

THE GAME READY

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# GUIDE TO KNEE SURGERY RECOVERY

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# INTRODUCTION

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Recovering from any type of surgery is challenging. Knee surgery is especially challenging because of its impact on mobility. Full recovery also takes quite some time, even after the pain has subsided and mobility has returned. For these reasons, how you manage your recovery process after knee surgery is essential for returning to normal activity as soon as possible. For athletes, a speedy recovery means a faster return to your sport.

So what can you do to try to help decrease your recovery time after knee surgery? This e-book may be able to provide some answers.

## **You will learn:**

- ▶ Some of the most common reasons for knee surgery
- ▶ The steps that may help you recover as quickly as possible
- ▶ The typical timeline for recovery
- ▶ How using active cold and compression may help during your recovery





**If you have a knee surgery scheduled or are in the early phases of recovery from a recent procedure, this e-book can provide supplemental information that may help you get back on your feet as soon as possible.**

**Be sure to talk to your doctor about your unique health needs, and ask what you can do to expedite recovery. Everyone is different, so it is important to get as much personalized information from your doctor as possible.**



## COMMON REASONS FOR KNEE SURGERY

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Although knee injuries are more common with athletes, they can also happen because of a fall, a sudden impact, or other everyday occurrences. Regardless of the cause, the effect is often the same: torn tissue in the knee joint.

### **Torn ACL**

The anterior cruciate ligament, or ACL, is a band of tissue that connects the tibia to the femur through the center of the knee joint. As one of the most common knee injuries, the ACL can become damaged or torn when the body rotates while the foot stays planted. The injury does not necessarily require contact and, in fact, can happen simply by pivoting or planting the foot in the wrong way.<sup>1</sup>

Because the ACL is such an important component of knee stabilization, surgery is often necessary, especially for athletes who want to continue playing sports.

## Torn MCL

The medial collateral ligament, or MCL, is another one of the four ligaments that create stability in the knee. This connective tissue runs along the inner side of the knee joint and, therefore, is most frequently damaged by a blow from the side. MCL tears can also result from a poor landing or bending at certain angles.<sup>2</sup>

## Torn Meniscus

The menisci are cartilaginous tissues that disperse friction and provide cushioning between the tibia and femur. There are actually two menisci in the knee joint that work together to disperse body weight and reduce friction as the knee straightens and bends.<sup>3</sup>

Trauma or rotation can tear the meniscus. The tear can be repaired, or in some cases, the torn portion of the meniscus can be removed.<sup>4,5</sup>

For athletes, the damaging of all three of these important tissues in a single injury is not uncommon. The treatments for these injuries vary depending on factors such as severity, the patient's age, activity levels, and so on. When a doctor recommends surgery, the procedure may include<sup>4,5</sup>:

- ▶ Repairing damaged tissue
- ▶ Replacing damaged tissue
- ▶ Removing torn cartilage
- ▶ Arthroscopic procedures (a minimally invasive surgery technique)

Regardless of the reasons for knee surgery and the procedures used, the recovery pathway is similar.

# RECOVERING FROM KNEE SURGERY

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No matter your lifestyle, you want to get back on your feet as soon as possible after knee surgery. Working closely with your physician and following all of their recommendations is important. Talk to your doctor about the following ways to try to help speed up your recovery.<sup>6</sup>



## Rest

Your body requires energy to heal, so the more you can rest, the better it is for your recovery. Rest also decreases the risk of a secondary injury. Resting your injured leg as much as possible is important, even as range of motion returns. Follow recommendations from your doctor and physical therapist regarding how much activity you can sustain during the various phases of recovery. Your health team may recommend gentle stretching exercises beginning as early as a day after surgery.<sup>7</sup>

In addition to resting during waking hours, getting enough sleep plays an important role in the recovery process.<sup>8</sup> If pain or difficulty finding a comfortable sleeping position makes sleep difficult, talk to your doctor about pain management strategies.



## Cryotherapy

Cryotherapy is the application of cold to an injury to help reduce pain, swelling, and the accumulation of excess fluid, or edema.<sup>9</sup> Cooling damaged tissue slows down cellular metabolism and decreases the demand for oxygen. This helps slow the inflammatory process to help the tissue heal faster and can result in a quicker recovery.<sup>10</sup>

Although traditional ice packs are effective, other methods can deliver targeted, consistent cold temperatures after knee surgery.



## Compression

The accumulation of excess fluid in or around the knee joint after surgery can slow the healing process. Compression helps reduce this fluid buildup and helps reduce inflammation.<sup>11</sup>

Active compression, which provides a natural pumping effect, can be even more beneficial. In addition to reducing edema, active compression also brings freshly oxygenated blood to the damaged tissue in the knee, helping move along the healing process.<sup>12</sup>



## Healthy Living

Proper healing depends on healthy habits such as regular sleep and good nutrition. Your body uses more energy while it is recovering, so be sure to give it everything it needs to repair itself as fast as possible.

Having someone to help you during your recovery can also be important. So, before undergoing surgery, talk to your partner, family, and friends about how they can best support you while you recover.

Some research has also found a link between mental health and recovery. One study, for example, found that a sense of purpose in life could improve recovery.<sup>13</sup> This suggests that strategies such as therapy and other forms of mental health self-care may affect recovery.

**So, before undergoing surgery, talk to your partner, family, and friends about how they can best support you while you recover.**



## Pain Management

Unfortunately, one of the side effects of knee surgery is some pain. Your doctor can help you manage any pain immediately after surgery and may prescribe medication if you have ongoing discomfort.

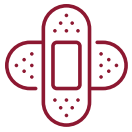
Cold therapy, including active compression, may also help improve pain in a non-opioid setting.<sup>14</sup>



## Physical Therapy

As your body heals after surgery, you should start to regain range of motion and flexibility in the joint. For the duration of your recovery, finding the right balance between activity and rest is important. Work with a physical therapist to learn appropriate exercises for each stage of your recovery.<sup>7</sup>

Although each of these factors plays a role in knee surgery recovery, each case is different, which is why working closely with your healthcare providers every step of the way is so important.



## How Active Cold and Compression Aids in Recovery

Although you can't control every aspect of your knee surgery recovery, you can employ certain techniques and resources to help move the healing process along. Active cold and compression therapy uses technology to provide consistent cooling, as well as compression that mimics natural "squeeze and release" muscle contractions, to the entire area surrounding the knee joint.

The benefits of using active cold and compression therapy during your knee surgery recovery may include:

- ▶ Reduced pain<sup>15</sup>
- ▶ Less swelling<sup>15</sup>
- ▶ Decreased edema<sup>15</sup>






## How Cryotherapy Can Help the Healing Process

Cryotherapy is proven to produce therapeutic effects in the following ways<sup>16</sup>:

- ▶ **Blood flow:** Cold causes the blood vessels to constrict, which restricts blood flow. The body's natural response to this constriction is to allow the blood vessels to dilate, thus bringing fresh, new blood to the surgical site. The cycle continues as cellular waste is removed and oxygen-rich blood delivers healing nutrients to the knee joint. Constricting the blood vessels can also reduce painful inflammation and swelling initially.
- ▶ **Cellular metabolism:** The cells in your body act like little machines. They constantly work to perform their designated functions. This requires energy, and when cells do not receive enough energy, they die and are replenished with new cells. When cold is applied, it enables the surrounding cells to work at a slower pace, thus requiring less energy and limiting the amount of cell death that occurs during the healing process.
- ▶ **Pain:** Cold helps reduce the activity of nerve fibers, thereby reducing the amount of pain you may feel. Cryotherapy can often be used in place of or in combination with pharmaceutical painkillers, many of which come with unwanted side effects.

All these factors combine to help you recover from knee surgery as quickly as possible by reducing the body's natural inflammatory response. However, ice alone has its drawbacks. When ice packs are applied, heat from your body is transferred to the ice, quickly warming the ice. This means that the temperature of the therapeutic cold gradually increases over time, becoming less effective throughout the therapy session.

A person is shown from the waist down, wearing a black Game Ready knee brace. A cutaway diagram of the brace is overlaid on the image, revealing internal components. A white arrow points from the text box to a specific part of the cutaway diagram. The text box contains a paragraph explaining the ATX technology. The brace has a blue label with the 'GAME READY' logo on the side.

**Game Ready has devised a solution to this problem with patented ATX® (Active Temperature Exchange) technology. Specialized wraps allow cold water to constantly flow from an ice reservoir, around the knee, and back to the ice reservoir to deliver a consistent, but adjustable, therapeutic temperature. The result is longer-lasting cold that penetrates deeper to enhance the cryotherapy benefits described above.**




## How Active Compression Can Help the Healing Process

Just as technology has improved cryotherapy, so, too, can it enhance traditional static compression. Active compression may provide the following benefits for patients recovering from knee surgery<sup>17</sup>:

- ▶ **Edema removal:** Excess fluid generated during the body's natural inflammatory response after surgery may contribute to greater swelling and discomfort. Active compression mimics and enhances the body's natural pumping effect to draw fluid away from the knee joint.
- ▶ **Blood flow:** The pumping effect of active compression helps the blood vessels expand and contract, thus refreshing the oxygen-rich blood that tissues in the knee need to repair themselves.
- ▶ **Targeted cryotherapy:** Compression provides better contact with the cold source so that the benefits of cryotherapy can be achieved more thoroughly and quickly. Compression allows the therapeutic cold to penetrate deeper and last longer.



**Active compression works well alone, but it provides additional benefits when combined with cryotherapy.**



**Game Ready wraps feature an integrated chamber that air is pumped through to provide active compression to the entire area surrounding the knee joint. The patented ACCEL<sup>®</sup> (Active Compression and Cold Exchange Loop) technology uses both active compression and consistent cold therapy to help you heal as quickly as possible.**

# TYPICAL KNEE SURGERY RECOVERY TIMELINE

The knee surgery recovery timeline depends on a number of factors, including:

- ▶ Type of injury
- ▶ Age of the patient
- ▶ Extent of the injury
- ▶ Type of surgery
- ▶ Action taken during recovery

Although every case is different, most recoveries follow a fairly predictable timeline<sup>7</sup>:

## Day one

The first day following surgery is often one of the most difficult. Within a few hours, your doctor will likely instruct you to begin walking with assistance. You may need help to move. You'll need someone to drive you home. Your doctor or PT will tell you which activities to perform and encourage you to move and walk to the extent that it is safe to do so. You may need to wear a knee brace and may be on crutches for a couple of weeks.

## Day two

You may have a little less pain and stiffness on this day and may begin gentle stretching.

## The early weeks

You may not be able to drive or walk long distances. Exercise will focus on building strength and mobility, and your physical therapist will help you build a more progressive and safe routine.

## Six weeks

Most people are able to begin driving, walking longer distances, and engaging in regular activities (such as cleaning and working) by week six. Athletes and non-athletes alike should not return to their sport or work, even part time, until a doctor gives them the go-ahead.

## 12 weeks

Most people who have had knee surgery need 3-6 months to recover. You might still continue with physical therapy to ensure a lifetime of knee health, but your doctor will likely give you the go-ahead to return to all of your normal activities. If you experience pain, weakness, or a change in knee function, immediately tell your doctor.

# USE GAME READY DURING YOUR KNEE SURGERY RECOVERY

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One way to help ensure you have the best possible recovery from knee surgery is to be prepared. Talk to your doctor before surgery to discuss your pain management plan, what you can expect in terms of physical therapy, and what you can do to help reduce the pain and swelling you are likely to experience after surgery.

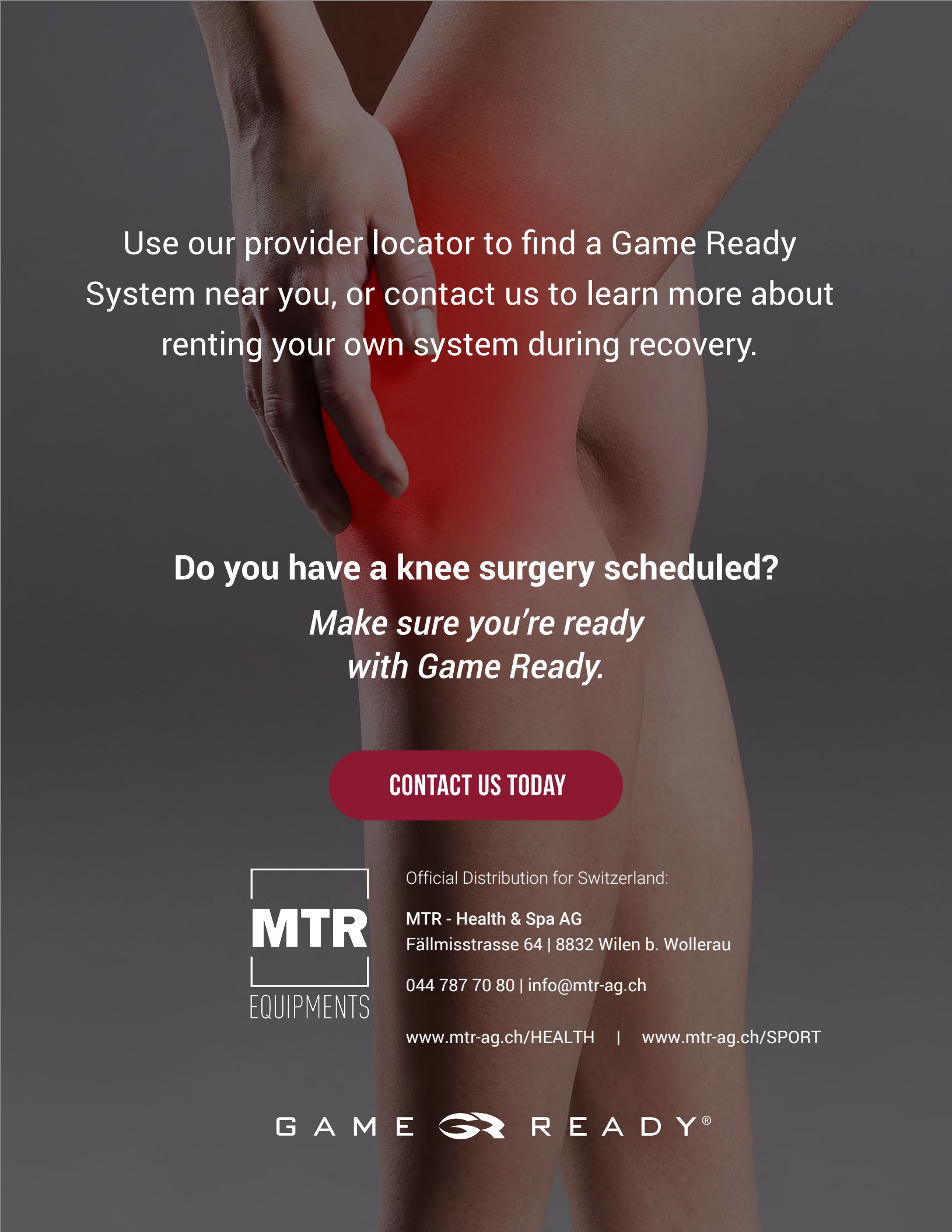
## Game Ready Knee Wraps

For the first few weeks immediately after surgery, when inflammation is at its peak, try using a Game Ready System with a knee wrap to help control pain, swelling, and edema. As you regain mobility and start physical therapy, an articulated knee wrap gives you the benefit of active cold and compression therapy while still allowing you to move the joint.

### All Game Ready knee wraps feature:

- ▶ Simultaneous circulation of cold water and air to provide consistent cooling and compression
- ▶ Anatomic design to ensure complete coverage
- ▶ A washable outer sleeve
- ▶ Velcro®-like closures for the perfect fit and easy removal
- ▶ Quick connectors that easily snap onto the system





Use our provider locator to find a Game Ready System near you, or contact us to learn more about renting your own system during recovery.

**Do you have a knee surgery scheduled?**

*Make sure you're ready  
with Game Ready.*

**CONTACT US TODAY**



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