# Hypertrophic Scars, Keloid and Homoeopathy



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# Definition

Hypertrophic scars and keloids are skin fibrotic conditions, unique to humans, that can be caused by minor insults to skin, such as acne or ear piercing, or by severe injuries such as burns.

Differences between keloids, hypertrophic scars and normal scars include distinct scar appearance, histologic morphology and cellular function in response to growth factors. Eyelids, cornea, palms, mucous membranes, genitalia and soles are generally less affected.

### Hypertrophic scar

Hypertrophic scar is a raised fibrous connective tissue in the dermis and adjacent subcutaneous tissue after traumatic or burn wound healing.



#### Keloid

Keloid is a nodular, frequently lobulated, firm, movable, non-encapsulated mass of peculiar hyperplastic fibrous connective tissue consisting of densely collagenous material found in the dermis and adjacent subcutaneous tissue after skin injury.



# Etymology

Keloids- Greek- chele = claw

The first description of keloids (recorded on papyrus) concerned surgical techniques used in Egypt in 1700 BCE. Subsequently, in 1806, Alibert used the term *cheloide*, derived from the Greek *chele*, or crab's claw,

Keloids Formed by abnormal collagen metabolism, result in a proliferation of scar tissue beyond the boundaries of the original wound. They occur in dorsal areas of the body and over the face and delto-pectoral region. Keloids occur most frequently in dark skinned people and may be encouraged to form as a cultural body decoration. Simple excision is almost always followed by a more exuberant recurrence. X-rays have been used but topical steroid creams or steroid injections are more effective. Pressure on an excised keloid scar may also prevent recurrence. Experimental work is in progress, using calcium antagonists and manipulating the effects of transforming growth factor p.

# Clinical Characteristics

# Hypertrophic scar

- Usually occurs within 4 to 8 weeks following wound infection
- Wound closure with excess tension or other traumatic skin injury, has a rapid growth phase for up to 6 months

- Afterwards it gradually regresses over a period of a few years
- Eventually leads to flat scars with no further symptoms

#### Keloid

- May develop up to several years after minor injuries
- May even form spontaneously on the mid chest in the absence of any known injury
- Persist usually for long periods of time
- Do not regress spontaneously

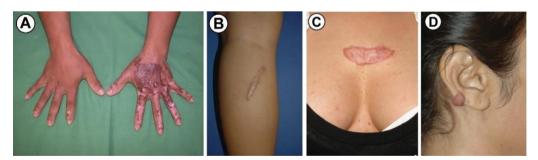
#### **Appearance**

Hypertrophic scar and keloid both appear as-

- Firm
- Mildly tender
- Bosselated tumors
- Shiny surface
- Sometimes telangiectasia
- The epithelium is thinned and there may be focal areas of ulceration
- The color is pink to purple and may be accompanied by hyperpigmentation
- The borders of the tumor are well demarcated but irregular in outline

#### Difference between hypertrophic scar and keloid

- A hypertrophic scar is usually linear, if following a surgical scar, or papular or nodular, following inflammatory and ulcerating lesions while keloid is well demarcated but irregular in outline
- Both lesions are commonly pruritic, but keloids may even be the source of significant pain and hyperesthesia
- Hypertrophic scarring develops in wounds at anatomic locations with high tension, such as shoulders, neck, pre sternum, knees and ankles, whereas anterior chest, shoulders, earlobes, upper arms and cheeks have a higher predilection for keloid formation
- Keloids tend to recur following excision, whereas new hypertrophic scar formation is rare after excision of the original hypertrophic scar.



# **Epidemiology**

- Men and women equally affected
- More common in younger individuals
- Familial tendency
- Autosomal dominant inheritance with incomplete penetrance
- Stimulated by various hormones, increased during puberty and pregnancy, with a decrease in size after menopause

#### PATHOPHYSIOLOGY OF EXCESSIVE SCAR FORMATION

The physiologic response to wound healing is the formation of a scar. Scarring process can be grouped into four phases-

- Inflammation (Psora)
- Proliferation (Sycosis)
- Remodeling (Psora/ Syphilis)
- Scarring (Psora/ Sycosis)

#### Inflammation

Immediately after wounding, platelet degranulation and activation of the complement and clotting cascades form a fibrin clot for hemostasis, which acts as a framework for wound repair. Platelet degranulation is responsible for the release and activation of a group of effective cytokines, such as epidermal growth factor (EGF), insulin like growth factor (IGF-I), platelet-derived growth factor (PDGF) and transforming growth factor (TGF). These serve as chemotactic agents for the employment of neutrophils, macrophages, epithelial cells, mast cells, endothelial cells and fibroblasts. (Psora)

#### Proliferation

Within 48 to 72 hours after the incidence, the healing process changes into the proliferation phase, which may last for up to 3 to 6 weeks. Engaged fibroblasts synthesize a frame of reparative tissue, the so-called extracellular matrix (ECM). This granulation tissue is made of procollagen, elastin, proteoglycans and hyaluronic acid and forms a structural repair framework to bridge the wound and allow vascular ingrowth. (Sycosis)

#### Remodeling

Modified fibroblasts, called myofibroblasts, which contain actin filaments, help to initiate wound contraction. Once the wound is closed, the immature scar can change into the final maturation phase, which may last several months. The ample ECM is then degraded. The immature type III collagen of the early wound can be modified into mature type I collagen. The conversion of a wound clot into granulation tissue thus requires a delicate balance between ECM protein deposition and degradation. (Psora/ Syphilis)

#### Scarring

Whenever this process is disrupted, abnormalities in scarring appear, resulting in either keloid or hypertrophic scar formation. Both lesions represent aberrations in the fundamental processes of wound healing, in which there is a noticeable imbalance between the anabolic and catabolic phases; however, keloids seem to be a more continuous and aggressive fibrotic change than hypertrophic scars. (Psora/ Sycosis)

#### **Apoptosis**

Apoptosis is programmed cell death, the deletion of individual cells by fragmentation into membrane bound particles, which are phagocytized by other cells. (Syphilis)

It has been shown to play a critical role in the evolution from granulation tissue into scar formation after tissue injury. Wound epithelialization and scar collagen formation are accompanied by a gradual decrease in cellularity. In beginning stage, hypertrophic scars are hypercellular and during the process of remodeling and maturing, fibroblast cell density reduces to resemble normal skin, partially due to induction of apoptosis. (Psora / Syphilis)

#### **Treatment**

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CHEST - PAIN - Axillae - scar of an old abscess; in - cutting pain thuj.
CHEST - PAIN - Axillae - scar of an old abscess; in thuj.
DREAMS - CESAREAN with a long scar phasco-ci.
EAR - PAIN - Above the ears - scar; in an old - drawing pain lach.
EAR - PAIN - Above the ears - scar; in an old lach.
EXTREMITIES - PAIN - Thighs - scar, in an old lach.
EYE - SPOTS, specks, etc. - Cornea; on – scars Apis Ars. cadm-s. Con. euphr. kali-chl. Merc. Sil.
EYE - ULCERATION - Cornea - scars; from cadm-s. Euphr. sil.
FACE - CICATRICES - deep scars; full of glycyr-g.
FACE - ERUPTIONS - acne - scars; with - red bell.
FACE - ERUPTIONS - acne - scars; with - unsightly carb-an. cop. kali-br.
FACE - ERUPTIONS - acne - scars; with carb-an. cop. kali-br. merc. Sil. thuj.
MOUTH - PAIN - scar; in old - Tongue - left side muru.
SKIN - CICATRICES - white - brown scars turned white; old berb.
SKIN - ERUPTIONS - scars; with unsightly carb-an. cop. kali-br.
SKIN - ERUPTIONS - vesicular - itching - scars; around old Fl-ac.
SKIN - ITCHING - keloid carc.
SKIN - KELOID alum. ars. bell-p. calc-f. calc. calen. carb-v. carc. caust. crot-h. cupre-l. diphtox. dros. Fl-
ac. gast. GRAPH. hyper. Iod. junc-e. kali-bi. lach. loxo-lae. lyss. maland. merc. NIT-AC. nux-v. phos. phyt.
psor. rhus-t. sabin. SIL. sul-ac. Sulph. thiosin. thuj. tub. vac. Vip. x-ray
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... In some individuals, cutaneous injury variably produces persistent raised, red, hypertrophic scars. When scars extend beyond the boundary of the inciting wounds they are called keloids. Keloids may progressively thicken over time. Keloids are more prevalent in dark-skinned persons and after...

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Encyclopedia Homoeopathica



Radar 10

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