

f all your body parts, your hair takes an inordinate amount of abuse. Beyond the rigours of colouring, straightening and blow-drying your strands into submission, consider how many times you've sworn eternal hatred to your hair. It has even become perfectly acceptable to blame entire bad days on the state of your stubborn locks, angrily restricting them with elastics and smothering them with head scarves when they don't obey.

The fact is, your hair doesn't have a mind of its own. It's up to you to determine how it behaves - and what you do is as important as what you don't do. We went to the experts to discover why your hair looks the way it does and what you need to know to get a head of hair that you'll be proud to toss.



#### ANATOMY OF A STRAND

Once hair leaves the root and pushes through the follicle, it's considered dead tissue. The shaft of the hair has three main parts: The core is at the centre, supporting the structure of every strand; the middle layer - made up of soft, ropelike protein fibres - is the cortex; and the cuticle - the outer layer that gives hair elasticity and strength - is composed of tough, transparent cells that overlap one another like shingles on a roof. Protecting the cuticle is the F-layer, a fatty, highly water-repellent coating that exists on all new strands.

The reason children's hair looks so shiny and fantastic is because the F-layer is undamaged, says Dr. John Gray, a trichologist (hair and scalp specialist) based in the U.K. "Once you start using chemistry - lightening, colouring or extreme heat - on your hair, you strip that layer off, leaving hair wide open to the elements," he says. Since the F-layer repels water, it protects the shaft from both losing too much moisture (thus drying it out) and absorbing too much moisture (which produces the dreaded frizz factor). "Water is hair's greatest friend and enemy," says Gray. Once the F-layer is disrupted, the hair becomes susceptible to damage, either flooding with water or losing moisture. Think about the way your hair reacts to humidity: "It collapses in half an hour because its ability to absorb water is hugely enhanced - that's why you can't control its volume or style," he says. The all-important F-layer reappears as hair grows back, but it can also be temporarily simulated with the regular use of deepconditioning treatments.

Generally speaking, the condition of your hair is determined by the cuticle - when the cuticle is damaged, the cortex unravels, causing split ends and breakage. "Bleaching, colouring, hot irons, tight hairstyles and other trauma damage the cuticle layer, which causes the 'shingles' to split apart or come off," says Dr. Peter Vignjevic, a dermatologist based in Hamilton. "This leaves the much-softer inner part of your hair vulnerable, so the hair splits or breaks off." While conditioners may help soften and strengthen your hair, the cuticle can't repair itself, so unfortunately the damage is permanent.

The process of bleaching is most detrimental. "Hair bleaches tend to use harsher chemicals to strip away colour," says Vignjevic. "They need to penetrate deeply to be effective, which causes more damage, while colouring coats the hair without penetrating as much." Both Gray and Vignjevic advise against excessive use of heat (blowdryers and straighteners) and tight braids or ponytails, which can make hair brittle and prone to breakage and can also damage the roots.

With our overriding desire for "good" hair, though, it's unlikely that we'll stop

dyeing, drying and straightening our hair. It's fine to do all of these things, says Gray, as long as we balance them with healthy haircare practices. "Get a good stylist - someone who will cut your hair and look after it," he says. "Condition it regularly and intensively as often as you can, and understand that most of the damage to your hair is self-inflicted - not internal. People will always look for another cause or somebody to blame."

### FEELING GREY

You can always add a wave to pin-straight hair or tie it back when it gets unruly, but there are two things you can't change: genetics and the process of aging. "We have very little control over what we're made of," says Gray. "We try to alter it with hair colour and straightening solutions, but ultimately we can't beat genetics." Our DNA is primarily responsible for when we go grey, where those strands crop up and how grey or white they become.

"The cells that determine our hair colour - melanocytes - start to die as we age," says Vignjevic. "There are thousands of melanocytes in every follicle, so if a fraction of them die, the hair will turn grey; if they all die, the hair will turn white. In women who grey prematurely, those cells are preprogrammed to die faster." As hair greys, its texture can also change, with strands becoming thicker, coarser and wiry.

Sure, you're stressed, but that may not be a legitimate scapegoat for your fading tresses - daily pressures aren't enough to make a gal go grey. Circumstances involving extreme stress, however, such as severe illness or the death of a loved one, can precipitate greying, says Gray. "We are just beginning to learn about the very intricate connection between the central nervous system and the hair follicle, which was always regarded as independent," he says. "We do know that hair follicles in close

hair is coarser. Blonds tend to have the most hairs on their scalp, while redheads have the least.

proximity 'talk' to one another." Consider, for example, a head full of ringlets - the result of a cluster of hairs growing together in the same time and space - or a distinct streak of grey in an otherwise-chestnutbrown head of hair. "How do the hairs know how to do that?" he asks. "There is clearly a subtle interaction between the follicles to produce that result."

### IT'S YOUR LOSS

Hair loss isn't strictly a man's issue; as women age, it's natural for us to experi-

# water, water everywhere

OUR EXPERTS UNTANGLE EACH HAIR MYTH FROM THE TRUTH

Hot water in the shower can damage your hair.

"The water from your shower is not hot enough to damage hair," says Dr. John Gray, a trichologist (hair and scalp specialist) based in the U.K. "Your hair can tolerate anything your skin can tolerate." This rule works for blow-dryers, too - if a hair dryer doesn't burn the skin on your hand, it's a safe temperature for your hair.

A blast of cold water at the end of a shower can make your hair shinier.

"It's a nice idea, but it's not true," says Gray. "Hair is not alive, so it doesn't respond the same way as a living structure, like skin."

Drinking lots of water will nourish your hair and make it glossy and healthy.

"It doesn't really make a difference," says Dr. Peter Vignjevic, a dermatologist based in Hamilton. Gray agrees: "It's just not scientifically valid. The bottom line: Your body needs water to function properly - if your hair seems to benefit, that's just a bonus."

MYAIR You shouldn't wash your hair every day.

"You can wash your hair as often as you like," says Vignjevic. "Once a day is certainly fine - just make sure that you always follow with conditioner."



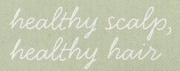
ence general thinning, too. But in cases of premature and excessive hair loss, genetics or an underlying medical issue may be the cause, says Gray. Natural thinning isn't strictly the result of genes and aging - hormonal imbalances and dietary extremes can also be to blame. For example, as their bodies flood with estrogen, pregnant women sometimes sprout thicker, more lustrous locks. "Estrogen has a direct effect on the hair, making the shaft microscopically thicker, "says Gray. "Sadly, though, there's a price to pay after pregnancy, when estrogen diminishes. Many women go through a

With an average of 100,000 hairs on our heads, about 95 percent are in the growing phase and the remaining five percent are in the shedding phase, which means we naturally lose 50 to 80 hairs a day. "There's a natural cycle, and each follicle follows its own rhythm," says Gray. "But after pregnancy, some women find that 15 percent of their hair moves into the shedding phase before going back to its regular cycle." Within a few months, hair generally returns to its normal fullness and growth pattern.

natural period of shedding."

## FOOD FOR HAIR

If only getting great hair were as simple as having the right grocery list. There is no miracle recipe that can instantly improve the look and feel of hair, says Gray, but a well-balanced diet is imperative. Hair



While dandruff can make hair feel greasy, it doesn't have an impact on the health of your hair, says Dr. Peter Vignjevic, a dermatologist based in Hamilton. "However, long-standing inflammation of the hair follicle, such as folliculitis and other disorders, can destroy hair follicles and lead to permanent hair loss." To be cautious, it's best to treat scalp problems when they start.



generation actually consumes a considerable amount of protein and calories, he explains, so yo-yo patterns of weight loss and gain can affect hair growth. "Crash dieting can result in acute, diffuse thinning," he says. "If a person suddenly loses a lot of weight, her hair will definitely start to shed and may or may not grow back, depending on whether she stabilizes her weight." A defective diet can cause your body to divert the small amount of essential nutrients it gets away from the synthesis of hair toward more important organs, like the heart, lungs and muscles. "Something has got to give - hair synthesis is not an essential service in the body," Gray says.

Because the body assigns all the best nutrients to your vital organs, your skin, hair and nails are stuck with the leftovers.

But evidence has shown that the B-vitamin biotin - which is found in leafy greens, nuts and eggs - has a positive effect on hair and nails, says Vignjevic. Beyond that, iron and zinc may help, so a multivitamin is a reasonable catch-all remedy, he says.

But above all, a healthy, varied diet is key. "It's not about stuffing huge amounts of vitamins into your body with the blind belief that they will compensate for all of the ills you inflict on your hair," says Gray. "Most of the damage is done once the hair has left the scalp, so poor cosmetic procedures are much more likely to produce bad-quality hair than what you actually eat."

So you see, ladies, it may very well be possible to kill at least some bad hair days with a little kindness. 9