

“Ten Top Myths Related to Artificial Nails”

by Doug Schoon

Myth 1: Nails Need to Breathe.

- No, they don't! There is no reason to believe that nails need to "breathe". Nails aren't alive and don't have lungs nor do they have any ability to absorb air into the nail plate. This myth makes no sense on many levels! In short, nails do NOT require an external air supply and do not breathe or exhale. 100% of the oxygen needed by the nail matrix to create a new nail plate comes from the blood stream and 0% comes from the outside world.
- Everything the nail plate needs to properly grow and function is delivered and/or removed by the blood flow to the matrix area and nail bed. The matrix is where the nail plate is created from nutrients which can ONLY be delivered by the blood stream. Neither "air" nor "nutrients" can be absorbed or "fed" to the nail plate from any external source.
- Moisture and natural nail oils leave the nail bed and pass through the nail plate at slower than normal rates, but they aren't "trapped". The nail plate's moisture content is increased by 10-15%, and the oil content increases only slightly; both serves to increase the flexibility of the natural nail plate.
- Waste products are removed from the matrix area and surrounding tissues by the blood as well, and are not released into the nail plate. Normal, healthy nail plates would continue to grow and thrive in a completely air-free environment, as long as a healthy flow of blood to the nail is maintained, so clearly... nails don't need to breathe!

Myth 2: Nails need to take a break from enhancements.

- Not true! Nothing is gained by removing artificial nail enhancements or coatings for a few weeks or months before reapplying them. Since the nails do not need to "breathe", no benefit is gained by waiting to reapply artificial nail enhancements or coatings, which includes nail polish. Nor does it make sense to assume the nails only need to breathe "every once-in-a-while". This faulty reasoning is not supported by the facts.
- However as a general rule if the nail plate or surrounding skin shows signs of moderate to serious damage, injury, infection or adverse skin reactions, nail enhancements should be not be applied. Why? In most countries, including the US, nail technicians are only permitted to provide cosmetic services on healthy skin and nails. Unhealthy nail conditions are "medical conditions" which should be examined by a doctor (or podiatrist) who can provide a proper diagnosis and treatment, if required. Nail technicians are not licensed to practice medicine. In cases of adverse skin reactions, discontinue use until the client's doctor can be consulted as to the actual causes and possible solutions.

Myth 3: UV gels are better for your nails than acrylics.

- Absolutely false! Every type of UV gel nails and all types of so-called "acrylics" (aka liquid/powder) nail enhancements are made from acrylic ingredients and are cured by acrylic chemistry, therefore both of these types of nail enhancement coatings are just as "acrylic" as the other, regardless of how they are marketed. Other than marketing claims and application procedures, the only real differences between these two types of systems are in the way they harden (polymerize).
- UV gels utilize a UV sensitive curing agent to harden the nail coating, while liquid/powder systems use heat sensitive curing agents to achieve the same end result. A UV sensitive curing agent could be placed into a liquid/powder system and cured via UV nail lamps and the reverse is also true; a heat sensitive curing agent could be placed into a UV gel and these could be cured without UV. Of course, neither of these makes sense for salon products, which is why this isn't done, but the point remains... these two types of systems are very similar and one is NOT any better for the nail or safer than the other. This is because "both" UV gels and liquid/powder systems are safe when used per manufacturer instructions and "neither" will harm the natural nail when properly applied, maintained and removed by trained professionals.
- Remember, wearing any type of enhancement or coating can lead to nail damage IF the nail technician improperly applies the nail coating or if they (or their clients) improperly remove them. Nail enhancement and other nail coating products are safe for the natural nail if properly applied, maintained and removed. No type of artificial nail is safer or better for the natural nail than another. If nail damage occurs while wearing enhancements, this is usually a result of over-filing or other improper application or removal procedures. To prevent this, nail professionals should educate themselves about how to work in a manner that protects the natural nail from damage.

Myth 4: Nail coatings are bad for the nails.

- This is NOT correct. Nail coatings don't harm the nail plate and any nail damage is usually a result of improper application and/or removal. If the nail plate underneath the enhancement is much thinner than the area of new nail growth, this strongly indicates excessive filing with a manual or electric file. Overly aggressive filing causes the majority of nail plate damage seen in salons. This isn't done just in discount salons, it happens even in high end salons and is indicative of an improperly trained nail professional.
- If upon removal the plates are not any thinner, but feel like they are overly flexible, this does NOT indicate the nails are "weaker". Instead, this is a temporary effect created by an increased moisture content of the nail plate. Nail coatings increase the moisture content of the plate by 10-15% and this can last up to 12-24 hours after coating removal; after

which the moisture content returns to normal, as will the nail plate's normal level of rigidity.

- When the nail surface is covered with dry looking white patches, this is usually due to improper removal, e.g. scraping or peeling nail coatings from the nail plate. Soaking the natural nail for even a few minutes in acetone or water will temporarily soften the surface making it temporarily more susceptible to damage from wooden or metal implements that pry, push or force the remaining residual nail coatings from the nail plate. Instead, a good rule to follow is, *"Use the utmost care for 60 minutes after immersing natural nails in any liquid for more than 60 seconds."*
- Other damage, e.g. onycholysis, is also usually caused by improper filing or removal techniques. For more information on avoiding nail damage see, *"Don't Let This Happen to Your Clients"*, <http://www.schoonscientific.com/educational-eblasts.html>
- Infections do occur, but they are relatively uncommon and can be easily avoided by practicing proper cleaning and disinfection. For more information see *"Guidelines for Cleaning Manicuring Equipment"*, <http://bit.ly/X8d6f9>
- The facts are, when artificial enhancements or coatings are carefully and properly applied, maintained, and removed by a trained, skilled, and knowledgeable nail professional- they will not cause nail damage! The vast majority of damaged nail plates are caused by improper use- over filing and/or scraping the nail plate to remove products or by client nail abuse, e.g. picking or prying off nail coatings.

Myth 5- Medications cause artificial nails to lose adhesion and lift.

- In general, taking a medication for a month or two isn't going to affect adhesion of artificial nails or coatings to the nail plates. The same is true for birth control or other over-the-counter (OTC) medications. These aren't likely to adversely affect the nail plate, either. Generally when people are taking medications over a long term, it is because their body isn't functioning normally. It is more likely that their illness is what's affecting the nails, not the medication. The health of the natural nail is often a window into the health of the individual.
- Chemotherapy is often given for long periods and is an example of medications that can adversely affect the natural nail and may contribute to adhesion loss. OTC medicines and other types of medications taken for short periods (e.g. antibiotics) are unlikely to cause adhesion loss.
- Anesthetic given during surgery is sometimes blamed for nail problems. Since many people are leery of medication of any type, they jump to this conclusion quickly. Even so, it is FAR more likely that nail growth would be affected by the accident/illness and/or the fact the body is in recovery from surgery.

- In short, nail techs should NOT suspect medications until all other potential sources of the problem have been investigated and ruled out. Medications are RARELY the cause of artificial nail adhesion loss. Keep in mind that these problems may also be caused by something the client is doing, e.g. a sudden lifestyle change.

Myth 6- Vitamins and nutrients absorb into the nail to make them stronger and healthier.

- As described above, vitamins or nutrients can NOT be fed to the nail plate externally and in many countries it is not legal to make such claims. Vitamins and/or nutrients only make nail plates stronger or healthier when they are ingested in foods and delivered to the nail via the blood stream. In the US and other places, it is against the law for a cosmetic to claim to provide nutritional benefits or value. Only foods can provide nutrition to the body, not cosmetics!
- To be clear, some nail oils use “vitamin E”, but its function is NOT for nutritional purposes or strengthening. The proper cosmetic label name for Vitamin E is “tocopherol”. Tocopherol or one of its related derivatives (e.g. tocopherol acetate) is used as an antioxidant to help protect the nail plate keratin from damage caused by environmental exposure (e.g. cleaners, hand washing, gardening). As long as no nutritional benefits are claimed, this is an appropriate cosmetic claim since there is strong science to support Vitamin E’s antioxidant abilities,

Myth 7- Nail oil applied directly to a fresh nail enhancement will cause lifting.

- This is false, when the enhancement is properly applied; if not properly applied then this can be true. When properly applied, artificial nail coatings form a tight seal with the nail plate, therefore nail oils cannot get underneath the coating to cause separation and lifting. The benefit of these natural oils is that they can penetrate into the surface of the nail enhancement to increase the nail coating’s flexibility and durability. Penetrating nail oils should be applied daily, to keep the enhancement flexible and beautiful and to condition the surrounding living tissue. If the artificial nail enhancement was improperly applied, there may be small areas of pre-existing separation between the coating and the nail plate (delamination). When this occurs, nail oils may seep underneath the coating to cause lifting. Even so, there are clear and significant benefits to using nail oils on natural nails and artificial nail coatings. If their use leads to increased lifting of the enhancements, don’t discontinue use of the nail oil. Instead, carefully reexamine your techniques and ensure you are performing careful and proper nail preparation, including nail surface cleansing and properly applying and curing the nail enhancement or coating products.

Myth 8- MMA is dangerous and that is why it shouldn't be used to make artificial nails.

- This is false! Methyl methacrylate monomer (MMA) is used all around the world for dental prosthetics, contact lenses, and is even implanted into the body as a bone cement, so the effect of exposure to humans is well understood. MMA is NOT considered to be a cancer-causing agent nor does it damage unborn fetuses. These are myths! Even so, there are several reasons to avoid MMA monomer as a nail coating.
- MMA nail products do not adhere well to the nail plate, so nail technicians must shred the surface of the nail plate with an abrasive, coarse grit file, causing thinning and weakening in order to ensure the enhancements adhere to the nail plate. Traditional products are designed to adhere to the natural nail plate without the need to over file the nail plate.
- MMA creates the hardest and most rigid nail enhancements. So, they are very difficult to break. If jammed or caught, the overly filed and thinned natural nail plate is much more likely to break than the MMA enhancement. This can lead to serious nail damage and possible subsequent bacterial infection.
- MMA enhancements are extremely difficult to remove, because of the filing techniques used to make them adhere and because they don't easily dissolve in product removers. Therefore, MMA enhancements are usually pried from the nail plate, creating still more damage to the overly thinned nail plate.
- The information above applies ONLY to MMA monomer. Powders containing MMA should really be called PMMA (poly methyl methacrylate). PMMA has completely different chemical structure/properties and is considered safe for use in artificial nails. PMMA in a sheet form is called Plexiglas™ and Lucite™. For more factual information see "MMA Information", <http://bit.ly/X8d6f9>

Myth 9: You should wear a mask when you do nails.

- False, if you are working with a source capture ventilation system (SCV); you don't want or need to use a face mask. Even a high quality, properly fitting N-95 dust mask won't work as well as a source capture ventilation system. Why? When properly fitted, an N-95 dust mask WILL protect against inhalation of tiny airborne dust particles, but NOT vapors. SCV systems prevent exposure by collecting both dusts and vapors- keeping both out of the nail technician's breathing zone and salon air.
- When properly maintained and the carbon filters are changed regularly, SCV systems are a great way to help ensure salon air quality remains safe and everyone is breathing comfortably during working hours. Several dust collecting systems are great too and in general, I do recommend their use in salons. Even so, dust collection systems should be used in conjunction with another ventilation system which lowers exposure to vapors. Both dusts and vapors must be properly controlled. SVC systems do both, which is why I fully support their use in salons.

Myth 10: Nail technicians don't need to learn about the science behind natural and artificial nails.

- What? That's ridiculous; the biggest myth of them all! The best artists know their paints and canvas, just as sculptors know their chisels and stones and a master woodworker could tell you all the intricacies of wood. Wouldn't it benefit any nail technicians to have a deeper understanding of the natural nail and nail products? Understanding both the anatomy and microscopic structure of the nail plate is necessary for anyone who provides nail services. Image what you could do if you understood the science behind nail products and how they all work? Well, you can! It's not hard, in fact it is easy and absolutely fascinating! Want to learn more? Here's how you can start your journey of learning <http://bit.ly/mPN483>

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