



Consumer Information: Wound Management

The following information has been collated by the South Australian Wound Management Association (SAWMA) for use by members of the public seeking information pertaining to the clinical treatment and management of wounds. The information contained in this page is not intended to be used as a definitive guide for the management of wounds; rather the information is provided for those seeking guidance and information on the subject. Individuals seeking information specific to their personal circumstances are advised to seek consultation with either their General Practitioner or a Wound Management Specialist/Professional.

What is a wound?

A wound can be defined as being:

Any compromise to tissue (skin or otherwise) resulting in a damaged and therefore abnormal state of physical being.

Without exception we have all been wounded at some state of our lives, whether it was skinning a knee as a child to slicing a finger open on a knife in the kitchen. Fortunately for most of us our body's natural tendency is to heal when wounded.

How do wounds heal?

The process our bodies undergo when healing a wound is complex. In the past decade understanding of how our body heals itself has significantly increased. The following information is a simplified summary of wound healing science.

Normal wound healing process

Shallow wounds versus deep wounds

Shallow wounds normally heal quickly. A minor abrasion, scrape, small superficial (first degree) burn or shallow cut only injures the top layers of skin. Shallow wounds heal by the skin repairing itself with new skin, leaving little or no scarring. A shallow wound usually heals in one to two weeks.

Deep wounds take longer to heal as the injury goes through the skin and damages deeper tissues such as fat. Very deep wounds may injure muscles, body organs, tendons or other tissues. Deep wounds heal by a more complex process with 'granulation tissue' filling the wound – in very simple terms granulation tissue can be thought of as the body's form of plaster filler.

The following is a description of the four distinct phases the body undergoes when healing deep wounds.

Phase 1 Haemostasis (Stopping Bleeding)

Immediately following injury our body immediately responds by shifting fluids to the injured area. These fluids contain a variety of special cells and chemicals, produced by our body to facilitate clotting of injured vessels, to fight potential infection and to also commence the healing process.

Phase 2 Inflammation (Swelling and Immune Response)

The second phase of wound healing is known as the *Inflammation Phase*. This phase is visible to the wounded person. You will often see redness and swelling in the skin surrounding the wound, and pain often increases during this phase. The *Inflammation Phase* involves our body responding to injury. The wound becomes warm and hot because there is a lot of cellular activity in the wound bed. During this phase the wound is 'flooded' with cells from our immune system. These cells help fight any bacteria or foreign material which may have entered our broken skin.

Under normal circumstances the *Inflammation Phase* lasts approximately 3-5 days.

Phase 3 Proliferation (Cell and Tissue Growth)

Once the initial inflammatory response has occurred our body then begins to commence the *Proliferation Phase*, which is where the body begins to replace the missing or damaged tissue with granulation tissue. Granulation tissue is not the same as the tissue that was injured. For example, if a muscle is wounded new muscle does not grow back. Eventually the granulation tissue forms a scar. Much like building a house, this process takes time, and requires the body to lay down foundations and rebuild tissue from the ground up. The *Proliferation Phase* also includes contraction of the wound. This is where the sides of the wound come closer together in addition to the growth of granulation tissue. The *Proliferation Phase* ends as new skin is formed, a process also known as *epithelialisation* – the creation of new skin or *epithelium*. The newly healed wound looks like a fresh scar. It is usually pink and may be raised and firm.

This process typically takes anywhere from 2 – 12 weeks, depending on the size and depth of the original wound.

Phase 4 Remodelling (Strengthening and Rebuilding)

The final stage of wound healing is known as the *Remodelling Phase*. This stage involves the final strengthening of the newly formed scar. This is where the newly regenerated tissue toughens up. This final phase of wound healing can take up to 2 years to finish! Over time the scar usually becomes more pale, flatter and softer.

Of course this is a very simplified outline of what occurs when our body heals from injury. For more details information the following websites can provide you with more in-depth information:

<http://www.pilonidal.org/pdfs/Principles-of-Wound-Healing.pdf>

Wound healing time frames

As we all differ from one another and wounds differ from each other, it is difficult to place exact time frames on wound healing. In general, a wound should progressively improve in appearance and decrease in size each week that it is present. Naturally, a large, deep wound will take longer to heal than a small, shallow wound.

Wound appearance

A healthy wound is typically moist in appearance. The tissue in the base of the wound should be reddish colour and should appear clean with a minimal amount of yellow sticky material (known as fibrin). It is normal for healthy wounds to weep a yellow or thin reddish fluid (known as exudate). This fluid should not smell offensive.

The edges of a healthy wound should be clean and dry, with minimal swelling or redness. You may be able to see new skin growing into the wound from the edge.

Examples of clean, healing wounds

These are examples only. Different wounds will look different.



How you can help

Health practitioners can assist in healing your wound. However, your body must do the healing itself. If you follow the advice of your health practitioner it is more likely your wound will heal.

Things you can do to assist wound healing:

- Stop or reduce smoking.
- Drink plenty of fluid (but avoid too much caffeine or alcohol).
- Eat foods rich in protein (including meat, fish, nuts, low fat dairy products, legumes).
- Avoid removing dressings or treatments applied by a health practitioner unless you are instructed to do so.
- Avoid exposing your wound to the air.
- Avoid bathing your wound in the sea.

If you have any concerns or questions please discuss these with your health practitioner

Wound dressings

A wound dressing is a covering applied to a wound. Dressings can be simple or complex. Many wounds can be managed at home with dressings available from supermarkets or pharmacies. Your pharmacist can help you choose the right dressing for a small, simple wound. However, if you have a large, deep or hard to heal wound, you may need more sophisticated dressings only available from a doctor or health professional.

A wound dressing should:

- Keep bacteria (germs) and dirt out of the wound.
- Keep the wound moist (but not too wet).
- Protect the wound from trauma.
- Collect and contain any fluid (exudate) oozing from the wound.
- Not stick to the wound.

Things to help you manage your own wound and wound dressings:

- Apart from very small, shallow wounds all wounds should be kept covered until they heal.
- Always wash your hands thoroughly with liquid soap and water before and after touching your wound or changing the dressing. Dry your hands on a clean towel or a disposable paper towel.
- It is recommended that you use an alcohol hand sanitiser after washing your hands.
- Keep wound dressings clean. Do not use dressings that are damaged, soiled or expired.
- Change the dressing if it becomes saturated, wet, soiled, dislodged or causes pain.
- Dispose of soiled and used dressings and used dressing equipment in a plastic bag which can be tied or sealed. Dispose of the plastic bag in the general waste – this is acceptable even if the dressing materials are bloodied or soiled.
- Avoid using dressing materials against the wound that might stick to the wound such as gauze or cotton pads.

- Avoid exposing your wound to the air, sun or heat (eg hair dryers).
- Avoid bathing your wound in the sea.
- Only use dressings and preparations that are approved for wounds.
- Store dressings in a clean, dry place.
- Some dressings can be cut into smaller pieces, but others cannot. Check with your pharmacist or health practitioner if you are unsure.
- If you need to store portions of unused (but open) dressings store them in a clean, sealable plastic bag.
- All dressings applied to a wound should only be used once.

How to change a wound dressing

Remove the old dressing

- Assemble all the equipment you will require before you start to change the dressing.
- Wash and dry your hands and use an alcohol hand sanitiser before removing the old dressing.
- Carefully remove the old dressing/s and discard them in a plastic bag.
- If the dressing is adhesive or tapes have been used, lift the corner or edges of the dressing/tape and gently peel the dressing off. Sometimes a clean towel moistened with water can help remove the adhesive. Support the skin adjacent to the wound as you remove the dressing and carefully peel it off in the same direction as the hair grows, keeping the dressing/tape close to the skin as you remove it.
- Do not pull dressings off fast. This can cause pain and might damage the wound and skin.
- If some of the old dressing is stuck to the wound it might need to be carefully soaked off with clean water (see: clean the wound).
- Wash your hands and use an alcohol hand sanitiser again once the old dressing has been removed.

Clean the wound

- Rinse the wound with clean water (tap water of drinking quality can be used). If you live in an area that does not have treated water, boil water for 10 minutes and let it cool before using it. If you need to put water in a bowl, use a clean bowl.
- Avoid using antiseptics such as iodine (eg Betadine™) or hydrogen peroxide to clean your wound unless your health practitioner has advised you to.
- Use a clean, soft cloth or clean gauze to gently remove all old dressing material and any loose debris that was not completely removed by rinsing. Avoid cleaning the wound with cotton wool or other materials that might leave fibres or particles in the wound.
- Avoid touching the wound with your fingers. If you need to touch the wound it is preferable to wear clean, disposable gloves.
- Pat the skin around the wound dry.

Apply a new dressing

- Open the dressing packet. If the dressing has any backing material remove this by the corners of the dressing. Avoid touching the part of the dressing that will be in contact with the wound.
- Apply the dressing/s to the wound. Try and avoid creases or puckers in the dressing.
- If the dressing is adhesive or you use tape to affix the dressing applying gentle pressure over the dressing/tape for 1-2 minutes once it is applied will help keep the dressing in place.
- Wash your hands and use an alcohol hand sanitiser.
- Dispose of waste.

Sometimes friends, family or neighbours might offer you advice on how to look after your wound or suggest particular 'remedies' that they believe will help. It is not uncommon to hear stories of particular treatments that helped themselves or someone else and suggest that if you have this treatment it will help your wound too. Whilst they mean well, their advice or treatment may not be

suitable for your wound. If you want any further information about particular advice or treatments it is recommended you discuss this with your doctor or health professional.

Why some wounds won't heal

As we all know, sometimes things don't go according to plan and wounds are no exception to this. Wound healing is dependant on many different factors.

Some factors that might stop or slow down wound healing include:

- Infection
- Poor immunity
- Poor nutritional status
- Some health problems (also known as 'co morbidities') which include:
 - Peripheral vascular disease (poor arterial blood supply to the lower legs and feet)
 - Poorly controlled diabetes
 - Smoking
 - Chronic renal (kidney) disease
 - Rheumatoid arthritis, Inflammatory bowel disease, Lupus
- Some medicines (also known as drugs or medications) which include:
 - Oral steroids
 - Anticoagulants (commonly known as 'blood thinners')
 - Chemotherapy for cancer treatment
- Inadequate or inappropriate dressings or topical therapies

Note: This is not an exhaustive list. There may be other factors that can stop or slow down wound healing. Do not stop taking any medicines prescribed for you without discussion with your doctor or health practitioner. If you are concerned about any of the factors listed above please discuss these with your doctor or health practitioner.

When wounds won't heal

A wound should decrease in size and improve in appearance from week to week. A wound which does not heal or show improvement for any time greater than six (6) weeks, is considered a 'Chronic wound' (also known as an ulcer) (AWCN, 2007).

Signs that indicate need to seek professional advice

When a wound doesn't heal, there are often a range of factors that may be preventing the wound from healing. If a wound doesn't heal it is strongly advised that you consult your doctor or health practitioner.

Specific signs that require professional assessment and advice from a doctor or health professional:

Infection

Infection is the most common complication of having a wound. Infection can be localised to the area immediately around the wound or can spread more widely. If infection enters the bloodstream this can be very serious. The following symptoms might indicate wound infection:

- The area around the wound becomes red, swollen and hot.
- The wound becomes painful.
- Fluid from the wound becomes thick or there is pus from the wound.
- Fluid from the wound becomes discoloured (for example: brown, grey or green).
- The amount of fluid from the wound (exudate) increases or is excessive.
- The wound smells offensive.

It is recommended you seek advice from a doctor or health professional if you experience the signs of infection.

The following symptoms might indicate severe infection and you should seek the advice of a health professional immediately:

- There is considerable, spreading redness and possibly swelling extending out around the wound.
- You feel unwell (symptoms might also include feeling hot, cold, sweaty or shivering).
- You develop a high temperature.
- You become confused or disoriented.

Other problems

The following symptoms might indicate a wound that is hard to heal or other problems. It is recommended you seek advice from a doctor or health professional if these issues develop.

- The wound has not noticeably decreased in size over 4-6 weeks (even a small wound).
- The wound has increased in size.
- The wound bleeds regularly or profusely.
- The area around the wound becomes white and soft or spongy.
- The wound becomes black or yellow.
- If you have any other concerns regarding your wound.

Where to seek advice for wounds that won't heal

Not all doctors and health professionals have specific training and expertise in treating wounds that don't heal. Your doctor or health professional might need to refer you to another practitioner for further investigations, tests or specialist treatment.

When you seek advice or treatment for a wound that won't heal you are entitled to receive the best quality care.

To achieve the best possible outcome for you and your wound you have the right to:

- Have your wound assessed and treated by a practitioner with specific training and experience in managing wounds that don't heal. This might mean you need referral to another health practitioner.
- Know what experience and qualifications your practitioner has in treating hard to heal wounds.
- Know what different treatment options are available for your and your wound.
- Know the benefits and any risks of wound treatments offered to you and your wound.
- Know the costs of any wound dressings or treatments offered to you prior to accepting treatment.
- Know the consequences if you decide not to follow the advice given to you.
- Ask any questions and receive an adequate answer.
- Have your wound treated with products and therapies approved for use on wounds.
- Have your wound re-assessed regularly by a practitioner who is able to determine its progress.
- Seek an opinion from another health professional if you so desire.
- Be referred to another health professional if you so desire.

(Adapted from the Association for the Advancement of Wound Care 2006)

SAWMA has provided this information as a service to consumers. SAWMA hopes this information has provided you with some practical guidance that will help you achieve the best outcome for you and your wound.

References

MacLellan D (Editor) 2007 Wound Glossary: Terminology for Wound Practitioners, Advanced Wound Care Network, Health Education & Management Innovations Australia.

Association for the Advancement of Wound Care 2006 Wound Patient's Bill of Rights <http://www.aawconline.org/> Accessed on line 4/4/09

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