH 9 CONTINUED:

USING HEAD & SHOULDERS TOO OFTEN CAN DAMAGE YOUR HAIR AND SCALP.

In a 2021 study, participants without any specific scalp pathology self-evaluated hair attributes such as perceived hair loss, brittleness, and smoothness. The more frequently participants washed their hair with the provided potentiated ZPT scalp care shampoo, the greater their improvement in self-perceived hair health. Participants also reported a greater average number of great hair days per week with increased wash frequency throughout the week.



PARTICIPANTS REPORTED A
GREATER AVERAGE NUMBER OF

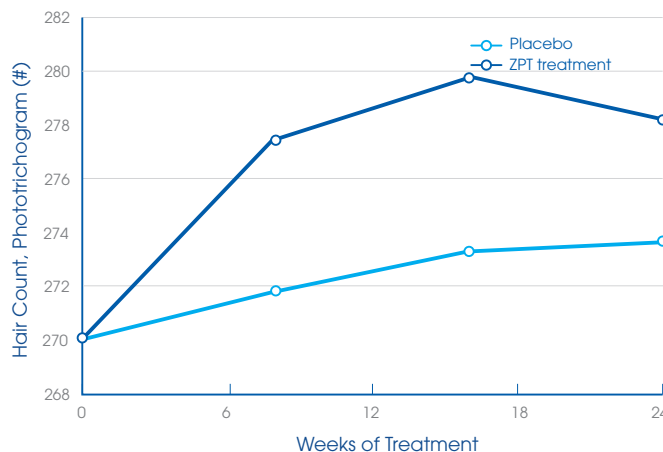
GREAT HAIR DAYS PER WEEK

WITH INCREASED WASH FREQUENCY
THROUGHOUT THE WEEK

MYTH 10: FREQUENT HAIR WASHING CAUSES HAIR LOSS.

FACT: There is no scientific evidence that suggests that frequent hair washing causes hair loss. In fact, research shows regular washing can help reduce the perception of hair shedding. A 2021 epidemiological study found that participants without any scalp conditions perceived an improvement in hair attributes, including reduced hair loss, with more frequent hair washing. The researchers then combined different hair attributes into a global colloquial term — “great hair days” and measured this in a subsequent analysis. The study concluded that increasing hair wash frequency resulted in an improvement in overall hair satisfaction.

References: Punyani S, Tosti A, Hordinsky M, Yeomans D, Schwartz J. The Impact of Shampoo Wash Frequency on Scalp and Hair Conditions. *Skin Appendage Disord.* 2021;7(3-4):183-193. doi:10.1159/000512786.



MYTH 11: HEAD AND SHOULDERS IS ONLY FOR DANDRUFF SUFFERERS.

FACT: Head & Shoulders shampoos and conditioners are designed to promote scalp health, but its benefits go beyond just treating flakes. Regular use benefits both dandruff sufferers and those without dandruff. A clinical study published in 2021 evaluated the impact of regularly using a potentiated ZPT anti-dandruff shampoo. The trial included participants without any specific scalp conditions and found that regular shampoo use improved overall scalp and hair health, reducing oil buildup, irritation, and itching. Despite the participants not being dandruff sufferers, daily washing lowered the level of flaking on the scalp. Daily washing with a ZPT-based shampoo was associated with a healthier scalp microbiome and lower levels of oxidative stress—factors important for everyone, not just those with dandruff. Sebum and dirt accumulation on the scalp can contribute to irritation and discomfort even in people without dandruff, meaning regular use of a scalp-care shampoo, like Head & Shoulders, is beneficial.

Reference: Punyani S, Tosti A, Hordinsky M, Yeomans D, Schwartz J. The Impact of Shampoo Wash Frequency on Scalp and Hair Conditions. *Skin Appendage Disord.* 2021;7(3-4):183-193. doi:10.1159/000512786.