

4.2.4

Hair Loss

As we age, many experience hair loss or hair thinning known as alopecia. If alopecia progresses it can lead to baldness. Baldness is usually genetic and is typically caused by the hormone dihydrotestosterone (DHT). DHT reduces the blood supply to the hair follicle which causes the follicle to atrophy and produce thin hair. Any other conditions that reduce nutrients to follicles can impact the strength of hair.

Male-pattern baldness is a result from a mutation on the X chromosome. Since men only receive one copy of the X chromosome, if the mutation on that X chromosome they will exhibit baldness. Women do not usually go bald because they have one X chromosome that doesn't contain the baldness mutation, even if the other X chromosome is a carrier of the baldness trait.

Acne

Probably every one of you has been or still are plagued with **acne (acne vulgaris)**. It is estimated that 80-90% of all teenagers have acne to some degree. In some individuals acne can be very severe, even to the point of creating serious lesions that can result in scarring, not only physically but psychologically as well. Acne is thought to be the result of excessive sebum secretion. The sebum accumulates in the opening of the follicle and creates a visible, white mass that we call a white head. The technical term for the white head is a comedo. As the sebum oxidizes its color darkens and is now referred to as a black head. Acne occurs when the sebum filled follicle becomes inflamed. It is thought that this is due to the presence of a bacterium (*propionibacterium acnes*). The inflammation results in the swelling and redness that are associated with acne. Since there is a high density of sebaceous glands on the face, this is a common site for acne. Other areas that are often affected are the back and chest.

The factors that cause acne are not totally understood, but it is known that androgens (testosterone) stimulate sebum secretion and is probably a contributor to acne in teenage boys. In addition, diet has been implicated in triggering acne but it hasn't yet been definitively proven. The main culprit in the diet, however, seems to be foods that have high glycemic indexes, but again, the evidence is not conclusive. Chocolate has always been suspected as a cause of acne but current evidence suggests that it probably isn't the chocolate itself increasing the risk, but the sugars in the candy. Another cause may be irritation of the skin. Teenage boys often develop acne where their football helmet or wrestling headgear rubs against the skin. Also, in girls and women, oil-based cosmetics have been implicated as a causative agent. Finally, genetics seems to play a major role in increasing one's risk of developing the condition. Whatever the cause, it seems to be primarily a disease of adolescence. Typically, as we get into our 20's the incidence goes down, although it can and does persist in some individuals well into their 20's and even beyond. For many of us acne was merely an embarrassment that we had to endure but to others, as mentioned above, it can be a serious condition. Fortunately, today we have drugs that can help those with severe cases. Accutane is a very potent and effective treatment for severe acne, however, it has some serious potential side effects and should be taken only under close medical supervision. One major effect of Accutane is that it causes birth defects and should not be taken by women who are or might become pregnant during the treatment. Several other drugs are available and most are either antibacterial, anti-inflammatory, or both.



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