

## Alopecia Areata

Alopecia areata (AA) is a loss of hair in a circular pattern on the scalp or body. It can occur at any age and affects 1% of the population, most commonly children. The reasons for its development are not fully understood. Although not life threatening, the hair loss can be psychologically traumatic. AA is an autoimmune condition where your own immune system attacks normal hair follicles and prevents them from producing hairs. Autoimmune disease occurs when a patient's immune system mistakenly thinks that part of his or her own tissue is diseased. The tissue is then attacked. The end result depends on how effectively the tissue defends itself as it tries to grow back normally. Some people are more prone to autoimmune diseases. Other autoimmune disorders include thyroid gland problems, Addison's disease and vitiligo. Still, the vast majority of patients with AA enjoy excellent health.

Usually, dermatologists diagnose AA by close examination of the scalp, and considering and eliminating other hair loss causes. Typical AA starts as a suddenly appearing smooth circular bald patch. Some people feel a tingling sensation or very mild pain in the affected area. The scalp is the most commonly affected area, but AA can form anywhere on the body - eyelashes, eyebrows, beard area, armpits, leg hairs etc. AA spreads out on the edges as it grows, with the hairs on the edges thinning out at the roots until they fall out. The stubble left at the edge is thin at the bottom and is said to look like an exclamation mark. As long as hair can be easily pulled out, the AA is active and further hair loss should be expected. More hair in the comb means more spots, but a few dozen hairs a day are lost normally in everyone.

Not all cases are obvious, and sometimes the dermatologist must take a small skin and hair biopsy for microscopic examination. Habitual hair pulling (trichotillomania), scalp fungus (black-dot ringworm) and other skin diseases (lichen planopilaris, cutaneous lupus and telogen effluvium) cause the most confusion. Sometimes AA affects the nails also, as their structure is very similar to hair. This is more common in the more severe cases of AA. Usually, a fine pitting is seen, but rarely the nails become deformed. Most cases that start with a few patches last a few months to a year and normal hair growth quickly resumes. If there are more than a few small, distinct patches of hair loss it may also grow back in a few months. It also might develop into total scalp hair loss (alopecia totalis) or even complete body hair loss (alopecia universalis), although these are rare. Severe disease has less of a tendency to resolve on its own, especially in children or atopic (prone to allergy) individuals.

AA is unpredictable and repeated episodes are not unusual. Some cases last many years with some regrowth in one area, other cases may cycle through expression and remission. At first, hair regrowth tends to be of very fine "peach fuzz" hair, eventually regaining most or all of its normal color and texture. There is no actual loss of hair follicles (i.e. the "root") even in the hairless lesions. The follicles are not producing visible hairs because of the attacking white cells that surround the root. Hair follicles are capable of taking a lot of punishment. Despite the attack by immune cells the hair follicles usually remain capable of re-growing even after years of attack, but in severe cases this becomes less and less likely as years pass. Treatment depends on the extent of the disease and the age of the patient. For small patchy disease intralesional steroid injections (Kenalog®) are the best approach. This is injected with a tiny needle directly into the patches. Injections are repeated every 3 to 4 weeks. The amount of steroid used is safe as long

as reasonable limits are not exceeded. Other options include topical minoxidil (Rogaine) and prescription topical steroids. These are better for moderately extensive cases.

For more severe disease, such as alopecia totalis which affects all hair bearing areas of the body, options include short contact anthralin treatment (Micanol) and contact hypersensitization. This is often very effective, with some studies showing 40% success rates. It causes a local dermatitis (rash) with swollen lymph nodes. Treatment needs to be continued from months to a year or so to get a good result. Other options include oral immunosuppressive medications such as methotrexate to help calm the overactive immune cells although this medication can affect internal organs, so close monitoring and blood tests are required. Vytorin, which is a cholesterol medication, has also been shown to help significantly with alopecia totalis and universalis. This medication also can have internal organ effects, though overall safe to use, so needs to be closely monitored with blood tests as well.

Once alopecia areata clears, it may remain clear indefinitely, or can recur. We cannot predict who may have future problems and who will remain clear. Early treatment is the most beneficial and will produce faster results.