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Treating Pain with Heat and Cold



Medically reviewed by [Judith Marcin, M.D.](#) — Written by Ana Gotter —
Updated on May 26, 2023

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Heat therapy helps improves blood flow to the area where the heat is applied. It's best for muscle pain or stiffness. Cold therapy helps reduce inflammation. It's most helpful when used for acute injuries and pain.

We treat everything from arthritis to pulled muscles to inflammation with ice packs or [heating pads](#). Treating pain with hot and cold can be extremely effective for a number of different conditions and injuries, and easily affordable.

The tricky part is knowing what situations calls for hot, and which calls for cold. Sometimes a single treatment will even include both.

As a general rule of thumb, use ice for acute injuries or pain, along with inflammation and swelling. Use heat for muscle pain or stiffness.

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Heat therapy

How it works

Heat therapy works by improving circulation and blood flow to a particular area due to increased temperature. Increasing the temperature of the afflicted area even slightly can soothe discomfort and increase muscle flexibility. Heat therapy can relax and soothe muscles and heal damaged tissue.

Types

There are two different types of heat therapy: dry heat and moist heat. Both types of heat therapy should aim for “warm” as the ideal temperature instead of “hot.”

- Dry heat (or “conducted heat therapy”) includes sources like heating pads, dry heating packs, and even saunas. This heat is easy to apply.
- Moist heat (or “convection heat”) includes sources like steamed towels, [moist heating packs](#), or hot baths. Moist heat may be slightly more effective as well as require less application time for the [same results](#) ✓.

Professional heat therapy treatments can also be applied. Heat from an

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When applying heat therapy, you can choose to use local, regional, or whole body treatment. Local therapy is best for small areas of pain, like one stiff muscle. You could use small heated gel packs or a hot water bottle if you only want to treat an injury locally. Regional treatment is best for more widespread pain or stiffness, and could be achieved with a steamed towel, large heating pad, or heat wraps. Full body treatment would include options like saunas or a hot bath.

When not to use

There are certain cases where heat therapy should not be used. If the area in question is either bruised or swollen (or both), it may be better to use cold therapy. Heat therapy also shouldn't be applied to an area with an open wound.

People with certain pre-existing conditions should not use heat therapy due to higher risk of burns or complications due to heat application. These conditions include:

- diabetes
- dermatitis
- vascular diseases
- deep vein thrombosis
- multiple sclerosis (MS)

If you have either heart disease or hypertension, ask your doctor before using heat therapy. If you are pregnant, check with your doctor before using saunas or hot tubs.

Applying heat therapy

Heat therapy is often most beneficial when used for a good amount of time, unlike cold therapy, which needs to be limited.

Minor stiffness or tension can often be relieved with only 15 to 20 minutes

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Moderate to severe pain can benefit from longer sessions of heat therapy like warm bath, lasting between 30 minutes and two hours.



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Cold therapy

How it works

Cold therapy is also known as cryotherapy. It works by reducing blood flow to a particular area, which can significantly reduce inflammation and swelling that causes pain, especially around a joint or a tendon. It can temporarily reduce nerve activity, which can also relieve pain.

Types

There are a number of different ways to apply cold therapy to an affected

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- ice packs or **frozen gel packs**
- **coolant sprays**
- ice massage
- ice baths

Other types of cold therapy that are sometimes used include:

- cryostretching, which uses cold to reduce muscle spasms during stretching
- cryokinetics, which combines cold treatment and active exercise and can be useful for ligament sprains
- whole-body cold therapy chambers

When not to use

People with sensory disorders that prevent them from feeling certain sensations should not use cold therapy at home because they may not be able to feel if damage is being done. This includes diabetes, which can result in nerve damage and lessened sensitivity.

You should not use cold therapy on stiff muscles or joints.

Cold therapy should not be used if you have poor circulation.

Applying cold therapy

For home treatment, apply an ice pack wrapped in a towel or ice bath to the affected area. You should never apply a frozen item directly to the skin, as it can cause damage to the skin and tissues. Apply cold treatment as soon as possible after an injury.

Use cold therapy for short periods of time, several times a day. Ten to 15 minutes is fine, and no more than 20 minutes of cold therapy should be used at a time to prevent nerve, tissue, and skin damage. You can elevate the affected area for best results.

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Potential risks

Risks of heat therapy

Heat therapy should utilize “warm” temperatures instead of “hot” ones. If you use heat that’s too hot, you can burn the skin. If you have an infection and use heat therapy, there is a chance that the heat therapy could increase the risk of the infection spreading. Heat applied directly to a local area, like with heating packs, should not be used for more than 20 minutes at a time.

If you experience increased swelling, stop the treatment immediately.

If heat therapy hasn’t helped lessen any pain or discomfort after a week, or the pain increases within a few days, make an appointment to see your doctor.

Risks of cold therapy

If you’re not careful, cold therapy applied for too long or too directly can result in skin, tissue, or nerve damage.

If you have cardiovascular or heart disease, consult your doctor before using cold therapy.

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Takeaway

Knowing when to use cold therapy and when to use heat therapy will significantly increase the effectiveness of the treatment. Some situations will require both. Arthritic patients, for example, may use heat for joint stiffness and cold for swelling and acute pain.

If either treatment makes the pain or discomfort worse, stop it immediately. If the treatment hasn't helped much with regular use in a few days, you can make an appointment to see your doctor to discuss other treatment options.

It's also important to call your doctor if you develop any bruising or skin changes over the course of treatment.

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How we reviewed this article:

 **SOURCES**  **HISTORY**

Our experts continually monitor the health and wellness space, and we update our articles when new information becomes available.

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Heating Pads for Back Pain: Benefits and Best Practices



Medically reviewed by [Timothy Gossett, M.D.](#) — Written by [Valencia Higuera](#) on September 23, 2019

[Benefits](#) [How to use](#) [Precautions](#) [DIY pads](#) [Heat or ice?](#)

Takeaway

Heating pads may help improve the circulation in your body, which could help relieve your back pain, repair damaged muscles, reduce inflammation, and improve back stiffness.

Muscle spasms, joint pain, and [stiffness](#) in your back can limit mobility and interfere with physical activities. While medication can be effective at knocking out inflammation, heat therapy also works for back pain.

This type of therapy isn't anything new. In fact, its history dates to the ancient Greeks and Egyptians who used the sun's rays as therapy. The Chinese and Japanese would even use hot springs as therapy for pain.

Today, you don't have to head outdoors for relief. Heating pads have made it easier and convenient to use [heat therapy](#). Here's a look at some benefits of heat therapy for [back pain](#).

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Benefits of heat therapy for back pain

Heat therapy may help boost circulation, which allows nutrients and oxygen to travel to joints and muscles.

Any type of heat therapy can help relieve back pain. Yet, heating pads are ideal because they're convenient and portable. They're also electric, so you can use them anywhere in your home, such as lying in bed or sitting on the couch.

Hot or warm baths provide moist heat, which also promotes circulation and reduces muscle pain and stiffness. A bath might work better if you have pain or stiffness in other parts of your body, too.

The problem with baths, though, is that it's difficult to maintain the water temperature. That water will slowly cool down.

On the other hand, heating pads have adjustable levels and provide a continuous flow of heat — for as long as the pad is turned on.

If you don't have a heating pad, taking a warm shower or relaxing in a hot tub may also relieve back pain and stiffness. One benefit of a hot tub and shower over a bath is continuous heat similar to a heating pad.

How to use an electric heating pad

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Always start on the lowest setting

To start, set the heating pad on the lowest setting. For minor aches and pain, a low setting might be more than enough to reduce pain and stiffness. You can gradually increase the intensity of heat, if needed.

There are no hard or fast rules regarding how long to use a heating pad on your back. It all depends on the level of pain and your tolerance to heat. Even so, if you use a heating pad on a high setting, remove after 15 to 30 minutes to avoid burns.

On a low setting, you can use the heating pad for a longer period, maybe up to one hour.

Use caution if you're pregnant

If you're pregnant and have back pain, it's safe to use a heating pad. You should avoid prolonged exposure since overheating can be dangerous to a fetus. It can lead to neural tube defects or other complications.

This is more probable in a [hot tub](#) or [sauna](#), but err on the side of caution. Use a heating pad on the lowest setting while pregnant, and only for about 10 to 15 minutes.

Since heating pads decrease pain signals and increase circulation, use the pad soon after developing painful flares or stiffness to speed the healing process.

Types of heating pads

Different heating pads are available for back pain. This includes a standard electric heating pad that offers multiple heat settings.

There's also the option of an infrared heating pad. This is helpful for moderate to severe pain since the heat penetrates deeper into the muscles.

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on the pad.

You can find electric heat pads at your local pharmacy or shop for one [online](#).

Gel packs

If you don't have a heating pad on hand, you can use a heat wrap or heated gel pack underneath your clothes.

Before using a gel pack, place it in the microwave for about 1 to 2 minutes (follow package instructions), and then apply to a sore back. You can also use certain gel packs for cold therapy.

You can find heat wraps and gel packs at your local pharmacy or shop for them [online](#).



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Heating pads are effective for pain management, but they can be dangerous when used improperly. Here are a few safety tips to avoid injury.

- Don't place a heating pad or heated gel pack directly on your skin. Wrap it in a towel before applying to skin to avoid burns.
- Don't fall asleep using a heating pad.
- When using a heating pad, start on the lowest level and slowly increase the heat intensity.
- Don't use a heating pad that has a cracked or broken electrical cord.
- Don't apply a heating pad to damaged skin.

How to make a homemade heating pad

If you don't have a heating pad, you can [make your own](#) using items already in your house.

For this to work, you need an old cotton sock, regular rice, and a sewing machine, or a needle and thread.

Fill the old sock with rice, leaving just enough space at the top of the sock to sew the ends together. Next, put the sock in the microwave for about 3 to 5 minutes.

Once the microwave stops, carefully remove the sock and apply it to your back. If the sock is too hot, let it cool or wrap it in a cloth before using.

You can also use the rice sock as a cold pack. Just put it in the freezer before applying to acute injuries.

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When to use heat and when to use ice

Keep in mind that heat isn't recommended for every type of back pain. It can relieve chronic pain and stiffness, such as those associated with arthritis and other muscle or joint ailments.

However, if your back injury is recent, cold therapy is more effective because it restricts blood vessels and reduces swelling, which can dull pain.

Use cold therapy for the first 24 to 48 hours after an injury, and then switch to heat therapy to stimulate blood flow and healing.

The takeaway

A sore, stiff back makes it difficult to do just about everything from exercising to working. Heat therapy might be the secret to reducing inflammation and stiffness.

If you don't have a heating pad, consider a hot shower, bath, or a homemade heating pad. These can provide the results you need to get moving again.

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