

Sign Language

by Janet McCormick

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"One of my nails seems to be coming off a little," said one of my clients. I looked at her natural nail but had no idea what was wrong. I said, "Did you hit it hard? Does it hurt?"

Receiving a "no" answer to both questions, I shrugged my shoulders and went right on doing her nails. I didn't know then that this subtle raising of one nail plate off the nail bed could be an early symptom of an allergic reaction to a nail product. No one had taught me about allergies when I went to nail school in 1980, so I had no idea that allergies occur regularly in a small percentage of clients or, in fact, how to prevent allergic reactions from happening.

The Allergic Reaction

Contact dermatitis is the most common form of skin disease, accounting for nearly six million physician visits annually according to the publication Guidelines for Contact Dermatitis. There are two types of contact dermatitis: irritant contact dermatitis (ICD) and allergic contact dermatitis (ACD). ICD is caused by a physical or chemical agent that damages the skin when applied in ample concentration over a sufficient period of time or frequency. Almost any substance can be an irritant, and symptoms can range from dryness and chapping to an acute caustic burn, with various degrees of eczema in between. The most common example of CD is hand dermatitis caused by frequent hand washing.

ACD is a delayed hypersensitivity in which the causative chemical provokes a reaction that builds over time and exposure. The sensitization starts with a negative response to the antigen, at which point the skin begins to recognize the chemical as harmful. On subsequent exposure to the allergen, the immune system begins to defend itself from the invading allergen by sending protection to the contact area, causing redness, itching, swelling and, in some cases, blistering. The severity will vary from bothersome to a full-blown reaction that will require medical care. The response appears as quickly as four hours but more likely within 24 to 48 hours after contact with the allergen.

Hands are the most common site for contact dermatitis, but since hands touch many things, how can a professional nail technician deduce that nail products are the problem? If the initial site of the irritation is on the cuticle area or the skin surrounding the nail plate, the allergen is probably a nail product used during the manicure service. Likewise, if the irritation initiates on the area around the nails and doesn't develop farther than the first knuckle, the allergen is, again, probably a nail product.

The only way to make a definitive diagnosis of the specific allergen in ACD is with allergen patch testing (for steps on patch testing, see "Eliminating the Culprit" in the April 1999 issue). There are millions of known chemicals in the world, both natural and synthesized, and approximately 3,700 of these are known allergens, according to Fischer T. Mailbach III in The American Journal of Contact Dermatitis. To randomly select allergens from among 3,700 to test a client for sensitivity is ineffective. Instead, the list for patch testing is defined through interviews to uncover possible exposures. For instance, if she's wearing nail enhancements and shows symptoms of allergy only around them and not else where, the allergen was probably introduced during the service. If she has natural nails and has had a manicure service or is applying homecare products such as nail strengtheners and the symptoms are localized around her nails, the allergen is still most likely in the service or in the homecare products.

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Formulation and Application

Potential allergies are a part of the professional life of nail technicians who apply enhancements. Whether we're applying wraps, acrylics or gel enhancements, the application of an uncured and reactive product to the human nail allows for the development of allergies.

Allergies to liquid-and-powder enhancement products are usually attributed to the monomer rather than the powder. The formulations, however, have improved over the years to help prevent allergic reactions. As early as 1957, formulations of sculptured nail product contained methyl methacrylate (MMA) monomer, and severe and frequent allergic reactions were reported. Clients developed painful paronychia and onycholysis, with nail distortion that could last for months or even result in permanent damage to the nail matrix. In 1974, the Food and Drug Administration (FDA) received so many complaints that it issued a statement that MMA was "poisonous and deleterious" for use in the nail industry.

The reformulation of the acrylic products included a new base product, ethyl methacrylate (EMA) to lessen allergy potential. The Cosmetic Ingredient Review (CIR) panel has since stated that "based on the available data on the formulation of nail products containing ethyl methacrylate, the CIR expert panel concludes that this ingredient is safe as used when application is accompanied by directions to avoid skin contact because of the sensitizing potential of ethyl methacrylate." That places the responsibility of correct application on the shoulders of nail professionals to actively prevent the occurrence of allergic reactions. If the technician is careless in the use of her brush or product, it increases the possibility of an allergic reaction.

Formaldehyde, often found in nail strengtheners, can trigger a reaction and is the most frequently identified allergen in natural nail services. Monomers and formaldehyde are not the only allergens, however. A client who's allergy prone can be allergic to anything in her environment, even to lotions and essential oils. In fact, according to Doug Schoon, director of R & D for Creative Nail Design, the most likely allergens in the beauty industry are fragrance and preservatives. However, according to Rachel Furnam, R.Ph., there isn't a problem using anything as long as the user has a full understanding of the product - both the positive and the negative sides. The user must also understand how to utilize the product to the advantage of the client. "You need to understand the potential impact on the entire body," she says. That includes learning how to recognize problems and knowing how to deal with them.

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Recognizing the Signs

The first stage of a potential allergy to a nail product is usually very subtle and must be noted by the technician.

Squeezing or Thumping. An early allergy symptom is the feeling that the nails need to be squeezed a bit after the service or after the client applies a product to her natural nails. If you see the client pressing on her nails - vertically, horizontally or both - a few hours after her fill, this may be cause for concern. She may also complain of feeling a "thumping" for a time after the service, like her nails are beating with her heartbeat. The thumping may also be caused from over-filing. If you burn the nail bed with aggressive filling, your client may experience a thumping feeling.

These early symptoms may go away shortly after each service, but they are not normal. Any unusual complaint could indicate that the technician needs to work more preventively, whether it's in applying enhancements or changing to different natural nail products. It should go without saying that the client needs to be closely watched for further symptoms.

Redness or Itching. Another early symptom is redness and/or itching, with or without onycholysis. Short-term redness around the cuticle usually precedes the itching stage. The allergy is well established when a client is itching for a long time after the product is applied. The itching may even keep her awake at night. Take note that even a slight amount of persistent redness is an allergic response.

And remember to listen to your client. You may not realize from week to week that the skin is a bit more puffy, but your client will. So, listen for clues such as "my skin looks a little fat" or "my fingers were a bit sore last week"

Dry Cuticles. Another symptom is extremely dry cuticles. If not caught early, this symptom can cause cracking of the cuticle and surrounding skin tissue.

Onycholysis. The client may have a tiny amount of separation of the nail plate from the nail bed - an indistinct smile line, a hyponychium that's straighter across than it used to be. Perhaps only one, maybe two, nails will lift away from the nail plate. The client may have no other symptoms, no itching, swelling or redness. Usually you won't see any problems unless you're tuned into looking for them. Once you're tuned in, this slight onycholysis should draw your attention and your concern. Keep in mind, most onycholysis is caused by some type of trauma to the nail. If you start to notice this symptom, ask yourself if you file too hard or use your electric file too aggressively. And also, ask your client what she's done differently with her hands in the past four to six months.

Allergic onycholysis normally isn't accompanied by obvious discomfort unless it goes untreated for a long period. Surprisingly, some clients may not develop any other symptoms. I once saw a first-time client with acrylics still on whose nails were lifted completely to the moons, but she experienced no redness or itching. She had refused to let her previous nail technician remove the enhancements. Her natural nail plates were so loose that she couldn't button her blouse or tie her shoes without great care. This is lawsuit material, techs! Those enhancements should have been removed or the client should have been dismissed as a client far earlier than this. All pertinent information including the client's refusal to remove her enhancements must be written on her client record.

One type of onycholysis that isn't a symptom of allergy is a triangle of lifted nail plate at the center of the free edge, with the point of the triangle pointing toward the cuticle. This triangle indicates that the C-curve has been squeezed too much, or that an applied tip is too small and has been forced to fit the nail bed.

Water Blisters and Vesicles. You don't want your clients to get to this stage. Water blisters around the cuticles is a serious symptom. Vesicles and pustules may appear and they are also serious. If you see any of these symptoms, refer your client to her doctor. If the doctor says it's OK, remove your client's enhancements or remove the product from her nails. Don't use acetone to remove nail products if you're going to cause more pain or irritation to your client. Instead, file the product away from the cuticle. The last call you want to get is from an emergency room physician wanting to know what's in your nail products because your client is sitting there with bulbous swelling of the ends of her fingers, and cracking of her cuticles and fingertips. A doctor's first step will probably be to give the client medication to counteract allergic reaction, but you'll probably need to tell the doctor how to remove the enhancements if the medications can't quiet the allergy enough to cause the swelling and pain to retreat.

Prevention

We can't predict who will develop allergies to products. "People with extremely fair skin may be more prone to reactions, and a tendency towards allergies can be inherited," says C. Ralph Daniel III, M.D., a board-certified dermatologist. Allergies are developed after repeated and prolonged exposure to an allergen, he adds. So, if every two weeks you accidentally touch the skin or cuticle with product over a four month period, that adds up to a lot of contact. "Several techs have said to me, I've been doing that for months," when they find the reason for their client's allergy, says Schoon. But what they don't understand is that an allergy develops over repeated exposure. For that reason, we must all work preventively while practicing our craft. The most important prevention is keeping the uncured product off the skin - completely off the skin.

Many technicians who see potential allergies change the client to another brand of product without checking to see if it has the same base chemical. If the new product is within the same chemical family, symptoms of the allergy won't be alleviated although they may lessen for a time. If the client is allergic to one acrylate - the chemical family name of base chemicals in all acrylics, gels and wraps - it is probable that she will develop an allergy to all of them. All chemicals are from families of chemicals, and people with an allergy to one member of the family are likely to be allergic to all members of that family. For example, ethyl methacrylate - the usual base chemical in acrylics - is from the same family as cyanoacrylate, the base chemical in glues and resins for wraps. If there's a word ending in "acrylate" anywhere in the ingredient listing, it's in that family, and it will be in the "antigen group" of products.

Filling out a client questionnaire can help with prevention. Ask questions such as, "Have you previously worn nail enhancements?" "Did you have any discomfort with your previous enhancements?" or "Have you experienced any allergies to nail products?" Getting answers to these questions before applying enhancements may prevent a lot of pain and concern. A wise nail professional will be consciously listening for allergy-related comments from her clients and watching for the slightest symptom. She'll practice preventive techniques and will consciously guard her clients from the dangers of overexposure. When she does, she'll be rewarded by never seeing allergic reactions among her clientele or, if she does have a sensitive client, she'll feel confident that her service was not the cause of the reaction.

Never...!

- Never apply products to a client who has obvious allergy symptoms around her nails.
- Never apply products to a client who has had a reaction to a similar product before.
- Never soak off a client's nails if she has a full-blown allergic reaction. Refer her to a doctor for medications to calm the reaction first.
- Never ever allow your brush to touch the cuticles when building acrylics or gels, or when applying a nail strengthener.
- Never allow glue to flow onto the cuticles when applying wraps or tips.
- Never work wetter than the product's instructions suggest. Working too wet will promote trapping of uncured monomer against the nail plate.
- Never mix liquid-and-powder systems. Upsetting the delicate balance of the chemicals can lead to overexposure problems.

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