

G A M E  R E A D Y®

# HOW NEW CRYOTHERAPY TECHNIQUES CAN BENEFIT YOUR PATIENTS & PRACTICE



# CONTENTS

<b>INTRODUCTION</b> .....	<b>3</b>
<b>TRADITIONAL CRYOTHERAPY SOLUTIONS</b> .....	<b>4</b>
<b>HOW TRADITIONAL CRYOTHERAPY SOLUTIONS WORK</b> .....	<b>5</b>
<b>DISADVANTAGES OF TRADITIONAL CRYOTHERAPY SYSTEMS</b> .....	<b>6</b>
<b>ACTIVE COMPRESSION AND COLD SYSTEMS</b> .....	<b>7</b>
<b>ATX® TECHNOLOGY</b> .....	<b>7</b>
<b>SPECIALIZED WRAPS</b> .....	<b>8</b>
<b>BENEFITS OF ACTIVE COMPRESSION AND COLD SYSTEMS</b> .....	<b>8</b>
<b>GAME READY FOR YOUR PRACTICE</b> .....	<b>10</b>

# INTRODUCTION



The use of cryotherapy has been documented for centuries, including by the Egyptians, Napoleon, and multiple medical professionals all over the world. Unlike other ancient medical practices that have since been proven ineffective, cold therapy has withstood the test of time. In fact, it is now widely recommended for a broad range of injuries and conditions.

The types of injuries and medical conditions that can be addressed with cryotherapy include:

- Acute sports injuries such as sprains and strains
- Post-operative recovery
- Pulled muscles and ligaments
- Amputee recovery

Because cryotherapy is so beneficial to injury recovery, researchers have developed new techniques over the years to apply cold in the most effective manner. However, each approach presents advantages and disadvantages, so it is up to you as a medical professional to stay on the cutting edge and decide which technology makes the most sense for your patients and practice.

This guide is designed to give you the information you need to select the best cryotherapy solution for your patients. It will describe the traditional approaches to cold therapy and introduce a proven technology that provides added value for both you and your patients. If you are a physical therapist, athletic trainer, orthopedic surgeon, or any other type of medical professional that regularly addresses pain and inflammation caused by injury or surgery, this guide is for you.





# TRADITIONAL CRYOTHERAPY SOLUTIONS

Every medical professional is familiar with RICE (rest, ice, compression, and elevation), particularly those who work with athletes on a regular basis. Although this traditional approach remains a sound one, how you execute it has changed over the years.

For example, some of the customary ways to apply cold include:

- **Ice/cold packs** – An ice pack is placed on the injured area for 10-20 minutes, repeating every few hours.
- **Ice baths** – The patient is partially or fully submerged in ice water, typically between 12 and 15 °C, for 5-20 minutes.
- **Hyperbaric gaseous cryotherapy** – Pressurized carbon dioxide at -78 °C is applied to reduce the temperature in the affected area without causing pain.
- **Cryogenic chambers** – Used as an alternative to ice baths, a chamber is cooled with liquid nitrogen to -120 °C and the patient spends just a few minutes in it to bring down the average skin temperature, while not impacting the core temperature.

Additionally, elastic bandages are often used to apply static compression to help control swelling. In some cases, cold therapy and static compression are combined to improve the benefits of cryotherapy by providing increased coverage and deeper penetration because of the increased tissue density caused by the compression.



# HOW TRADITIONAL CRYOTHERAPY SOLUTIONS WORK

The application of cold has several effects on the body, including:

- Decreasing inflammation
- Decreasing pain
- Decreasing muscle spasms
- Reducing cell growth and reproduction
- Increasing cellular survival
- Promoting vasoconstriction

Regardless of how the cold is applied, cryotherapy works by drawing heat away from the body. As the temperature of body tissue is reduced, several reactions take place. The blood vessels in the area immediately constrict, reducing the amount of available oxygen. This has the effect of slowing cellular metabolism, so fewer cells die as a result of the damage to the tissue. Protecting healthy tissue and limiting the damage of the injured tissue with the use of cold therapy helps accelerate healing and reduces the overall recovery period. At the same time, therapeutic cold decreases the activity of nerve fibers, which creates a numbing effect to reduce pain and helps decrease the incidence of muscle spasms.

The addition of compression helps prevent the formation of edema, or excess fluid, by limiting fluid loss in the injured area. Preventing edema is an important step in controlling the swelling that is naturally caused by the body's inflammatory response.

# DISADVANTAGES OF TRADITIONAL CRYOTHERAPY SYSTEMS



Although there are many benefits to using cold packs, ice baths, hyperbaric gaseous cryotherapy, and cryogenic chambers, they also present a few disadvantages.

Therapies that use extreme cold, such as hyperbaric and cryogenic chambers, run the risk of frostbite or cold burns on the skin. Although measures such as protective gear and limiting exposure can be taken to reduce this risk, it cannot be eliminated. Patient safety is a priority for every medical professional, so employing techniques that can potentially cause further injury should be avoided.

Although the risks of using an ice bath are comparably lower, patients can still have negative impacts if they stay submerged for too long. Additionally, ice baths are simply uncomfortable and inconvenient, especially for patients who are receiving treatment in the middle of a workday.

Ice packs present the least amount of risk, but they have the disadvantage of quickly becoming less effective. As the body draws

heat away from the ice pack, it becomes warmer, and the benefits of therapeutic cold diminish throughout the treatment session. Providing fresh ice packs every several minutes can solve this, but this is not a practical solution for most people and/or providers.



# ACTIVE COMPRESSION AND COLD SYSTEMS



New technologies have emerged to overcome the challenges presented by other cryotherapy approaches while providing the same or better therapeutic benefits.

The development of active compression and cold systems has made it possible for doctors, physical therapists, and athletic trainers to deliver the cold therapy that you know and trust without risk to patients. Game Ready active compression and cold therapy systems combine three technologies to do this: ATX®, ACCEL®, and specialized ergonomically design wraps.



## ATX® TECHNOLOGY

Doctors and NASA scientists worked closely together to develop Active Temperature Exchange (ATX) technology to transfer heat away from the body. In Game Ready Systems, the heat is transferred from a wrap that surrounds the injury to an ice reservoir that absorbs the heat and circulates freshly cooled water to keep the temperature consistent. This eliminates the warming problem that ice and cold packs present during cold therapy.



## ACCEL® TECHNOLOGY

Active Compression and Cold Exchange Loop (ACCEL) technology integrates pneumatic pressure and the circulation of ice water to provide simultaneous active compression and therapeutic cooling. With two separate wrap chambers that allow you to adjust the temperature and the pressure, Game Ready employs a microprocessor with ACCEL technology so you can customize treatment for each patient.



## SPECIALIZED WRAPS

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# BENEFITS OF ACTIVE COMPRESSION AND COLD SYSTEMS

In addition to all of the benefits provided by traditional RICE therapy, there are several reasons to use Game Ready in your practice or clinic:

## EFFICACY

Active compression and cold are clinically proven to be more effective than ice therapy alone. This means faster healing for your patients. If you work with athletes, the ability to facilitate a faster recovery process is invaluable. Of course, accelerated healing is also beneficial to every type of patient, giving you a competitive edge over the competition. Most patients have the opportunity to make a choice about where they go for surgery or physical therapy. If you can offer the same high-quality medical care as the other practitioners in your field and help them get back to normal activity faster, they are more likely to choose your practice and recommend it to friends and family.

## PATIENT COMFORT

Every health provider knows that even when patients understand the benefits of cold therapy,

they don't always follow doctor recommendations for treatment time and frequency because it is inconvenient or uncomfortable. Many patients don't want to take the time to prepare an ice pack or go to the clinic to sit in an ice bath. With quick-release connectors and wraps that patients can often use on their own, Game Ready makes cryotherapy more comfortable and increases patient compliance with the available preset programs and easy-to-use interface.

## PATIENT SAFETY

Because you can control the temperature of therapeutic cold and pressure, patients will not experience damage to skin or other tissues. In contrast to hyperbaric or cryogenic chambers, Game Ready does not get cold enough to pose the risk of extreme temperatures. The system also has a built-in controls that allows you to control how long the session lasts, the therapeutic temperature, and the pressure.

## LOWER COST TO PATIENTS

Based on various clinical studies that describe typical recovery costs, the benefits of using Game Ready can be translated to actual and theoretical monetary values. For example, because active compression and cold therapy reduces pain, fewer medications are consumed during the recovery period. This cuts down on the cost of prescription and over-the-counter medications and saves money for patients.

Other potential cost savings can come from factors such as:

- Reduced likelihood of a blood transfusion
- Shorter hospital stays after surgery
- Reduced risk of narcotic addiction
- Improved PT milestones

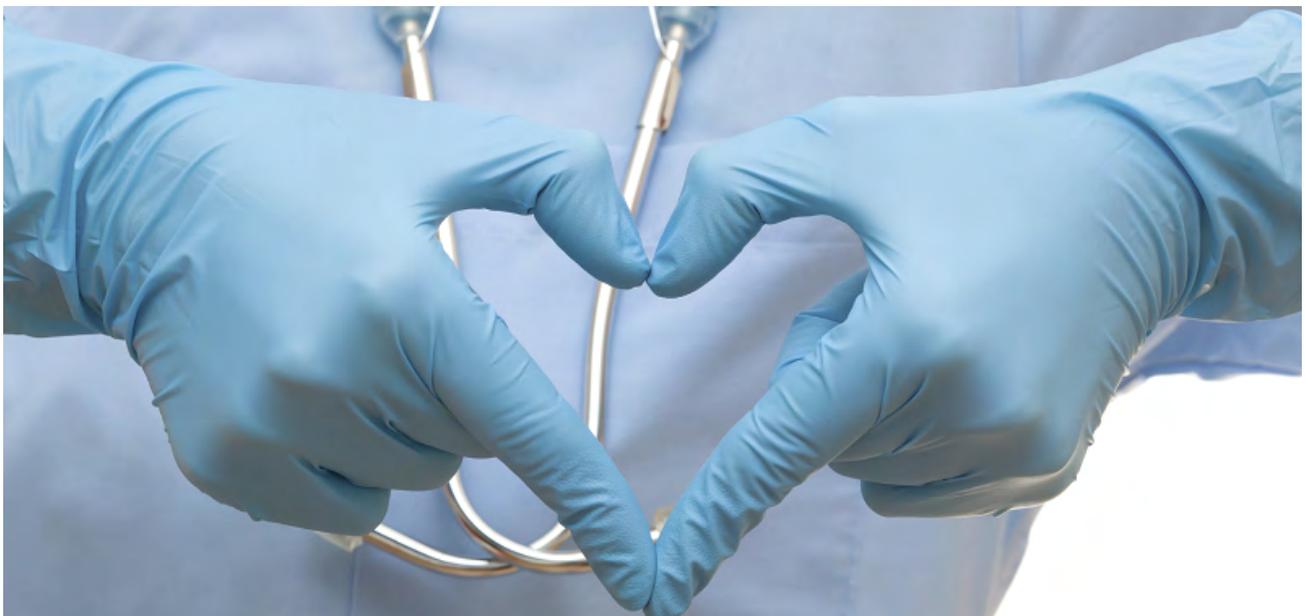
When patients understand that a faster recovery also means cost savings, they are more likely to participate in cryotherapy. For many patients, a faster recovery also means fewer lost wages. If you offer a solution that enhances the many benefits of cryotherapy, you make your practice even more appealing.

## FEWER MEDICATIONS

In addition to the cost of the prescription, many patients are hesitant to take pain medication after an injury or surgery because of the risk of addiction. Some people simply don't like the way narcotics make them feel. Game Ready reduces the need for medication because it helps reduce pain and swelling. For patients who do want or need medication immediately following a surgery or injury, they can stop taking it sooner, reducing cost, potential side effects, and risk of addiction.

## EFFICIENCY

Although your primary goal is to provide excellent health care, a physician's practice or physical therapy clinic is a business. As such, you must be concerned about efficient use of resources. Unlike an ice bath or cryotherapy chamber, Game Ready allows you to treat two patients at the same time with one system. You get the benefit of maximizing your equipment and patients can enjoy faster scheduling.



# GAME READY FOR YOUR PRACTICE



If your practice, physical therapy clinic, or athletic training center regularly uses cryotherapy and/or compression, Game Ready offers a solution that makes sense for both you and your patients.

With Game Ready, patients enjoy the benefits of:

- Faster recovery
- Fewer medications
- Cost savings
- More comfortable treatment
- Improved PT milestones

Meanwhile, your practice gets the advantages of:

- Better patient compliance
- Competitive edge with better patient benefits
- Efficiency of treating two patients at the same time

Game Ready also offers a providers locator for patients looking specifically for Game Ready therapy—which means free advertising for your clinic.

If you're ready to add Game Ready to your practice, or if you simply want to learn more, get in touch with us today.

**VISIT US**  
[WWW.GAMEREADY.COM](http://WWW.GAMEREADY.COM)