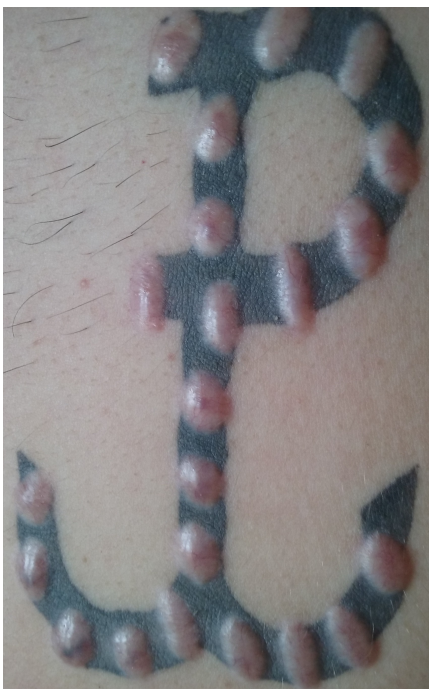


## What you need to know about hypertrophic scars and keloids

### 1. Keloid or Hypertrophic Scar?

Keloids and hypertrophic scars look similar but are completely different. A keloid is a recognized skin disease (benign tumor) that is difficult to treat! But it occurs relatively rarely. In contrast, hypertrophic scars often arise after surgical procedures, for example, and normally, the skin goes back to normal. The difference between a hypertrophic scar and a keloid can usually be easily determined by the following rule. While a hypertrophic scar (left) is limited to the treatment site, while a keloid (right) also grows further into areas that are not treated.



**Left:** Hypertrophic scar caused by the fact that the customer immediately participated in an extreme sport after tattoo removal and contrary to the recommendation.

**Right:** The proliferation begins at the "dots" of the tattoo removal, but sometimes grow far beyond that.

Both of these are due to is excess collagen fibers, which are more developed than necessary due to impaired wound healing (due to the body's own shortcomings). Histologically, they differ from the fact that the collagen fibers of the hypertrophic scars are oriented parallel to each other, while the collagen fibers of the keloid criss-cross. As we know since childhood, hypertrophic scars are very different from "normal" wound scars, which are caused by the wounds being healed incorrectly or burns and are usually irreversible tough scars.

The reasons for this excessive growth are not yet well known in medicine today. There are many triggers. In keloids, scientific studies estimate more than 50% of the cases have genetic causes; also, a keloid can occur even if there was no visible skin irritation at the site.

## 2. Occurrence Causes

Even if the reasons for the occurrence are not yet determinable today, there is still a lot known today about their causes. This is illustrated superbly by an explanatory model given to us by a doctor from Madrid who specializes in these cases and also trains doctors. (Dr. Sanchez)

Everybody constantly exposes themselves and their skin to aggression. For example, tattoos cause a great amount of stress to the skin, but so does tattoo removal. Other causes of aggression to which the body is exposed are smoking, drugs, improper diet, lack of sleep, stress in everyday life, immune deficiencies, etc. Frequent triggers for temporary hypertrophic scars after tattoo removal are also UV rays (too much sun) and friction of any kind (due to clothes, shoes, belts, etc.) at the treatment site, as well as heavy sports activities shortly after treatment.

Each person has an individual limit on the burden their body can tolerate. If you exceed this limit, the body responds with a "cry for help". This often manifests itself at the last trigger spot or at the "weakest point", such as the last irritated skin site just treated. The entire area is not always affected, often there are only a few "dots."

It is usually not possible for a tattoo remover to know in advance if a hypertrophic scar will form on the client. Although skin irritation can be the trigger, the causes of its development lie in the vitality of the client themselves. Of course, people who have already had hypertrophic scars or who are genetically predestined for the formation of keloids are more susceptible than people who have never had hypertrophic scars, but in principle, you can rule it out in no customer.

### 3. Phenomenon Development

Often, these scars occur only 8 - 10 weeks after the removal treatment, so that the original compatibility test heals completely normal, but the actual treatment then becomes hypertrophic. It is not possible to predict this or foresee a prognosis in advance.

Hypertrophic scars, as opposed to keloids, can regress as quickly as they have developed. This also happens in over 90% of cases, as scientific research shows. Therefore, customers should not panic. However, some patience is necessary, as it can take up to two years in some cases until the body has removed the excess collagen itself. There are some suitable methods but also some inappropriate ones to help this, as we have seen in our years of practice.

### 4. Treatment Options

Several treatments and therapies are offered. But one thing is very important. The body or the skin must rest. The client should get plenty of rest, abstain from smoking, drugs, or alcohol for a while, and avoid sun, skin friction, and excessive exercise.

#### Massage

A simple yet effective method is a pressure massage to the point on the body in question. Massage the body part several times a day with gentle pressure in the direction of the skin lines using a simple base oil. Anyone can do that themselves and thus signal to the body, "Here is too much collagen, please break it down". First results are usually seen very quickly.

#### Silicone Sheets

The silicone under the bandage does not react with the skin; instead, it forms a smooth finish. The patch rests directly on the hypertrophic scar and gives the nervous system the message, "The wound is closed, and it does not need any more collagen to close or protect it". Very often, one can observe that the hypertrophic scar becomes more colorless with time and returns back to, or shows, a much more normal skin appearance.

#### Surgical Removal

This is the worst alternative. On the one hand, it's very aggressive on the skin, and the body can react again by growing scar tissue. In addition, even several irreversible surgical scars arise quite often. In the end, skin must be taken from elsewhere in some cases. Furthermore, in most cases, the customer has to pay the significant costs of such an operation themselves.

## **Cortisone Injections or Cortisone Ointments**

Cortisone is a steroid hormone with a short duration of action of 8-12 hours, which is usually either injected locally in the case of severe inflammations (rheumatism, arthritis, etc.) or administered as an ointment. It has a strong anti-inflammatory effect, narrows the skin vessels, suppresses immune reactions and slows cell growth. However, it also has side effects, as it can disrupt the metabolic cycle and mental side effects are also reported.

In practice, doctors almost automatically prescribe cortisone injects without knowing the background and causes of hypertrophic scars. Incomprehensibly, many doctors also diagnose these as permanent scarring and frighten the customers. This is not only wrong but also an irresponsible scare tactic. Moreover, the injection of cortisone is a further burden to the body. A defensive reaction of the body to aggression is combated with further aggression, even if it sometimes leads to a short-term improved wound and a decrease of symptoms. However, if the hypertrophic scar is still in its growth phase, we have often observed that after rapid improvement of the symptoms, the scars will swell again after a short time and can often become much larger. Cortisone ointments, on the other hand, are completely useless in these cases.

## **Recommendation**

Clearly explain the phenomenon to the customer when they come to you with symptoms and ease their fears. Instead of treating the scar(s) with cortisone, they should exercise patience. Even without treatment, most hypertrophic scars go away over time. The skin will return to normal, although it may take some time. Both massage and silicone sheets can help this. At first, let the spot heal completely. Before continuing treatment, the elevations must be completely receded and the dots a delicate pink in color. Then make no more than 5 - 6 dots and let them heal longer than usual.

Do not let the customers unsettle you, as they are often frightened and incited by doctors pursuing their own economic interests. Dermatologists do not know the natural Skinial method and may suspect that you have accepted prohibited medical treatments. They are not objective because many remove tattoos themselves using a laser and are your direct competitors. Of course, the clients believe the doctors more than you, even if their statements are often wrong or at least very dubious. Under no circumstances should you respond to claims for the return of treatment costs. This is often demanded by customers after they have been frightened by doctors. In case of conflict, a refund would, in any case, be interpreted as a recognition of guilt. Moreover, the customer has been fully informed about the side effects and you have done a correct treatment.

However, should it come to conflict, we are at your disposal at Skinial at any time to give you our support.

\* \* \*

	Status	Causes	Reactions of the skin	Treatment
<b>Hypertrophic Nscars</b>	<b>Weak:</b> slightly raised, bright red, pale, soft (appearance often only 8-10 weeks after treatment)	<ol style="list-style-type: none"> <li>1. Trigger may be the tattoo removal, if it exceeded the individual stimulus level</li> <li>2. Toxic coloring substances in the ink were released by the removal; the body reacts aggressively to the poison</li> <li>3. Irritation of the treated area by friction of clothing, shoes etc.</li> <li>4. Aggressive UV rays (sun) provoke the still vulnerable thin skin after the scab has dropped off at the treated site</li> <li>5. The sensitized skin and already damaged skin reacts much faster in case of laser pretreatment (or IPL - hair removal)</li> </ol>	<ol style="list-style-type: none"> <li>1. Dysfunction of the skin leads to overproduction of collagen fibers. Possibly a kind of protective function or "cry for help" of the skin due to the experienced aggression at the site. (Slight increase at the treated site)</li> <li>2. Increased skin for up to 15 months, but almost always followed by regression</li> </ol>	<ol style="list-style-type: none"> <li>1. Flattening occurs even without treatment, by reducing the stimulus level of the body (among others: drugs, diet, sleep, stress, ...)</li> <li>2. Regular pressure treatment and massage leads to flattening; e.g. with the help of the fingers</li> <li>3. Hermetically closing the elevated area with silicone patches or "CoverX". As a result, the body reduces the collagen; the hardening goes back and the scar becomes softer, lighter and flatten</li> <li>4. Unconditional protection against solar radiation, e.g. with "CoverX - skin tone"</li> <li>5. Doctors usually inject cortisone, which can lead to a temporary decrease in the increase but can often bring no long-term success due to the aggressive hormone substance. After discontinuation often renewed growth of the scar. Cortisone creams do not help.</li> </ol>
	<b>Strong:</b> sublime, hard, dark red	After completion of the growth phase and after further aggression on the treated site, e.g. Cortisone treatment, cryotherapy, ...	<ol style="list-style-type: none"> <li>1. A sudden regression without known causes or triggers after months is often observed</li> <li>2. Itching and pain are the result of allergic reactions of the immune system to toxic components of the colour that react to the antibodies after removal</li> </ol>	
<b>Keloid</b>	<b>Growth phase</b>	<ol style="list-style-type: none"> <li>1. More than 50% of the triggers are due to genetic causes</li> <li>2. Trigger may have been an aggression on the skin, but also happens without any prior irritation</li> </ol>	<ol style="list-style-type: none"> <li>1. Sublime, hard, often dark red scar due to benign growths beyond the treated areas</li> <li>2. Itching and pain are the result of allergic reactions of the immune system to toxic components of the colour that react to the antibodies after removal</li> </ol>	Patience required (sometimes up to 12 months if recovery occurs) Massage and hermetic patches (silicone or CoverX) bring relief
	<b>Mature</b>	No forecasts or predictions possible when the proliferation has ended	Can stay unchanged for a long time. Occasionally, a completely surprising decline to complete regression is possible	<ol style="list-style-type: none"> <li>1. Treatment is difficult, as even after surgery, the keloid can proliferate again</li> <li>2. Seek medical attention in any case, although the prospects for relief are modest</li> </ol>