Hydrocolloid dressing

The phase-specific wound treatment of venous ulcer cruris
And in chronic wounds such as venous leg ulcer treatment takes place in a wound healing phases. By various systemic and local disturbances, the individual phases are in their correct sequence be affected often difficult, with most of the cleaning phase lasts long unphysiological. Proper wound care is therefore have the premise to meet the specific requirements of wound healing phases as precisely as possible.

Regardless of the nature of the wound and the extent of wound healing in tissue loss extends each phases overlap in time and can not be separated from each other. Common classifications are in three or four phases of wound healing, which is here for the subsequent representations of the system uses three basic phases:
• The inflammatory or exudative phase is used for hemostasis and wound cleansing, primarily by phagocytosis.
• In the proliferative phase, blood vessels and repair tissue, called granulation tissue, built to fill defects.
• In the differentiation phase, the maturation of the new tissue, the epithelialization and final scarring.
In practice, the three phases of wound healing are referred to as reduced cleaning, granulation and epithelialisation.

Spontaneously comes this physiologic wound healing cascade, which always requires a proper chronological occurrence involved in the repair of cells, off only if certain conditions are met:
• The metabolism of the cells must be protected by an adequate blood and oxygen supply.
• The wound must prevail a physiologically balanced, moist environment with an appropriate pH, which promotes the flow of cellular activities.
• All together inhibitory factors, such as colonization and toxic decomposition products of bacteria and tissue, which may not exceed the wound autolytic opportunities.
If these conditions are due to the action of various harmful events (reduced blood flow to tissue hypoxia, dehydration of the wound bed, wound infections, etc.) are not given, there will be more or less severe wound healing and not in time intervention for chronic wound: cells die and it makes necrosis in a degree that enables the body's natural cleansing mechanisms can not be resolved. Simultaneously infiltrate toxic decomposition products of bacteria and tissue surrounding the wound area, which has a further tissue destruction result and maintain the chronicity of the wound.
The problem of chronic wound is exacerbated if the ulcer by microcirculation and metabolic disorders of the cutis and subcutis is incurred, as in venous leg ulcers is the case. Unlike an acute wound, the inflammatorischexsudativen in phase conditions for a time-controlled sequence of wound healing cascade are created during ischemic ulcer, the reparation of cells in an extremely metabolically metabolically damaged skin area can be started, which a priori the proper conduct of the healing of impossible.
The pathophysiological situation of venous leg ulcers but on the other hand, the way the measures must logically be taken to bring the ulcer to heal:
• causal hemodynamics in the vein system and the microcirculation in the wound
area by the measures already described as compression therapy and possibly invasive procedures such as surgery and / or sclerotherapy should be improved.

- Locally, the chronic wound is about to perform adequate treatment as well as possible in the state of an acute wound. The chance is given that the information necessary for the healing processes in the physiologically correct cell and timing can be restarted and run regularly.

What measures have been proven in which phases of wound healing is presented below. Basically, it has the "moist wound treatment" proved particularly effective, so their operating principles should be explained beforehand.

Moist wound treatment

"A dry wound is a dead wound." Consequently, has established itself in this recognition for secondary healing wounds, so wounds where granulation tissue must be built, and for epithelial wounds moist wound treatment ("moist wound healing"). The advantages of this form of treatment that is based on work by DG Winter (1962, first published in "Nature") and their scientific bases were covered in broad terms also are known. You have an impact on all phases of wound healing:

In the cleaning phase moist wound dressings have a good wound-cleansing effect and allow a physical debridement, without damaging cells. Furthermore, by the moist environment can be avoided inactivation of immunocompetent cells (Seiler).

In the granulation of the wound in wet dressings create a physiological micro-climate, similar to a cell culture medium that promotes cell proliferation and hence the formation of granulation tissue. After Turner / Beatty et. al (1990) causes the permanent moist therapy significantly more rapid reduction of the wound surface, and leads to a greater amount of granulation tissue.

Improve in the epithelization under moist dressings. Conditions for mitosis and migration of epithelial cells This usually leads to a more rapid epithelialization with cosmetically favorable results.

General patients often give a pain relief by moist wound treatment. Since modern wound dressings for moist wound treatment usually do not stick to the wound, so have atraumatic properties, they also allow for a pain-free for the patient as well as atraumatic dressing changes. This means that a wound healing interfering cell stripping is avoided during dressing changes - for the rest of the wound healing so important is preserved.

The success of moist wound healing, however, is bound to a key requirement that the wound must permanently, without interruption, to be kept moist in balanced proportions. Dried out in between, perish cells to form new tissue necrosis and may result in the worst case even to deepen the wound.

The simplest form of a moist wound dressing set with normal saline or Ringer's solution with gauze soaked represent you, however, is also the problembeladenste because the compresses dry out quickly and then stick to the wound. Upon removal newly formed cells to be demolished with the compress. A permanent moisture keeping the dressings is also time-consuming and requires a frequent dressing changes, which can be realized in connection with the compression therapy difficult.

Significant progress, not only in terms of efficiency, but also on the practical application of moist therapy, the so-called hydro-active wound dressings constitute These include the gelling calcium alginate compress Sorbalgon, the wound pad TenderWet, the foam dressing PermaFoam, the hydrocolloid dressing Hydrocoll, the hydroactive dressing Hydrotul, the hydrogel Hydrosorb and the amorphous hydrogel. With their help, the ulcer will be permanently kept damp problems. In addition, the differentiated physical principles of operation of the various dressings ensure that specific as to address the needs at various wound conditions.
Wound care in the cleaning phase
This first phase takes experience, patience and will take even more time, the longer the ulcer is. Because the venous ulcer underlying impaired metabolism in the skin tissue not only maintains the chronicity of the wound, but also hampers the self-cleaning mechanisms considerably. The vicious circle can only be broken through appropriate therapies, including the one compression therapy to improve hemodynamics is essential and to take the other measures are targeted cleaning. Surgical Nekrosenabtragung

The tendency of healing venous leg ulcers has considerably improved if necrosis and insufficiently perfused tissue is removed as completely as possible. If time permits the medical situation of the patient, should be part of a surgical debridement of necrotic creation of a complete removal or inadequately perfused tissue and fibrinous deposits are sought. This gives a "fresh" wound that bleeds. Thus, the wound healing as an acute wound with bleeding and subsequently with the release of growth factors and the immigrants of a sufficient amount of inflammatory cells and begin to reorganize with chronologically correct cell processes. This procedure is particularly drawn in refractory ulcers considered, it being possible for the wound conditioning may give the indication for wound closure by a split skin graft. To supply the surgically debridierten ulcer and for subsequent wound conditioning a wound covering is with calcium alginate dressings Sorbalgon.

Purification by moist wound treatment
Surgical debridement is not practicable, to offer a physical debridement of using moist wound healing. Purpose hydroactive dressings with different modes of action available that are applied according to the condition of the wound. For ulcers with distinct fibrinous and / or greasy surfaces (infected or not infected) is a wetland with TenderWet therapy is recommended 24 active. TenderWet is especially indicated when the Ulkusumgebung is extremely sensitive by eczematous changes.

Ulcers with strongly degraded environment require a very gentle treatment of wounds, such as TenderWet compresses. Particularly suitable for treatment under compression bandaging is the hydroactive PermaFoam foam dressing. It has a high vertical capillary action for the rapid regulation of the wound exudate, and a high retention for safe liquid bond, whereby edges of the wound are protected from maceration. In ulcers with excessive secretion, but relatively intact Ulkusumgebung can the hydrocolloid dressing Hydrocoll or alternatively the hydroactive dressing Hydrotul be used, both by supporting their hydrocolloid wound healing facilities in all phases effectively.

Infection prevention and control
In the cleaning phase is most likely the problem of infection prevention and control, which often results in uncertainty. It is generally assumed that a colonization of the ulcer, but this leads to contamination - especially when pure venous ulcers - a relatively rare clinical manifestation of infection. The generally observed rather low susceptibility to infection elderly chronic wounds seems therefore to the venous ulcer apply.

The silver-containing ointment Atrauman Ag with safe bactericidal effect is indicated
for iniizierten wounds.
Prophylactic disinfection of the ulcer or a topically applied antibiotic therapy is usually classified as not appropriate, particularly in view of the wound healing potential of many of these inhibitory substances and the high risk of sensitization.
A treatment option for infected wounds at risk of infection and the silver-containing ointment Atrauman Ag. It is suitable for the treatment of acute and chronic superficial wounds of all kinds, in particular for use in the complementary treatment of germ contaminated or infected wounds. It prevents from sticking to the wound, nourishes and protects the edges of the wound.

Treating wounds in the granulation
Is the base of the wound clean, can form granulation tissue, provided that the underlying the ulcer hemodynamic disturbance is compensated by a compression therapy continues.
The nature of the granulation tissue is an important indicator of the quality of Reparationsprozesses. The granulation tissue itself is extremely sensitive to external influences and interferences. Accordingly, it should be treated as carefully as possible. A fresh red granulation must not be cleaned and rinsed and requires no ointments or powders for granulation. The granulation tissue is permanently keep moist by appropriate hydroactive dressings. The wound dries out, it comes again by the death of the cells to the destruction of tissue. In addition, the granulation tissue from mechanical irritation are protected by cell stripping during dressing changes. Indeed, through the high-protein secretion and the high number of very fine Haarkapillaren the granulation tissue tends greatly to the bonding.
Common in chronic ulcers is to be found the constellation that a portion of the wound already granulated, while other parts are still in the cleaning phase. With the possible need for mechanical cleaning and disinfecting wounds is knock out the granulation tissue.

Hydrosorb protects the forming granulation safe from drying out.
A hydro-active wound dressing, which satisfies the requirements of the granulation particularly well, the hydrogel Hydrosorb. It has a high water content in its gel structure and can thus wound automatically for a long time out moisture without drying. Especially with stagnant Granulationsaufbau however, a treatment trial with the foam dressing PermaFoam be rewarding.

The periulzeröse Eczema
The venous leg ulcers is often accompanied by eczema. The eczema can be a colonization of damaged skin with bacteria and fungi (Eczema) be due or be a contact allergy to topical medications given.
The treatment depends on the general principles of the eczema treatment: The acute, weeping eczema is treated moist, for example with wet gauze with astringent or disinfectant solutions. Drying of the skin must be prevented, however.
The subacute or chronic eczema is to be subjected to differential treatment, with only allergen-neutral ointment bases and substances may be used. Proven to as pasta and Zinci Unguentum has leniens equally. Long-term therapy with topical corticosteroids, however, should be avoided because of the impending atrophy.

Wound care in the epithelization
Well formed granulation tissue, the epithelial cells provides a wet slide surface is a prerequisite for mitosis and migration of epithelial cells. The main task of the association must therefore also in the epithelization the wound remains moist. Suitable for this purpose are the hydroactive dressing Hydrotul, the hydrogel or the Hydrosorb Hydrocoll thin hydrocolloid dressing, which was specially developed for epithelialising wounds.

An ulcer with good healing tendency is evident from the fact that the ulcer margin is an epithelialization or areally over the ulcer base is spread widening epithelial exist. By certain topical medications which induce specific choir Fung of the ulcer, however, an "apparent cure" be faked. These encrustations can generally solve the ulcer margin slightly. Also, the underlying yellow coverings must be removed, and only then can the so cleaned ulcer base are assessed in terms of prognostic. Through the often long edges of the wound healing process of chronic ulcers tend sometimes to be epithelialize and einzustülpen inward. Since then can take place from the wound edge of no more epithelialization more, a freshening of the wound with a scalpel or sharp scissors is displayed.

With split-thickness skin (mesh graft 1:1,5) transplanted ulcer
Basically show venous ulcers, as all chronic wounds, sometimes a bad tendency to Spontanepithelisierung. Could the wound bed are sufficiently conditioned in these cases, especially for larger wound surfaces wound closure drawn by split-thickness skin graft (mesh graft) or Reverdin plastic considered. When Reverdin plastic form applied to the granulation Epidermisläppchen islands, may give rise to the epithelialization. Another option, if applicable, the transplantation of autologous derived and in vitro cultured keratinocytes. For obtaining such keratinocyte cultures from a piece of skin of the patient keratinocytes are isolated.

Intractable ulcers
The ulcer heals, despite all efforts, the treatment plan must be checked. The following key points should help to elucidate possible causes for intractable ulcers:
• compression therapy is carried out appropriately? If necessary. Conversion from AC to permanent associations, gain compression, etc.
• If arterial-venous Mischulzera before?
• Doppler ultrasound investigation of peripheral blood flow, possibly secondary angiographic diagnosis.
• For arterial hypertension: treat hypertension (Martorell ulcer!).
• Is there a latent or compensated right heart failure (edema of the healthy leg)?
• Additional drainage problems by secondary lymphedema?
• arthrogenic stasis with knee or hip osteoarthritis?
• Lack of exercise (LLL and SSS = "Dear running and lying down, sitting and standing is bad", obesity)?
• Is there a erysipelas, a mycotic and / or bacterial infection (clinical)?
• ulceration of other causes?
• Persistent accompanying dermatitis: Allergy testing.
• Poorly controlled diabetes (HbA1c determine).