Understanding and managing chronic wounds

A guide for patients with chronic wounds
This guide provides information about chronic wounds, the definition, classification, causes, as well as the treatment options. The information contained in this guide will help you understand your condition and your treatment process. Please speak with your doctor if you have any additional queries.
Chronic wound is often overlooked as a comorbid condition, a co-occurring condition to a primary disease. However, this condition affects a large fraction of the world population; it has been estimated that in developed countries, about 1 to 2% of the population will end up experiencing a chronic wound during their lifetime. This number is reflected on the cost, which has been reported to take up 2 to 3% of the overall healthcare budgets in most countries. Furthermore, this estimation is likely to increase dramatically with the rise in the aging population, since the healing in this age group is already difficult.
Defining chronic wounds

Chronic wounds can be defined as wounds with a full thickness in depth and a slow healing tendency. They are also referred to as hard-to-heal or difficult-to-heal wounds or ulcers.

When wounds do not heal after 8 weeks despite professional treatment, they become known as chronic wounds.

Cause of the initial wound usually varies, but often, primary conditions are the predominant cause. For example, the initial wound may be caused by peripheral vascular defects, like arterial or arteriolar occlusions, and venous congestions. Because of such defects, the blood flow is reduced, leading to damage of the skin.

Classification of chronic wounds

As explained previously, there are varying underlying causes of chronic wounds. However, majority of them can be generally classified into four categories:

- Pressure ulcers
- Diabetic ulcers
- Venous ulcers
- Arterial insufficiency ulcers

Amongst varying types of chronic wounds, venous leg ulcers are one of the most commonly observed chronic wounds.
The role of oxygen in chronic wounds

Once the skin is damaged, it goes through a series of phases of wound healing: inflammatory, granulation, epithelisation and remodeling.\(^\text{11}\)

There are two ways for the oxygen supply, from the exterior and interior, yet various factors hinder the sufficient supply of oxygen to the wound base.

In order for this repair process to proceed, oxygen is an essential factor, as much more oxygen supply is required than usual.\(^\text{11}\) Thus, oxygen is an essential component of the wound healing process.\(^\text{12}\)

One way for oxygen to reach the wound base is from the internal sources like the blood.\(^\text{11}\) However, in chronic wounds, inadequate supply of oxygen to the tissue is often caused by the underlying diseases like chronic venous insufficiency or diabetes.\(^\text{8}\)

Another pathway for oxygen to reach the wound base is from the atmosphere. Unfortunately, the exudate acts as a barrier because of the oxygen’s characteristic of low solubility and poor diffusion in water.\(^\text{10,11}\) In other words, the exudate on the wound inhibits the oxygen in the air from reaching deep into the wound.\(^\text{10,11}\)

In fact, the importance of oxygen in the process of successful healing is the current scientific opinion that has been long-recognised.\(^\text{11}\)
General facts about treatment - Q&A

Symptoms (3 questions)

• Can pain medication influence my wound healing?
  Some types of pain medication will affect your wound healing. If you are taking pain medication, you should discuss this with your clinician.

• Can steroids influence my wound healing?
  Steroids will influence wound healing, especially if the doses are high and the medication has lasted for a long time. High dose steroids given for less than 10 days will have no remarkable effect on wound healing.

• There is a smell from my wound. Why is that and what can I do to get rid of it?
  Wounds can produce specific odours. This can be related to the dressing, the healing process or infection. If you are worried and/or the odour is present with more wound fluid and/or pain, please contact your clinician. These symptoms can be related to an infection, and specific treatment is recommended in that case. To diminish the odour, some commercial products are available, and these options should be discussed with your clinician.

Diagnosis (3 questions)

• Are pressure ulcers/bed sores inevitable when someone is confined to bed?
  No. In most cases, pressure ulcers can be prevented. The risk factors need to be recognised before the pressure ulcer develops, and to do this, clinicians are recommended to use a risk assessment scale. It is also important that the individual at risk changes position in bed by him/herself or with help to relieve pressure. For individuals who are confined to bed, it is very important to inspect the skin at least daily to have a re-positioning strategy and, if necessary, to use a special mattress to relieve the pressure.

• I have diabetes. Is developing a diabetic foot ulcer inevitable?
  No. Individuals who develop a diabetic foot ulcer usually have a long history of diabetes or very poorly controlled diabetes. As a progressive disease, diabetes causes complications, like neuropathy (reduced sensation in the feet) and/or arterial-vascular disease that disturbs normal arterial blood flow in the foot. Together with trauma, these changes could mean that even a minor break in the skin may lead to the development of a diabetic ulcer. It is very important that you manage your diabetes well, so that the risk of developing complications is reduced. The daily care and inspection of your feet are important to ensure that any changes in the skin are noticed and that the skin is kept healthy.

• I heard my nurse/physician talk about stage/classification of my wound. What does that mean?
  Staging/classifying of a wound means to categorise your wound. The categorisation is based on the aetiology, such as diabetic foot ulcer, pressure ulcer or venous leg ulcer. The categorisation is only part of the total assessment of your wound, which includes other factors such as surrounding skin and presence of exudate, to name a few. Details about pressure ulcer categories are provided in the answer to the above question.
Treatment/daily activities (5 questions)

• Should I expose my wound to air?
  No. There is clear evidence that covering wounds up with an appropriate dressing product will enhance the wound healing potential by helping to create the ‘ideal’ wound healing environment. Exposing a wound to the open air will both reduce the temperature of the wound surface and dry out the wound. Neither of these help healing.

  An appropriate dressing is one that helps to create an ideal wound healing environment (warm and moist) maintaining a constant temperature (around 37°C) at the wound surface and keeping the wound moist but not soggy. However, in some specific cases your clinician may advise to keep the wound open or choose a different treatment option.

• Does smoking influence my wound healing?
  Yes. Smoking reduces the amount of oxygen arriving at the wound. In addition any scar tissue laid down when the wound heals will be of poorer quality. If you need further information, ask your clinician for advice.

• Do I need to alter my alcohol consumption/will it influence my wound healing?
  Alcohol consumption should always be in moderation as the excess consumption of alcohol will adversely delay the healing process. If you need further information, ask your clinician for advice.

• Can I have a wound, can I take a shower?
  It will differ, depending on the type of wound, so you need to discuss this with your clinician. There are waterproof dressings available on the market.

• Can I go swimming when I have a wound?
  It will differ, depending on the type of wound, so you need to discuss this with your clinician. There are waterproof dressings available on the market.

Useful resources

1) European Wound Management Association (EWMA):
   http://ewma.org/resources/for-patients-and-relatives/

2) Wound patient/caregiver resources developed by AAWC (US):
   http://aawconline.org/woundpatientcaregiver-resources/

3) Wound care centers:
   http://www.woundcarecenters.org/

4) Better Health Channel (Victoria State Government):
Tools to track treatment progress

1. Patient diary
The purpose of patient diary is to assist patients in keeping track of their recovery process.

<table>
<thead>
<tr>
<th>Date</th>
<th>Wound No.</th>
<th>Wound location</th>
<th>Wound size</th>
<th>Pain during treatment</th>
<th>Main symptoms</th>
<th>Remarks</th>
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- **Wound size**

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- **Pain during treatment**

- **Main symptoms**

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<th>Secretion (if yes, indicate No. days in remarks)</th>
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2. Quality-of-life questionnaire
Cardiff wound impact questionnaire

- **Date**
- **Wound No.**
- **Wound location**
- **Wound size**
- **Pain during treatment**
- **Main symptoms**

3. Visual Analogue Scale (VAS)
Using a visual analogue scale (VAS), patients are instructed to point to the position on the line between faces to indicate how much pain they feel. In this system the total scores range from 0 to 100 based on the distance in millimeters from the left end bar to the mark made on the 10 cm line anchored by happy to sad faces, with a higher score indicating more severe pain.

**Visual analogue scale**

Choose a number from 0 to 10 that best describes your pain

- **No pain**
- **Distressing pain**
- **Unbearable pain**

[Intensity - Location - Onset - Duration - Variation - Quality]

*For more information, please consult with the local representative.