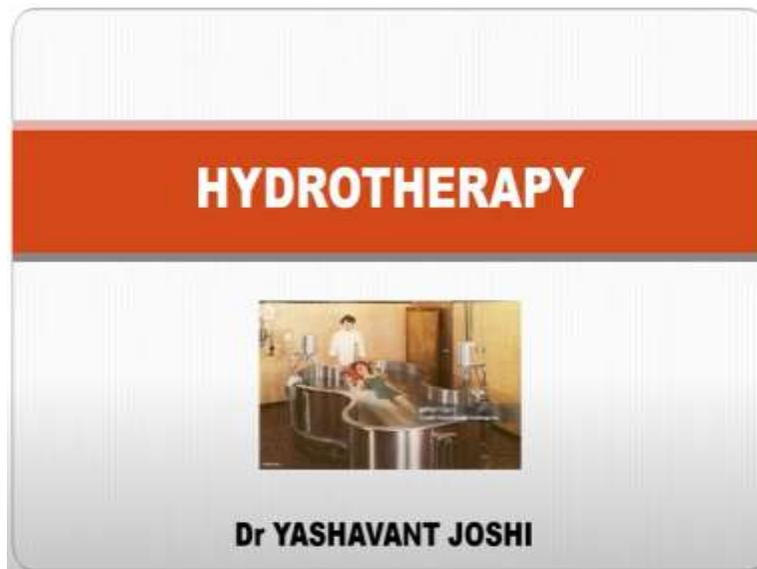


**Certificate in Integrative Palliative Care – 3**  
**Dr. Geeta Joshi**  
**Dr. Piyush Gupta**  
**Dr. Col. Yashavant Joshi**  
**International Institute of Distance Learning**  
**Indian Institute of Technology, Kanpur**

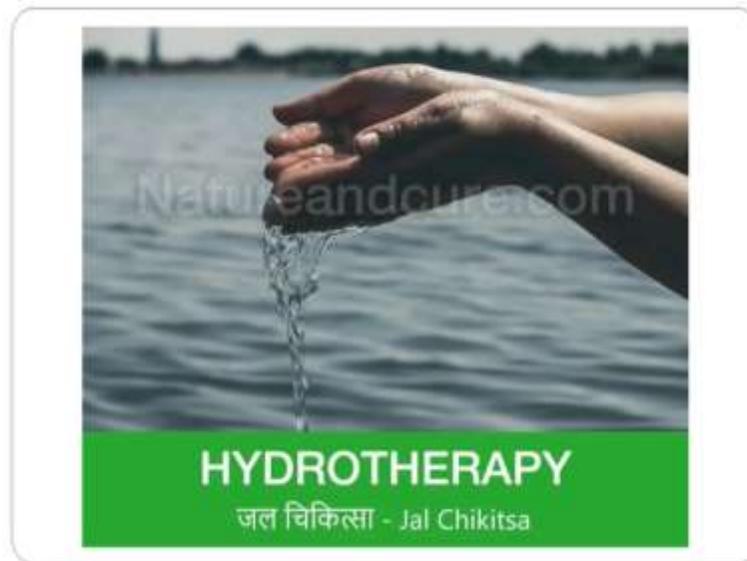
**Week-02**  
**Lecture 14: Hydro Therapy**

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Hello, I am naturopath expert Shikha from Lucknow. I have been working as a naturopathy since last 23 years. Let us understand the hydrotherapy.

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Hydrotherapy means water therapy.

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### **PRELUDE**

- Hydrotherapy, or water therapy, is a complementary therapy that uses water for health purposes. Depending on the industry and use, some may also refer to the treatments as **Aquatic Therapy, Water Therapy, or Hydrotherapy.**
- There are many uses for different types of hydrotherapy, including treating joint pain with water exercises and easing muscle stress with cold or hot showers or baths.
- People should always discuss hydrotherapy with a doctor or physical therapist before adding it to a treatment program.

Hydrotherapy or water therapy is a complementary therapy that uses water for health purposes depending upon the industry and use. Some may also refer to the treatments as aquatic therapy, water therapy or hydrotherapy.

There are many uses of different types of hydrotherapy including training, treating joint pain with water exercises and easing muscle stress with cold or hot shower baths. People

should always discuss hydrotherapy with a doctor or physical therapist before adding it to the treatment program.

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This is the picture of hydrotherapy.

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**What is Hydrotherapy?**

- Hydrotherapy refers to using water as therapy in any form. For instance, it may act as a treatment for temporary skin-related issues, such as burns and septic ulcers, or for chronic health conditions, such as arthritis and fibromyalgia.
- Water therapy uses either hot or cold water, with the water pressure and flow varying among treatments. The intention is to ease both physical and mental symptoms.
- Some hydrotherapy practices are as simple as sitting in a warm bath, which people can do at home. Other practices involve specialist locations or equipment, such as a cold sauna.

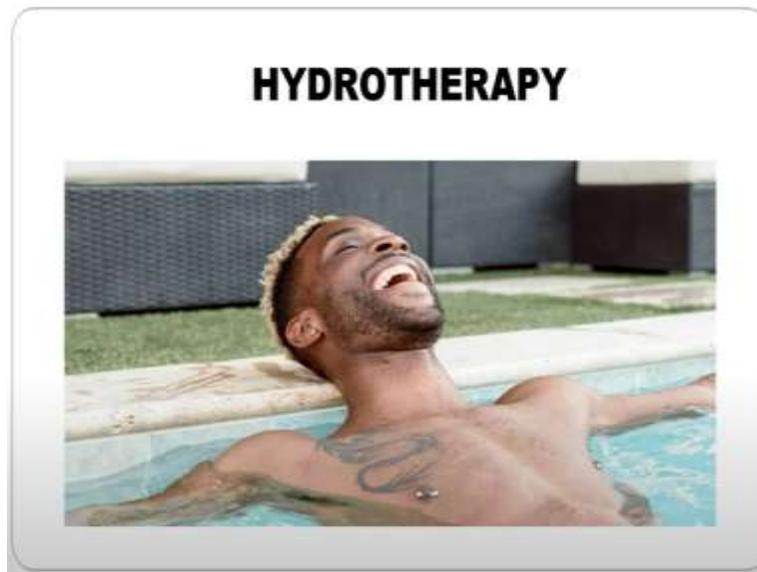
What is hydrotherapy? Let us understand.

Hydrotherapy refers to using water as therapy in any form. For instance, it may act as treatment for temporary skin related issues such as burns and septic ulcers or for chronic health conditions such as arthritis and fibromyalgia. Water therapy uses either hot or cold

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Other practices involve specialist locations or equipments such as cold sauna.

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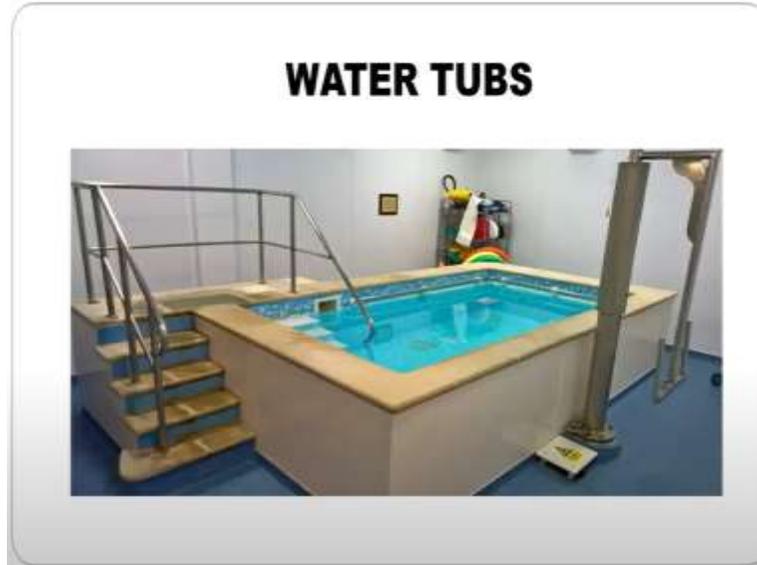
This is again the picture of hydrotherapy.

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Equipments of hydrotherapies are physical therapy tanks, swimming pools, whirlpool spas, hot tubs, saunas, showers, baths.

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This is the picture water tub.

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### BENEFITS

**Hydrotherapy may offer a range of benefits, including:**

- 1. Reducing pain**
  - One review found that spa therapy using warm water had a significant pain-relieving effect in people with chronic diseases of the musculoskeletal system and connective tissues.
  - The warm water may ease the signals for pain, relax the muscles, and increase blood flow, reducing pain in the area.
- 2. Improving mental health**
  - The Centers for **Disease Control and Prevention (CDC)** note that water-based activities improve mental health in some people. For example, people with fibromyalgia may find aquatic exercise therapy reduces anxiety and depression.
  - Additionally, many may find that swimming improves their mood and helps release tension through exercise.

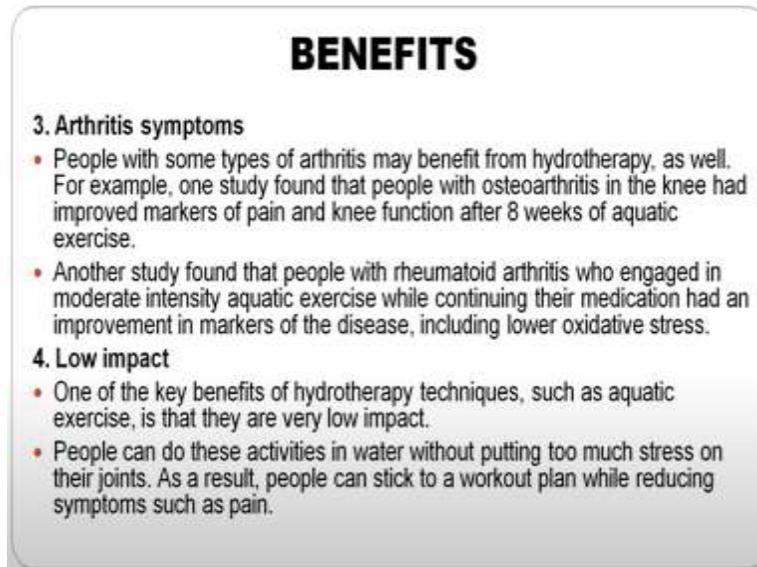
Benefits of hydrotherapy.

Hydrotherapy may offer a range of benefits includes the first one is reducing pain. One review found that spa therapy using warm water had significant pain relieving effect in people with chronic diseases of the musculoskeletal system and connective tissues. The warm water may ease the signal for pain, relax the muscles and increase blood flow reducing pain in area. Next benefit is improving mental health. The centers for disease

control and prevention note that water based activities improved mental health in some people.

For example, people with fibromyalgia may find aquatic exercise therapy reduce anxiety and depression. Additionally, many may find that swimming improves their mood and helps release tension through exercise.

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**BENEFITS**

**3. Arthritis symptoms**

- People with some types of arthritis may benefit from hydrotherapy, as well. For example, one study found that people with osteoarthritis in the knee had improved markers of pain and knee function after 8 weeks of aquatic exercise.
- Another study found that people with rheumatoid arthritis who engaged in moderate intensity aquatic exercise while continuing their medication had an improvement in markers of the disease, including lower oxidative stress.

**4. Low impact**

- One of the key benefits of hydrotherapy techniques, such as aquatic exercise, is that they are very low impact.
- People can do these activities in water without putting too much stress on their joints. As a result, people can stick to a workout plan while reducing symptoms such as pain.

There are much more benefits. Next one is arthritis symptoms. People with some types of arthritis may find benefits from hydrotherapy as well.

For example, one study found that people with osteoarthritis in knee had improved markers of pain and knee function after 8 weeks of aquatic exercises. Another study found that people with rheumatoid arthritis who engaged in moderate intensity aquatic exercise while continuing their medication had an improvement in make markers of disease including lower or oxidative stress. Another benefit is on low impact. One of the key benefit of hydrotherapy techniques such as aquatic exercise is that they are very low impact. People can do activities in water without putting too much stress on their joints.

As a result, people can stick to a workout plan while reducing symptoms such as pain.

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**BENEFITS**

**Hydrotherapy may offer a range of benefits, including:**

**5. Relaxation**

- Many forms of hydrotherapy also aid relaxation, both physically and mentally. Warm water may help ease tension in the muscles while promoting a relaxed state of mind.

**6. Recovering from workouts**

- Athletes sometimes use various forms of hydrotherapy in which they alternate between warm and cold water. Many feel that this form of contrast hydrotherapy helps them recover from hard workouts and avoid delayed onset muscle soreness.

Next benefit is relaxation. Many forms of hydrotherapy also aid relaxation both physically and mentally. Warm water may help ease tension in the muscles while promoting our relaxed state of mind. Next benefit is recovering from workouts.

Athletes sometimes use various form of hydrotherapy in which they alternate between warm and cold water. Many feel that this form of contrast hydrotherapy helps them recover from hard workout and avoid delayed onset muscle soreness.

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**BENEFITS**

**Hydrotherapy may offer a range of benefits, including:**

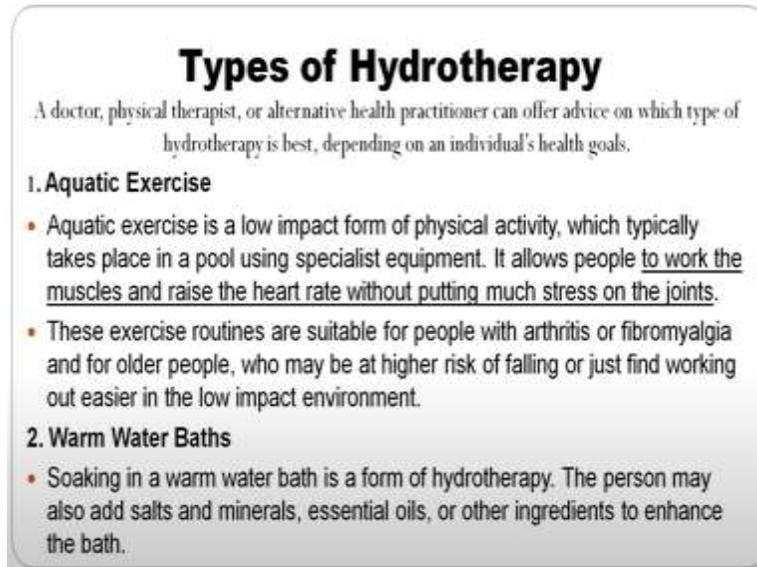
**7. Pregnancy and hydrotherapy**

- Hydrotherapy may help with the general aches and pains that pregnancy can cause. Some people may choose forms of hydrotherapy during a water birth to reduce pain and promote relaxation.
- Research into the benefits and uses of hydrotherapy is ongoing. There is still a lack of evidence to support some hydrotherapy health claims.

Another benefit is pregnancy. Hydrotherapy may help with the general aches and pains that pregnancy can cause. Some people may choose form of hydrotherapy during a water birth to reduce pain and promote relaxation.

Research into the benefit and uses of hydrotherapy is ongoing. There is still a lack of evidence to support some hydrotherapy health claims.

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**Types of Hydrotherapy**

A doctor, physical therapist, or alternative health practitioner can offer advice on which type of hydrotherapy is best, depending on an individual's health goals.

- 1. Aquatic Exercise**
  - Aquatic exercise is a low impact form of physical activity, which typically takes place in a pool using specialist equipment. It allows people to work the muscles and raise the heart rate without putting much stress on the joints.
  - These exercise routines are suitable for people with arthritis or fibromyalgia and for older people, who may be at higher risk of falling or just find working out easier in the low impact environment.
- 2. Warm Water Baths**
  - Soaking in a warm water bath is a form of hydrotherapy. The person may also add salts and minerals, essential oils, or other ingredients to enhance the bath.

Types of hydrotherapy let us understand. A doctor, physical therapist or alternative health practitioners can offer advice on which type of hydrotherapy is best depending on an individual's good health goals. Aquatic exercise.

Aquatic exercise is low impact form of physical activity. which typically takes place in a pool using specialist equipments. It allows people to work the muscle and raise the heart rate without putting much stress on joints. These exercise routines are suitable for people with arthritis or fibromyalgia and for older people who may be at higher risk or failing or just find working out easier in low impact environment. Warm water baths, Soaking in the warm water baths is a form of hydrotherapy.

The person may also add salt and minerals, essential oils or other ingredients to enhance the bath.

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### **Types of Hydrotherapy**

- 3. Sitz Bath**
  - A sitz bath is a shallow bath using either warm or cold water. Practitioners may recommend sitz baths for relief from issues such as cramps or hemorrhoids.
- 4. Wraps, Compresses, And Fomentation**
  - Wraps and compresses using hot, warm, or cold water are also a form of hydrotherapy. These may provide targeted relief from mild symptoms and support treatment.
- 5. Saunas**
  - Depending on the definition, saunas may include both wet and dry heat saunas, as well as cool or refrigerated saunas. These involve sitting in a room set to a specific temperature with either humid or dry air.

Third one is sitz bath. A sitz bath is shallow bath using either warm or cold water. Practitioners may recommend sitz bath for relief from issues such as cramps or hemorrhoids. Next, wraps, compresses and fermentation.

Wrap and compresses using hot, warm or cold water are also a form of hydrotherapy. These may produce targeted relief from mild symptoms and support treatment. Saunas: Depending on the definition saunas may include both wet and dry heat saunas as well as cool or refrigerated saunas. These involve sitting in the room set to the specific temperature with either humid or dry air.

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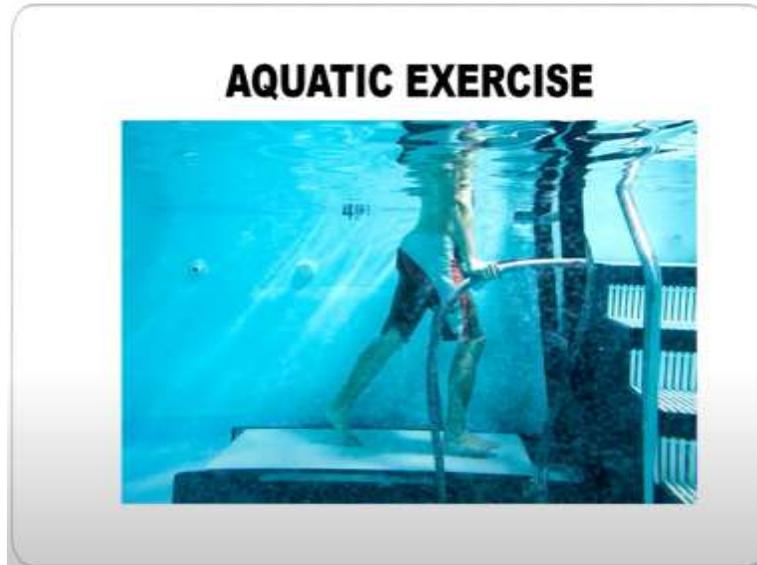
### **AQUATIC EXERCISE**



The image shows two individuals in a swimming pool. On the left, a woman in a dark blue long-sleeved shirt is holding two blue and white striped dumbbells. On the right, a person with blonde hair wearing goggles and a light blue shirt is also in the water, appearing to be engaged in an aquatic exercise routine. The water is clear and blue.

This is the picture of aquatic exercise you can see.

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Another one is aquatic exercise.

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**Types of Hydrotherapy**

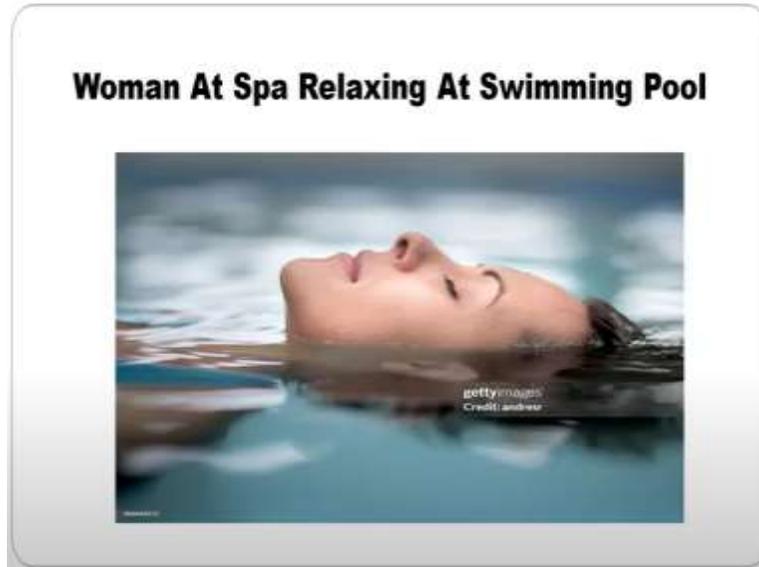
**6. Water Circuit Therapy**

- Water circuit therapy or **Contrast Hydrotherapy** involves going through a few different forms of hydrotherapy one after the other, generally alternating between warm and cold water to promote circulation and help ease symptoms.
- The circuit may vary greatly depending on the practitioner and the person receiving treatment, but it could include various techniques such as:
  - Warm Baths
  - Wet Or Dry Saunas
  - Cold Plunges
  - Cool Baths

Water circuit therapy, let us understand water circuit therapy or contrast hydrotherapy involves going through a few different forms of hydrotherapy one after the other, generally alternating between warm or cold water to promote circulation and help ease symptoms. The circuit may vary greatly depending on the practitioner and the person

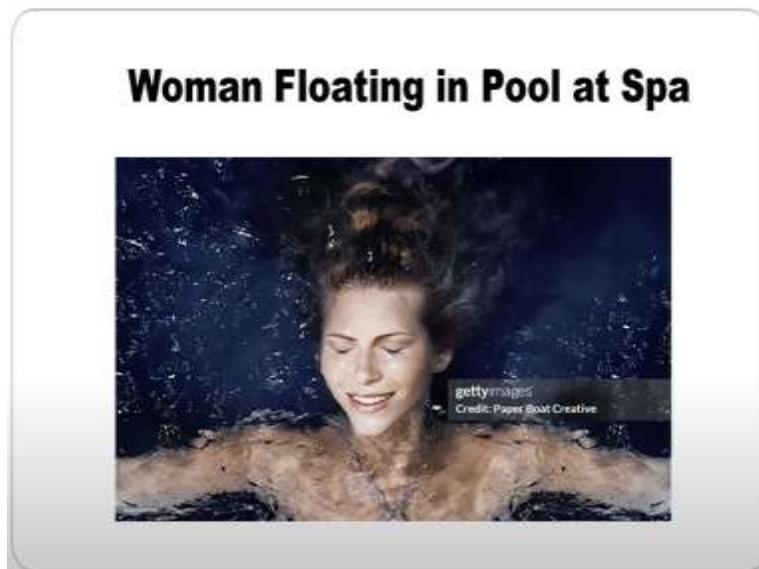
receiving treatment, but it could include various techniques such as warm bath, wet or dry saunas, cold plugs, cold plunges, cool baths.

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Here is the picture of women at spa relaxing and swimming pool.

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Another picture of woman floating in the pool at spa.

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## Man Doing Physical Therapy in Water



Another picture is man doing physical therapy in water.

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## AQUATIC EXERCISE



This is the picture of aquatic exercise.

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## **Types of Hydrotherapy**

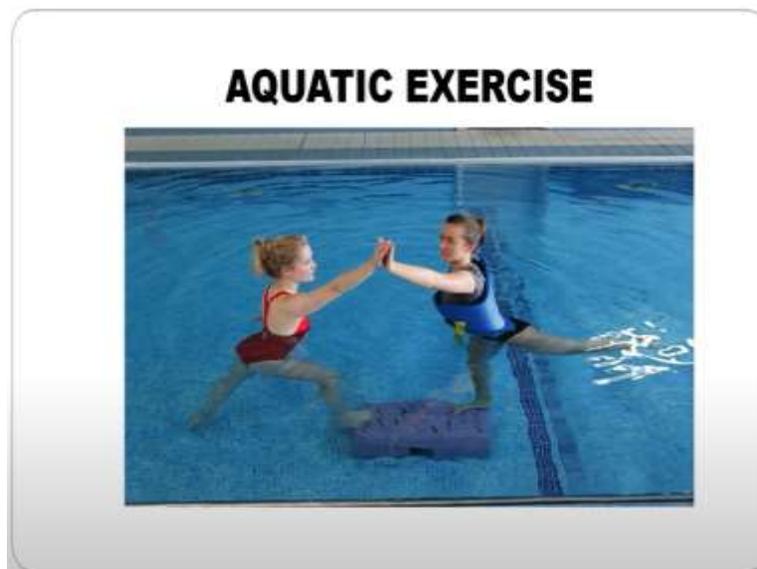
**7. Immersion therapies**  
Immersion therapies are those that involve a person immersing themselves in water for relief. They include:

- **Warm Baths**
- **Cool Baths**
- **Cold Plunges**
- **Sitz Baths**
- **Hot Tubs With Jet Massages**
- **Whirlpool Baths**

Now let's begin with types of hydrotherapy. The one therapy is immersion therapy. Immersion therapy are those that involve a person immersing themselves in water for relief.

They include warm baths, cool baths, cold plunges, sitz bath, hot tubs with jet massages and whirlpool baths.

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Here is another picture of aquatic exercise.

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## **AQUATIC EXERCISE**



## **AQUATIC EXERCISE**



## AQUATIC EXERCISE



Another one, again you can see aquatic exercises, the person doing exercises under the water or submerged in the water.

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## SUMMARY

- Hydrotherapy may have various uses as a complementary therapy to standard treatment.
- Relaxing hydrotherapy practices, such as **Saunas** and **Foot Baths**, may help ease stress and allow a person to relax or alleviate painful symptoms.
- In each case, it is still important to work with a doctor to determine the most suitable practices for the individual.

Hydrotherapy may have various uses as a complementary therapy to standard treatment. Relaxing hydrotherapy practices such as saunas and foot baths may help ease stress and allow a person to relax or alleviate painful symptoms.

In each case, it is still important to work with a doctor to determine the most suitable practices for the individual.

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**RESOURCES**

- Medically reviewed by Debra Sullivan, Ph.D., MSN, R.N., CNE, COI — Written by Jon Johnson on September 30, 2020



Here are some resources from where hydrotherapy presentation are taken.

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**PART: II**  
**Heat or Cold Hydrotherapy?**



The illustration shows various hydrotherapy tools. On the left, under 'Heat Therapy', there is a showerhead spraying water, a red hot water bottle, and a blue heat pack. On the right, under 'Cold Therapy', there is a white ice pack, a blue cold pack, and a blue cold pack.

Another part, part 2 defines heat or cold hydrotherapy.

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## Heat or Cold Hydrotherapy?

- Heat and cold therapy are often recommended to help relieve an aching pain that results from muscle or joint damage.
- Basic heat therapy, or thermotherapy can involve the use of a hot water bottle, pads that can be heated in a microwave, or a warm bath.
- For cold therapy, or cryotherapy, a water bottle filled with cold water, a pad cooled in the freezer, or cool water can be used.
- In some cases, alternating heat and cold may help, as it will greatly increase blood flow to the injury site.

Heat or cold hydrotherapy, heat and cold therapy are often recommended to help relieve an aching pain that results from muscle and joint damage. Basic heat therapy or thermotherapy can involve the use of hot water bottle, pads and can be heated in a microwave or a warm bath.

For cold hydrotherapy or cryotherapy, a water bottle filled with cold water, a pad cooled in freezer or cool water can be used. In some cases, alternating heat or cold may help as it will greatly increase blood flow to injury side.

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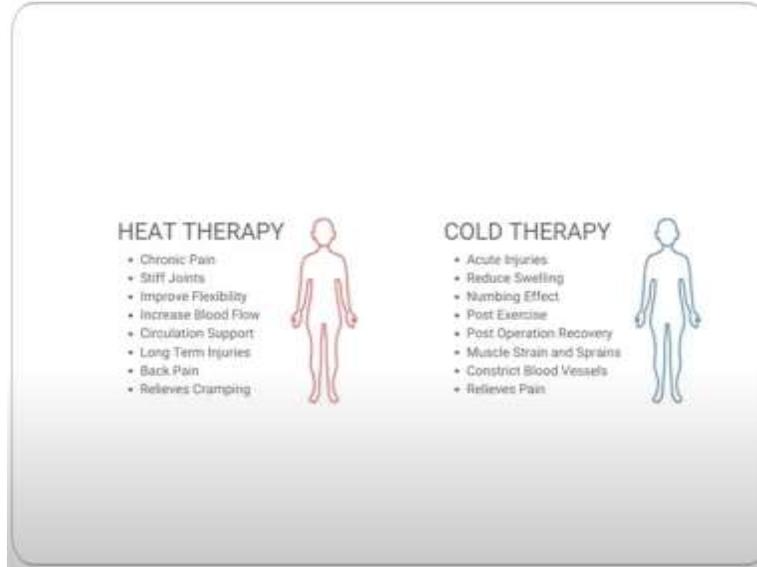
## FAST FACTS Cold & Heat Treatment

- Cold treatment reduces inflammation by decreasing blood flow. Apply within 48 hours after an injury.
- Heat treatment promotes blood flow and helps muscles relax. Use for chronic pain.
- Alternating heat and cold may help reduce exercise-induced muscle pain.
- **Never use extreme heat, and never put ice directly on the skin.**

Fast facts of hot and cold treatment. Cold treatment reduces inflammation by decreasing blood flow. Apply within 44 hours after injury.

Heat treatment promotes blood flow and helps muscles to relax. Use of chronic pain. Alternating heat and cold therapy may help to reduce exercise induced muscle pain. Never use extreme heat and never put eyes directly on the skin.

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Here heat therapy used in chronic pain, stiff joints, improved flexibility, increased blood flow, circulation support, long term injuries, back pain, relief cramping.

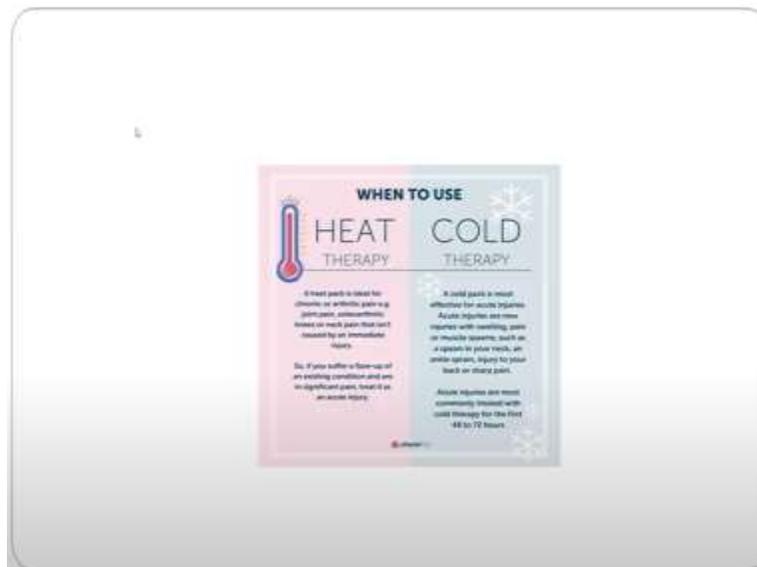
Cold therapy for acute injuries, reduced swelling, numbing effect, post exercise, post operation recovery, muscle strain and sprain, constrict blood vessels and relieve pain.

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Hot therapy used in cold, menstrual cramp, back pain, shoulder pain, you can get benefit in fibromyalgia, arthritis, joint pain, muscle pain, soreness. You can get benefit by cold therapy in fever, headache, migraine, heat stroke, sunburn, swelling, sports injury, shin splint, ankle sprain.

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When you use heat therapy, a heat pack is ideal for chronic or arthritis pain, example joint pain, osteoarthritis, knees, neck pain and is not caused by an immediate injury. So, you can suffer a flare up or an existing condition and are in significant pain, treat Acute injury, cold therapy.

Cold therapy: A cold pack is most effective for acute injuries. Acute injuries are new injuries with swelling, pain or muscle spasm such as spasm in your neck and ankle sprain, injury to your back or sharp pain. Acute injuries are most commonly treated with cold therapy for the first 48 to 70 hours.

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Now, let us understand the ice therapy. Suggested immediately after an injury within first 48 hours, helps reduce swelling and inflammation.

Best for acute injuries, migraine, muscle strain and injured tendons. Too much can lead to frostbite. Let us understand how you can do heat therapy. Recommended 48 hours after the injury happened. Helps reduce cramps and relieve tightness.

Best for headaches, menstrual cramps, neck, ankle and back sprain. Too much can lead to burn.

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Cold therapy. Here is the picture.

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**COLD THERAPY**

- Cold treatment reduces blood flow to an injured area. This slows the rate of inflammation and reduces the risk of swelling and tissue damage.
- It also numbs sore tissues, acting as a local anesthetic, and slows down the pain messages being transmitted to the brain.
- Ice can help treat a swollen and inflamed joint or muscle. It is most effective within 48 hours of an injury.
- Rest, ice, compression and elevation (RICE) are part of the standard treatment for sports injuries.
- Note that ice should not normally be applied directly to the skin.

Cold treatment reduces blood flow to an injured area.

This shows the rate of inflammation and reduce the risk of swelling and tissue damage. It also numbs sore tissues acting as local anesthetic and shows down the pain messages being transmitted to the brain. Ice can help treat a swollen and inflamed joint or muscles. It is most effective within 48 hours of an injury. Rest, ice, compression and elevation

means RICE are the part of standard treatment for sports injuries. Note that ice should not be normally be applied directly to the skin.

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As the picture, hot and cold packs can help relieve pain. The choice can depend on the type and cause of the pain.

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### **Types of Cold Therapy**

**SOMEWAYS OF USING COLD THERAPY INCLUDE:**

- A Cold compress or a chemical cold pack applied to the inflamed area for 20 minutes, every 4 to 6 hours, for 3 days. Cold compresses are available for purchase online.
- Immersion or soaking in cold, but not freezing, water
- Massaging the area with an ice cube or an ice pack in a circular motion from two to five times a day, for a maximum of 5 minutes, to avoid an ice burn
- In the case of an ice massage, ice can be applied directly to the skin, because it does not stay in one place.
- **Ice should not be applied directly to the bony portions of the spinal column.**
- A cold compress can be made by filling a plastic bag with frozen vegetables or ice and wrapping it in a dry cloth.

Types of cold therapy. Let us understand some ways of using cold therapy include a cold compress of the chemical cold pack applied to the inflamed area for 20 minutes every 4 to 6 hours for 3 days.

Cold compresses are available for purchase online. Immersion or soaking in cold, but not freezing water. Massaging the area with an ice cube or an ice pack in a circular motion form 2 to 5 times a day for a maximum for 5 minutes to avoid an ice burn. In case of ice massage, ice can be applied directly to the skin because it does not stay in one place. Ice should not be applied directly to the bony portion of spinal column.

A cold compress can be made by filling a plastic bag with frozen vegetables or ice and wrapping it in a dry cloth.

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A cold compress applied within 48 hours for an injury can help reduce inflammation.

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### **What is Ice Useful For?**

**COLD TREATMENT CAN HELP IN CASES OF:**

- Osteoarthritis
- A Recent Injury
- Gout
- Strains
- Tendinitis, or irritation in the tendons following activity
- A cold mask or wrap around the forehead may help reduce the pain of a migraine.
- For osteoarthritis, patients are advised to use an ice massage or apply a cold pad 10 minutes on and 10 minutes off.

Let us understand what is ice useful for? Cold treatment can help in case of Osteoarthritis A recent injury, Gout, Strains, tendinitis or irritation in tendons following activity. A cold mask or wrap around the forehead may help reduce the pain of migraine. For osteoarthritis, patients are advised to use an ice massage or apply cold pack 10 minutes or 10 minutes off.

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### **When Not to Use Ice...**

**Cold is not suitable if:**

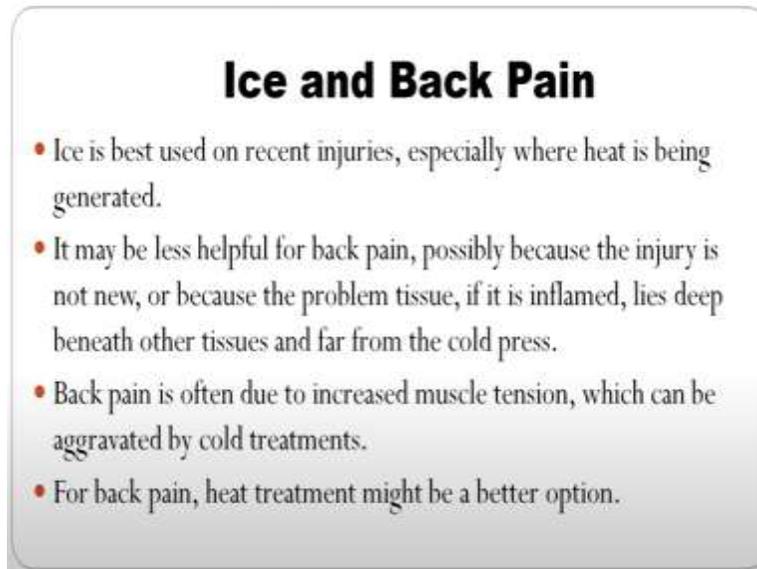
- There is a risk of cramping, as cold can make this worse
- The person is already cold or the area is already numb
- There is an open wound or blistered skin
- The person has some kind of vascular disease or injury, or sympathetic dysfunction, in which a nerve disorder affects blood flow
- The person is hypersensitive to cold
- Ice should not be used immediately before activity.
- It should not be applied directly to the skin, as this can freeze and damage body tissues, possibly leading to frostbite.

When not to use ice. Cold is not suitable if there is a risk of cramping as cold can make its worst. The person is already cold or the area is already numb. There is an open wound or blistered on skin. The person has some kind of vascular disease or injury or

sympathetic dysfunction in which a nerve disorder affects blood flow.

A person is hypersensitivity to cold. Ice should not be used immediately before activity. It should not be applied directly to skin as it this can freeze and damage body tissues possibly leading to frostbite.

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**Ice and Back Pain**

- Ice is best used on recent injuries, especially where heat is being generated.
- It may be less helpful for back pain, possibly because the injury is not new, or because the problem tissue, if it is inflamed, lies deep beneath other tissues and far from the cold press.
- Back pain is often due to increased muscle tension, which can be aggravated by cold treatments.
- For back pain, heat treatment might be a better option.

Ice and back pain. Ice is the best used on recent injuries especially where heat is being generated. It may be less helpful for back pain possibly because the injury is not new or because the problem tissues if it is inflamed lies deep beneath other tissues and far from cold press.

Back pain is often due to increased muscle tension which can be aggravated by cold treatment. For back pain, heat treatment might be better option.

(Refer Slide Time: 19:33)



This is the picture of heat therapy. You can see, let us understand much more about heat therapy.

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### **Heat Therapy**

- Applying heat to an inflamed area will dilate the blood vessels, promote blood flow, and help sore and tightened muscles relax.
- Improved circulation can help eliminate the buildup of lactic acid waste occurs after some types of exercise. Heat is also psychologically reassuring, which can enhance its analgesic properties.
- Heat therapy is usually more effective than cold at treating chronic muscle pain or sore joints caused by arthritis.

Applying heat to an inflamed area will dilate the blood vessel, promote blood flow and help sore and tightened muscle relax.

Improved circulation can help eliminate the buildup of lactic acid. Waste occurs after some times of exercise. Heat is also physiologically reassuring which can enhance its

analgesic properties. Heat therapy is usually more effective than cold at treating chronic muscle pain or soreness of joint caused by arthritis.

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**Types of Heat Therapy**

Types of heat therapy include:

- **Applying Safe Heating Devices To The Area.** Many heat products are available for purchase online, including electrical heating pads, hot water bottles, hot compress, or heat wrap.
- **Soaking The Area In A Hot Bath,** between 92 and 100 degrees Fahrenheit or 33 and 37.7 degrees Celsius
- **Using Heated Paraffin Wax Treatment**
- **Medications** such as rubs or patches containing capsiicum, available for purchase online.
- **Heat Packs Can Be Dry Or Moist.** Dry heat can be applied Trusted Source for up to 8 hours, while moist heat can be applied for 2 hours. Moist heat is believed to act more quickly.
  - Heat should normally be applied to the area for 20 minutes, up to three times a day, unless otherwise indicated.
  - Single-use wraps, dry wraps, and patches can sometimes be used continuously for up to 8 hours.

Types of heat therapy. Types of heat therapy include applying safe heating devices to the area. Many heat products are available for purchase online including electrical heating pads, hot water bottles, hot compress or heat wraps. Soaking the area in a hot bath between 92 to 100 degree Fahrenheit or 33 and 37.

7 degree Celsius. Using heated paraffin wax treatment. Medicines such as rubs or patches containing capsiicum, vegetables available for purchase online. Heat packs can be dry or moist. Dry heat can be applied trusted sources for up to 8 hours, while moist heat can be applied for 2 hours, moist heat is believed to act more quickly. Heat should be normally be applied to an area for 20 minutes up to 3 times a day unless otherwise indicated Single use wraps, dry wraps and patches can sometimes be used continuously for up to 8 hours.

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## What is Heat Useful For?

Heat is useful for relieving:

- heat may reduce the spasms that lead to headaches. A hot bath can provide comfort and relief from some types of pain.
- osteoarthritis
- strains and sprains
- tendonitis, or chronic irritation and stiffness in the tendons
- warming up stiff muscles or tissue before activity
- relieving pain or spasms relating to neck or back injury, including the lower back
- Applied to the neck,

What is heat useful for? Heat is useful for relieving, heat may reduce the spasm that lead to headaches, a hot bath can provide comfort.

and relief from some type of pain, osteoarthritis, strains and sprains, tendonitis or chronic irritation and stiffness in tendons, warming up stiff muscles or tissue before activity, relieving pain or spasm related to neck and back injury including the lower back applied to the neck.

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## What is Heat Useful For?

- In 2006, a team of researchers found that patients with lower back pain who exercised and use continuous low-level heat wrap therapy (CLHT) experienced less pain than those who did not use CLHT.
- Previous studies had shown that, for some people, CLHT relieved pain more effectively than oral analgesics, acetaminophen, and ibuprofen.
- However, the effectiveness of heat treatment may depend on the depth of the tissue affected by the pain or injury.
- Some people use heat treatment, often in the form of a hot bath, to stave off DOMS.
- There is some evidence that this might help, but heat that is applied for only 5 to 20 minutes may be less effective, as does not have the chance impact the deeper levels of tissue.
- Some researchers have suggested that moist chemical heat packs, which can be used for 2 hours, may be the best way to prevent DOMS through heat treatment.

What is heat useful for? In 2006, the team of researchers found the patient with lower back pain who exercised and used continuous low-level heat trap therapy experienced less pain than those who did not use. Low continuous low level heat trap therapy. Previous studies had shown that some people relieved pain more effectively than oral analgesics, acetaminophen or ibuprofen. However, the effectiveness of heat treatment may depend on the depth of tissue affected by pain or injury.

Some people use heat treatment often in the form of hot baths to stave off There are some evidences that this might help, but heat that is applied for only 5 to 20 minutes may be less effective as does not have the chance impact the deeper level of tissues. Some researchers have suggested that moist chemical heat packs which can be used for 2 hours may be the best way to prevent pain.

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When not to use heat? Heat is not suitable for all injury type. Any injury that is already hot will not benefit from further warming.

These include infections, burns or fresh injuries. Heat should not be used if the skin is not, skin is hot, red or inflamed. The person has dermatitis or open wound, the area is numb or the person may be in sensitivity to heat due to peripheral neuropathy or similar condition. Ask the doctor first about using heat or cold on the person who has high blood pressure or heart disease. Excessive heat must be avoided.

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## Alternating Cold and Heat

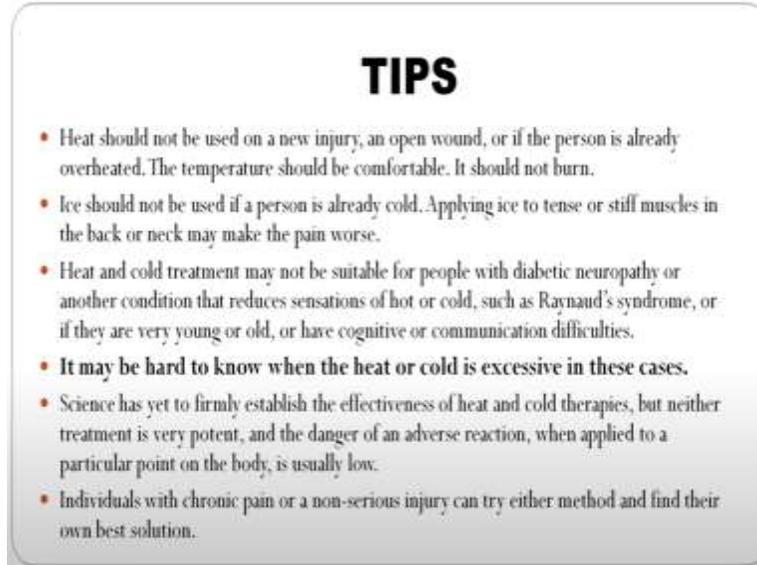
- When cold is applied to the body, the blood vessels contract, vasoconstriction occurs. This means that circulation is reduced, and pain decreases.
- Removing the cold causes vasodilation, as the veins expand to overcompensate.
- As the blood vessels expand, circulation improves, and the incoming flow of blood brings nutrients to help the injured tissues heal.
- Alternating heat and cold can be useful for:
  - osteoarthritis
  - exercise-induced injury or DOMS
- Contrast water therapy (CWT) uses both heat and cold to treat pain. Studies show that it is more effective at reducing EMD and preventing DOMS than doing nothing.
- A review of studies has suggested that, for elite athletes, CWT is better at reducing muscle pain after exercise compared with doing nothing or resting.
- However, the researchers point out that it may not be better than other strategies, such as heat treatment, cold treatment, stretching, or compression. They say that more evidence is necessary.

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This means that circulation is reduced and pain decreases. Removing the cold causes vasodilation as the veins expand to overcompensate. The blood vessels expand, circulation improves and the incoming flow of blood brings nutrient to the help to injured healing. Alternating hot and cold can be useful for osteoarthritis, exercise induced injury or DOMS. Contrast water therapy use both heat or cold to treat pain. Study shows that it is more effective at reducing and preventing DOMS than doing nothing.

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**TIPS**

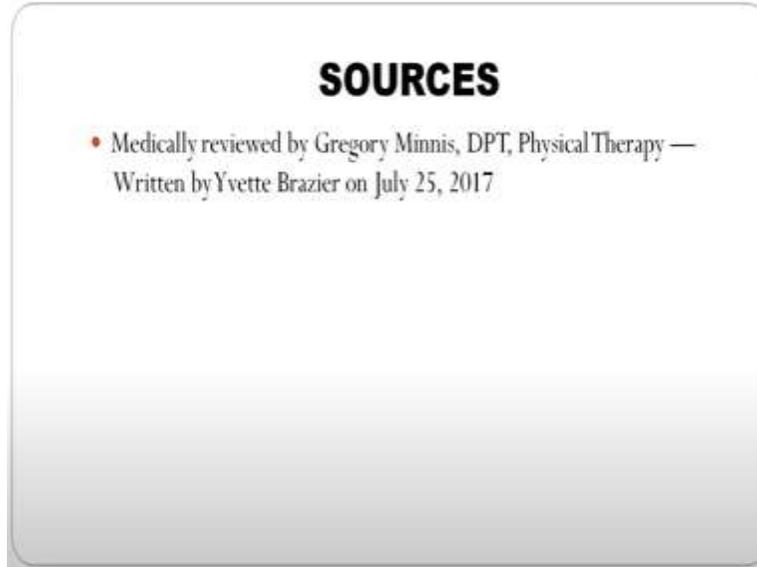
- Heat should not be used on a new injury, an open wound, or if the person is already overheated. The temperature should be comfortable. It should not burn.
- Ice should not be used if a person is already cold. Applying ice to tense or stiff muscles in the back or neck may make the pain worse.
- Heat and cold treatment may not be suitable for people with diabetic neuropathy or another condition that reduces sensations of hot or cold, such as Raynaud's syndrome, or if they are very young or old, or have cognitive or communication difficulties.
- **It may be hard to know when the heat or cold is excessive in these cases.**
- Science has yet to firmly establish the effectiveness of heat and cold therapies, but neither treatment is very potent, and the danger of an adverse reaction, when applied to a particular point on the body, is usually low.
- Individuals with chronic pain or a non-serious injury can try either method and find their own best solution.

Now come to some tips. Heat should not be used on a new injury, an open wound or if the patient is already overheated.

The temperature should be comfortable, it should not burn. Ice should not be used if a person is already cold. Applying ice to tense or stiff muscle in the back of neck may make the pain worse. Heat should not be used directly Heat or cold treatment may not be suitable for people with diabetic neuropathy or another condition that reduces sensation or hot and cold such as Reynolds syndrome or if they are very young or old or have cognitive or communication difficulties. It may be hard to know when the heat or cold is excessive in these case. Science has yet to firmly establish the effectiveness of heat or cold therapies, but neither treatment is very potent and the danger of adverse reaction when applied to a particular point on the body is usually low.

Individual with chronic pain or non-serious injury can try either methods or find their own best solution.

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Here are the sources. I hope you can now better understand by this presentation how water is essential for our life and we can use water as a therapeutic measures and use of hot and cold fermentations, use of steam, use of saunas you can get better results. Thank you so much.