HOW NEW CRYOTHERAPY TECHNIQUES MAY BENEFIT YOUR PATIENTS AND PRACTICE

GAME READY®

CONTENTS

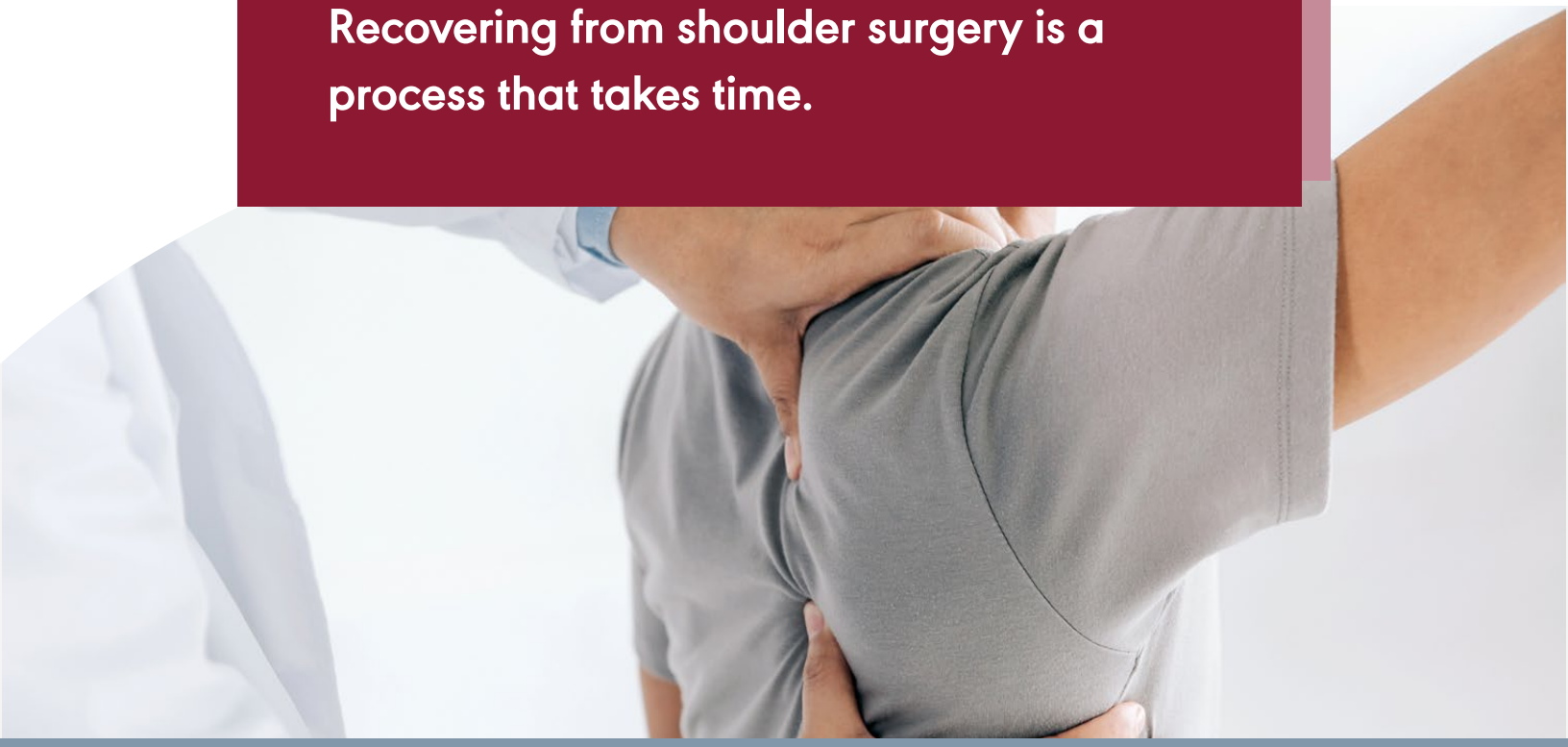
INTRODUCTION

Cryotherapy, the use of cold to treat injuries, is an ancient practice documented from the ancient Egyptians to Napoleon. Medical professionals across the globe rely on cryotherapy as a first line of defense against pain and inflammation. Unlike other ancient medical practices that have since been proven to be ineffective, cold therapy has withstood the test of time. In fact, it is now widely recommended for a broad range of injuries and conditions.[1]

The types of injuries and medical conditions that cryotherapy may help address include:

- Acute sports injuries such as sprains and strains
- Post-operative recovery
- Pulled muscles and ligaments[2]
- Amputee recovery[3]

Recovering from shoulder surgery is a process that takes time.



Each approach presents advantages and disadvantages, so it is up to you, as a medical professional.

Because cryotherapy has been shown to be beneficial to injury recovery, researchers have developed new techniques over the years to help apply cold in the most effective manner. Each approach presents advantages and disadvantages, so it is up to you, as a medical professional, to stay on top of the research and decide which technology makes the most sense for your patients and practice.

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

TRADITIONAL CRYOTHERAPY SOLUTIONS

Medical professionals, especially those who regularly work with athletes, are familiar with RICE (rest, ice, compression, and elevation).[4] Although this traditional approach remains a sound one, how it's executed has changed over the years.

For example, some of the customary ways to apply cold may 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 53-59 degrees Fahrenheit (12-15 degrees Celsius), for 5-20 minutes.
- **Hyperbaric gaseous cryotherapy:** Pressurized carbon dioxide at minus 108 degrees Fahrenheit (minus 78 degrees Celsius) 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 minus 184 degrees Fahrenheit (minus 120 degrees Celsius), and the patient spends just a few minutes in it to bring down the average skin temperature while not impacting the core temperature.[5]

Elastic bandages are often used in addition to cryotherapy to apply static compression to help control swelling. In some cases, cold therapy and static compression are combined to help improve the benefits of cryotherapy by providing increased coverage and deeper penetration.[6]

HOW TRADITIONAL CRYOTHERAPY SOLUTIONS WORK

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

- Decreasing inflammation[7]
- Decreasing pain[7]
- Decreasing muscle spasms[7]
- Reducing cell growth and reproduction[7]
- Increasing cellular survival[7]
- Promoting vasoconstriction[7]

The addition of compression helps prevent the formation of edema, or excess fluid, by limiting fluid loss in the injured area.

Regardless of how the cold is applied, cryotherapy works by drawing heat away from the body. As the temperature of the tissue is reduced, several reactions take place. The blood vessels in the area immediately constrict, reducing the amount of available oxygen.[8] This slows cellular metabolism, so fewer cells die as a result of the damage to the tissue.[9] Cold also helps numb pain, reducing the patient's discomfort. This may make it easier to sleep and find a comfortable position.

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 for controlling the swelling that is naturally caused by the body's inflammatory response.[10]

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, increase the risk of frostbite or cold burns on the skin. Although measures such as protective gear and limiting exposure may reduce this risk, it cannot be eliminated. Patient safety is a priority for every medical professional, so techniques with a higher risk of injury, including whole-body cryotherapy, you may want to avoid.

Although the risks of using an ice bath are comparably lower, patients may still experience negative effects such as frostbite 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. The pain of sitting in a freezing-cold bath may be a significant deterrent to seeking care, even for patients who have severe pain.[11]

Providing fresh ice packs every few minutes can solve this, but this is not a practical solution for most people or providers.

Ice packs pose the lowest risk, but they have the disadvantage of quickly becoming less effective. As the body draws heat away from the ice pack, the ice pack becomes warmer, and the benefits of therapeutic cold diminish throughout the treatment session. Providing fresh ice packs every few minutes can solve this, but this is not a practical solution for most people or providers. Homemade ice packs such as lunch box insulators and packs of peas may be even less effective because they do not conform to the body and warm up over time, therefore, do not deliver as effective cold therapy.

ACTIVE COMPRESSION AND COLD SYSTEMS

New technologies help overcome the challenges of other cryotherapy approaches while providing the same or better therapeutic benefits.

The development of active compression and cold systems makes it possible for doctors, physical therapists, athletic trainers, and other medical professionals to deliver the cold therapy that they know and trust with less risk to patients. Game Ready active compression and cold therapy systems combine three technologies to do this: ATX®, ACCEL®, and specialized ergonomically designed 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 helps lessen the warming problem that ice and cold packs present during cold therapy.

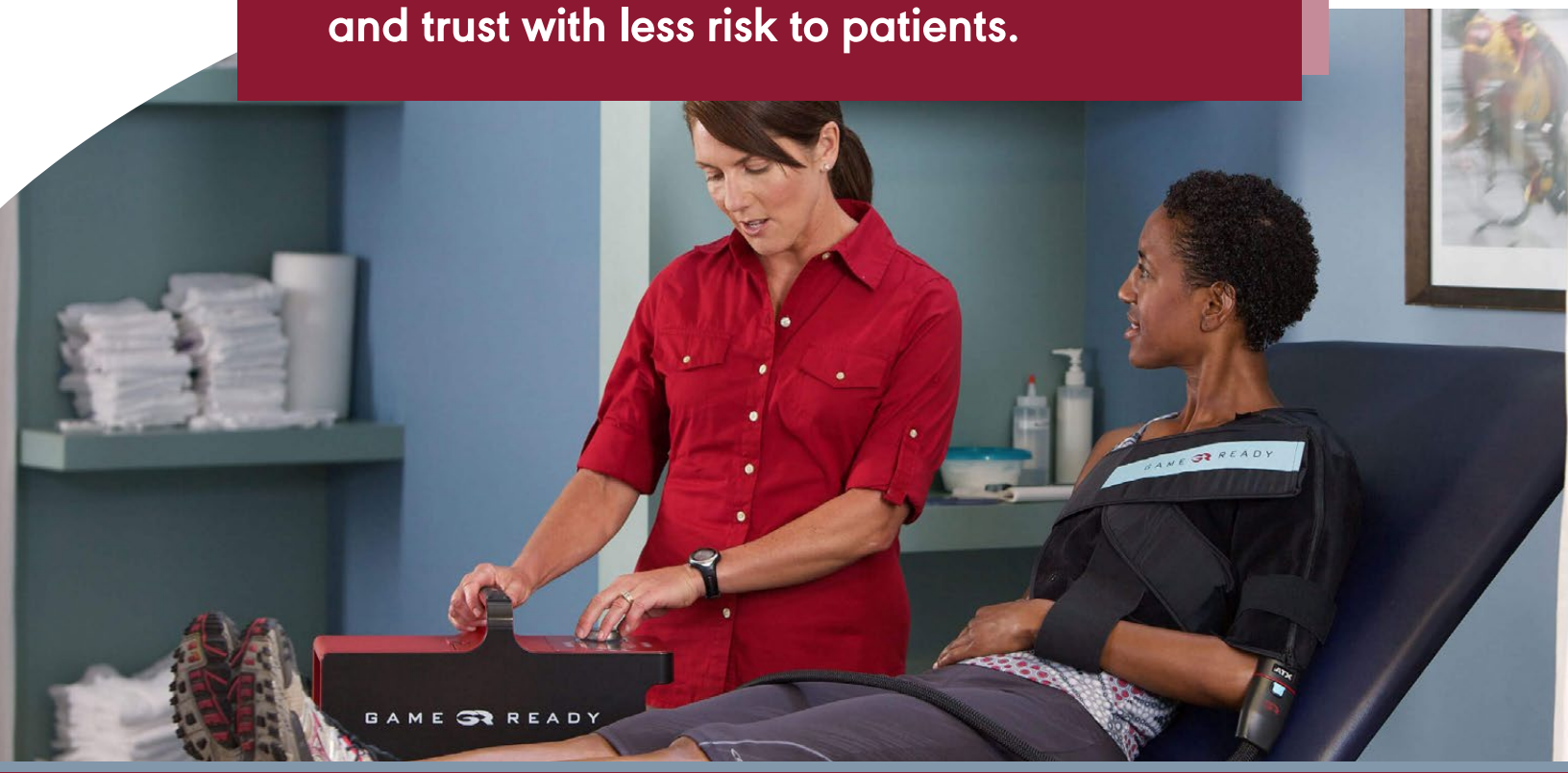
ACCEL® Technology

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

Specialized Wraps

Game Ready® ATX® Wraps are anatomically engineered for most major body parts. All feature low-profile, circumferential design and use patented NASA technology to provide dual-action delivery, optimal coverage, and better surface contact for more effective hot and cold therapy treatment – and come in a variety of sizes that are easy to apply and comfortable to wear. The complete line of wraps is compatible with the GRPro® 2.1 system and the majority of the line is compatible with the Med4 Elite® system.

The development of active compression and cold systems makes it possible for doctors, physical therapists, athletic trainers, and other medical professionals to deliver the cold therapy that they know and trust with less risk to patients.



BENEFITS OF ACTIVE COMPRESSION AND COLD SYSTEMS

In addition to all of the benefits provided by traditional RICE therapy, there are several reasons you may want 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.[12, 13, 14] 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 while offering greater pain relief, patients may be 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 doctors' 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 use on their own, Game Ready makes cryotherapy more comfortable, increases patient satisfaction with the recovery process, and makes treatment simple with the available preset programs and easy-to-use interface.[15, 16, 17]

Game Ready gives you more control over the temperature, and doesn't get colder than 34 degrees Fahrenheit (1 degree Celsius), minimizing frostbite risk.

Patient Safety

Because you can control the temperature and pressure, patients are less likely to experience damage to the skin or other tissues. In contrast to hyperbaric or cryogenic chambers, Game Ready gives you more control over the temperature, and doesn't get colder than 34 degrees Fahrenheit (1 degree Celsius), minimizing frostbite risk. The system also has built-in controls that allow you to determine how long the session lasts, as well as the level of compression.

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 potential risks. Some people simply don't like the way opioids make them feel. Others worry about the impact of opioids on their everyday routines. Game Ready may reduce the need for pain medication because it helps reduce pain and swelling.

Efficiency

Although your primary goal is to provide excellent healthcare, a physician's practice or physical therapy clinic is a business. As such, you are likely concerned about the 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 may enjoy faster scheduling.

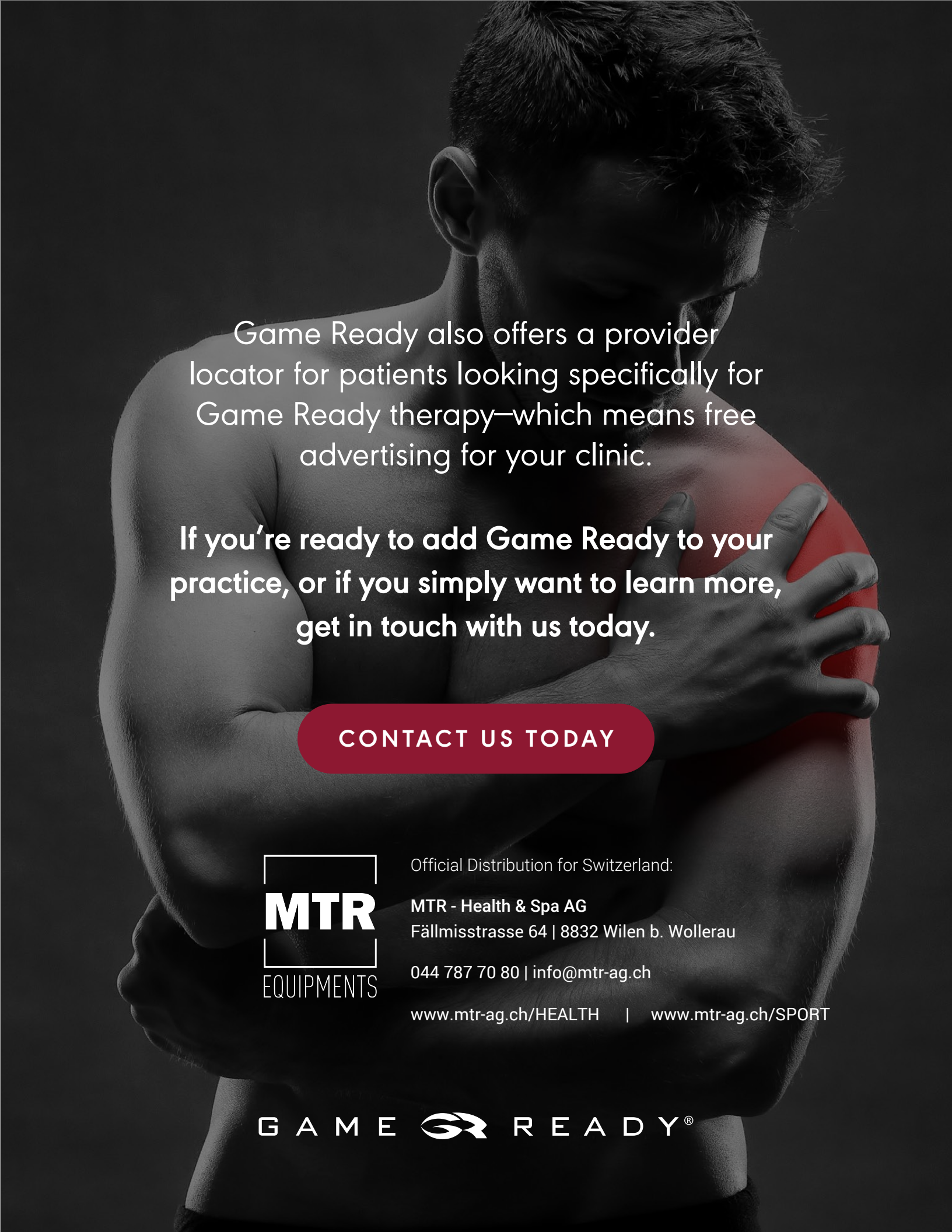
If your practice, physical therapy clinic, or athletic training center regularly uses cryotherapy or compression, Game Ready offers a solution that makes sense for both you and your patients.

With Game Ready, patients may enjoy the benefits of:

- Decreased pain and swelling[18, 19, 20]
- Reduced opioid consumption[21, 22, 23, 24, 25]
- More comfortable, easy to use treatment
- Improved physical therapy milestones[26]

Meanwhile, your practice may get the advantages of:

- Higher patient satisfaction[27]
- Competitive edge with better patient benefits[28]
- Efficiency of treating two patients at the same time[29]



Game Ready also offers a provider 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.

CONTACT US TODAY

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ENDNOTES

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