

GAME READY Guide



GAME READY BY COOLSYSTEMS INC

Compiled by Vitality2Go

vitality2go.com
#CRUSHPAIN



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Product Description

Introduction

Game Ready® is the number one recovery technology for thousands of patients, elite athletes, athletic trainers, professional teams in every sport, special military forces, and the world's foremost orthopedic surgeons, sports medicine doctors, and physical therapists. Inspired by human endeavor and driven by technological leadership, we are dedicated to developing the most innovative and effective products for helping people get back to being their best after injury or surgery. We are here to re-engineer recovery.

Company Description

CoolSystems, Inc. manufactures and distributes sports medicine and orthopedic medical devices that help athletes and patients recover faster from injury or orthopedic surgery. Its Game Ready System that consists of control unit, a connector hose, and a range of body-part-specific wraps for virtually everybody part, such as ankle, half leg boot, straight knee, articulated knee, hip/groin, back, shoulder, elbow, C-T spine, flexed elbow, wrist, and hand/wrist.

The company also provides single and dual-connector hoses; and optional accessories that include a control unit carry bag, a wrap bag, a rechargeable battery pack, and storage carts. It offers its injury treatment systems for orthopedic and vet clinics, athletic training, physical therapy centers, and athletes and teams in every professional sport, including the NFL, NBA, MLB, MLS, and NHL in the United States and internationally. The company was founded in 1997 and is based in Concord, California. As of July 1, 2018, CoolSystems, Inc. operates as a subsidiary of Avanos Medical, Inc.

Product Overview - GRPro 2.1



The Game Ready® GRPro® 2.1 system features innovative, patented ACCEL® Technology (Active Compression and Cold Exchange Loop), enabling the integrated delivery of continuous cold and intermittent pneumatic compression therapies like never before. The first-ever sports injury and post-op recovery device of its kind, the portable GRPro 2.1 has set a new standard in non-narcotic musculoskeletal injury pain relief and accelerated healing.

For many, many years, people have followed the RICE principles (Rest–Ice–Compression–Elevation) to control pain and swelling following a musculoskeletal injury or surgery. But with Game Ready, you can do more than treat symptoms. Going beyond passive, static cold and compression applications, the GRPro 2.1 therapy system works actively and dynamically to accelerate and enhance recovery.*

In fact, the GRPro 2.1 cold and compression therapy system is so effective, it's used by thousands of leading orthopedic surgeons, physical therapists, and athletic trainers, as well as countless patients, elite athletes, professional sports teams, and special military forces around the world.

Features

Four Therapy Options (up to 2 Patients)	Temperature Levels	Treatment Time	Compression Level* (Intermittent Pneumatic)	Other Features
Heat	Set Minimum and Maximum, in °F or °C	Set total therapy time	Low & None	—
Cold	Set Minimum and Maximum, in °F or °C	Set total therapy time	Low, Medium-Low, Medium, High & None	Snooze function, up to 6 cycles
Rapid Contrast	Set Heat and Cold Minimum and Maximum, in °F or °C	Set Heat and Cold Cycle time and total therapy time	Heat: Low & None Cold: Low, Medium-Low, Medium, High & None	Start Rapid Contrast Therapy with either Heat or Cold Therapy
Compression-Only	—	Set total therapy time	Low, Medium-Low, Medium, High	—

Multiple Compression Settings. Three different compression settings to choose from:

High Setting (5 to 75 mm Hg): around 2 to 3 minutes of inflation and 1 minute of deflation

Medium Setting (5 to 50 mm Hg): around 2 to 3 minutes of inflation and 1 minute of deflation

Low Setting (5 to 15 mm Hg): around 4 to 5 minutes of inflation and 1 minute of deflation

No compression

Treatment Time Management. The game ready ice machine includes a built-in digital timer for simple cold compression cycling.

For a particular treatment cycle, the digital timer can be set up to 95 minutes. When the specific time has lapsed, the control unit shuts off automatically.

The system can also be set to run nonstop for up to 190 minutes.

Transportability. The Game Ready System is portably designed to meet the needs of its active user. It can be easily transported from the clinic to a patient's home. For

athletes, it can be easily shared between teammates. The Carry Bag accessory makes portability even more viable and protects the unit as well.

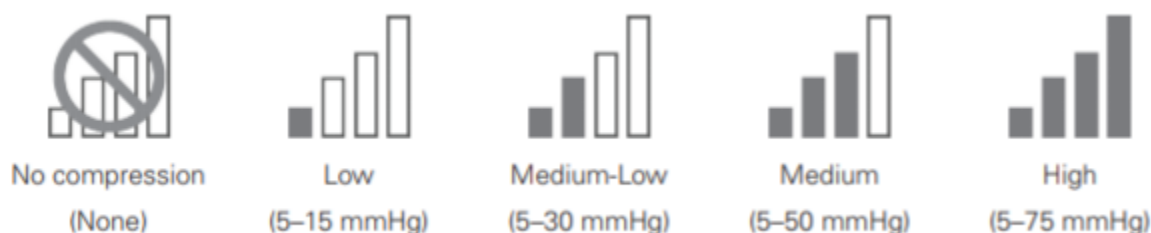
Built Durable. The Game Ready unit is built with impact resistant plastic for endurance and continuity.

Easy Care. The Game Ready System can be easily cleaned with a mild disinfectant.

Extremely Convenient. Offering feasible portability, the Game Ready Control Unit can be operated virtually anywhere. Patients different particular needs can be accommodated with Game Ready's fully customizable unit. By a spin of a dial and a push of a button, patients will receive premium treatment.

Comfortable and Ergonomic. Game Ready adjustable wraps are designed to ergonomically fit a variety of body parts. Their flexible fabric and velcro straps allow for various size adjustments.

Compression Levels



Device Description

The Game Ready System is comprised of the following components:

- * Control Unit, with AC Adapter (to convert line power to DC input power)
- * Connector Hose (connects Control Unit to Wrap)
- * Wrap (Heat Exchanger + Sleeve)
- * Optional Carry Bag
- * Optional Battery Pack

The Game Ready System is a DC-powered device that provides intermittent compression and controlled cold therapy by controlling fluid flow and air pressure through a Wrap that is specially designed for a specific body part or location (e.g., shoulder, elbow, knee, ankle, back). A Wrap is comprised of a Sleeve (the outer covering for the Heat Exchanger) and a Heat Exchanger. Cooling is provided by circulating ice water from the Control Unit through the Connector Hose to the Wrap.

Compression is provided by an intermittent-cycling pneumatic pump that pumps air from the Control Unit through the Connector Hose to the Wrap. The user can adjust the amount of compression, the amount of cooling, and the treatment time. The Control Unit software is designed to protect both the user and the Control Unit from harm by shutting off the system and sounding an alarm if there is insufficient fluid flow or in case of an over-pressure or under-pressure situation. The software detects other, less-serious error conditions and sounds a warning beep to alert the user, so that the error condition can be corrected.

The Game Ready System is available in two configurations: the Game Ready Professional Therapy System (PIN 550100) and the Pre-Programmed Game Ready Professional Therapy System (P/N 550350)

Intended Use

The Game Ready System combines cold and compression therapies. It is intended to treat post-surgical acute injuries to reduce edema, swelling, and pain where cold and compression are indicated. It is intended to be used by or on the order of healthcare professionals in hospitals, outpatient clinics, athletic training settings, or home settings.

Settings & Specifications

ADJUSTABLE COMPRESSION

Three settings of cyclical pneumatic (air) compression or the option of no compression:

High (5 to 75 mm Hg)

Approximately 2 to 3 minutes of inflation and 1 minute of deflation.

Medium (5 to 50 mm Hg)

Approximately 2 to 3 minutes of inflation and 1 minute of deflation.

Low (5 to 15 mm Hg)

Approximately 4 to 5 minutes of inflation and 1 minute of deflation.

None

ADJUSTABLE SET-POINT COLD

Provides consistent temperature across the wrap, improving patient comfort and safety. Cold therapy between 35°F to 50°F (when control unit reservoir full of ice).

DIGITAL TIMER & PRESET PROTOCOLS

For convenient management and treatment of time, without having to continually monitor the system, the Timer can be set for a specific treatment time up to 90 minutes or use one of the available programs which continuously alternate between treatment and rest cycles. Available preset programs include:

Program 1 30 minutes on, 30 minutes sleep. No pressure.

Program 2 30 minutes on, 30 minutes sleep. Low pressure.

Program 3 30 minutes on, 30 minutes sleep. Medium pressure.

Program 4 30 minutes on, 60 minutes sleep. No pressure.

Program 5 30 minutes on, 60 minutes sleep. Low pressure.

Program 6 30 minutes on, 60 minutes sleep. Medium pressure.

TECHNICAL SPECS

Dimensions: 7.5" W x 16" L x 7.75" H (19cm W x 40.6cm L x 19.7cm H)

Weight: (Empty) 7.3 lbs (3.3kg)

Hose Connections: 1 port

Suggested Positioning



Cryo Cap



C-T Spine Wrap



Back Wrap



Hip/Groin Wrap



Shoulder Wrap



Flexed Elbow Wrap



Articulated Knee Wrap



Knee Wrap



Elbow Wrap



Hand/Wrist Wrap



Half Leg Boot Wrap



Ankle Wrap

Product Advantages

Adjustable Cold Therapy

Cold therapy has been shown to decrease pain and muscle spasms, tissue damage and swelling. Game Ready's temperature adjustability allows for customized and comfortable cold application which can help to improve patient compliance.

Intermittent Compression

Compression has been shown to limit swelling, control edema formation, and encourage acceleration of the healing process.

In addition, intermittent compression has been shown to be more effective than static compression in the clinical setting.

Enhanced Comfort and Ease of Use

Game Ready's circumferential wraps are easy to apply and comfortable to use without the mess or hassle of ice packs.

Portable Therapy

Our battery pack option and customized carry bag allow you to administer treatment on the go or wherever it is required.

Benefits

Therapeutic Modalities & Benefits

Game Ready Systems deliver therapeutic modalities that can be used separately or in combination to help improve recovery, so you can get back to being your best – more confidently, more comfortably, and as quickly as possible.

COLD

Cold therapy promotes vasoconstriction and reduces blood flow, reduces inflammation and edema (swelling), decreases muscle spasms, decreases metabolic demand, and

helps safely relieve pain without narcotics. Cold therapy is used immediately following acute injury or surgery and as needed thereafter.

- Decreases local tissue temperature.
- Decreases blood flow.
- Induces vasoconstriction of arterioles and capillaries.
- Improves pain relief.
- Decreases muscle spasm and spasticity.
- Reduces narcotic consumption.
- Enables earlier discontinuation of narcotic pain medication.
- Decreases nerve conduction velocity.
- Improves knee function.
- Improves range of motion.
- Improves gait.
- Decreases swelling.
- Decreases lymphatic and venous drainage.
- Decreases formation and accumulation of edema.
- Decreases inflammatory reaction.
- Decreases delivery of leukocytes, enterocytes, and phagocytes.
- Decreases metabolism.
- Promotes oxygen tissue saturation at deep tissue level.
- Reduces postoperative blood loss.
- Reduces likelihood for blood transfusion.
- Reduces risk of infection.
- Promotes less wound discharge.
- Shortens hospital admission time.
- Increases usage/compliance.
- Improves patient satisfaction.

HEAT

Heat therapy promotes vasodilation and increases circulation to the injured area to support the lymphatic system while reducing pain and stiffness. Heat therapy is used

after the initial inflammatory response caused by an injury or surgery begins to diminish.

- Improves pain relief.
- Reduces pain intensity.
- Significantly increases arterial blood flow.
- Improves flexibility.
- Reduces muscle stiffness.
- Increases ligament elasticity.
- Decreases ligament thickness.
- Increases median nerve conduction velocity.
- Improves disability outcomes.

CONTRAST THERAPY

Contrast therapy (CT) alternately opens and constricts the vascular system, increasing blood flow to an injured area without causing the accumulation of additional edema (swelling). CT also helps decrease nerve sensitivity to reduce pain. The Med4 Elite is capable of an unprecedented <1 minute changeover rate – for compact and clean CT delivery independent of gravity and without messy tubs.

- Increases arterial peripheral blood flow.
- Induces vasodilation and vasoconstriction.
- Decreases pain.
- Decreases edema.
- Produces significant fluctuations in subcutaneous tissue temperature.
- Improves knee function.

COMPRESSION

Game Ready's patented technology delivers adjustable, intermittent pneumatic compression (IPC). IPC mimics natural muscle contractions to “pump” edema (swelling) away from the injury area, encourages oxygenated blood flow, and helps conform the wraps to the body for better surface contact and deeper penetrating

cold/heat/contrast therapy – all to help with the healing process. IPC has been shown to be most effective when combined with cryotherapy.

- Increases lymph flow/accelerated lymph flow (optimizes lymph drainage).
- Increases arterial blood flow.
- Decreases venous pressure and reduces venous stasis.
- Enhances tissue healing.
- Decreases post-traumatic edema.
- Decreases acute and subacute swelling due to trauma or surgery.

Cost Benefits

Product	Cost*	Risk	Therapeutic Benefit	Economic Impact
Ice, DuraKold (& similar)	\$10-\$65	<ul style="list-style-type: none"> • Potential for ice burns • Potential for increased post-operative interventions • Minimal edema control (no compression) • Poor patient compliance 	<ul style="list-style-type: none"> • Localized analgesic effect 	Risks of additional costs: ↑ >50% likelihood of additional rehabilitation costs of \$1825-\$3000/patient ↑ Potential for costs associated with narcotic dependence estimated at >\$1500/patient
Cryo/Cuff	\$150	<ul style="list-style-type: none"> • Potential for non-freezing tissue injury • Minimal edema control • Poor patient compliance 	<ul style="list-style-type: none"> • Moderate analgesic effect (less than ice) 	
Polar Care	\$250	<ul style="list-style-type: none"> • Potential for non-freezing tissue injury • Minimal edema control • Poor patient compliance 	<ul style="list-style-type: none"> • Moderate analgesic effect (less than ice) 	

Game Ready	\$980 (2 wks)	<ul style="list-style-type: none"> • Analgesic effect similar to ice** • Improved edema management and improved tissue healing\$ • Accelerated recovery 	<p>Reduction of additional costs:</p> <ul style="list-style-type: none"> ↓ Reduced narcotic use and associated costs (\$1,500 min) ↓ Earlier return to work ↓ Reduced incidence (and associated cost of ~\$3000/pt) of post operative interventions by ~54.2% (compared to DuraKold) ↓ Reduced PT requirements by ~\$600/pt (compared to DuraKold) ↓ Substantially reduced likelihood of these additional costs AND an earlier return to work for a ROI benefit of >\$5000
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How Does It Work?



The GRPro 2.1 cold and compression control unit seamlessly integrates two proven therapies, taking traditional RICE principles to an all-new level, enabling you to heal faster and recover better.



ACTIVE CRYOTHERAPY

In a continuous exchange loop, rapidly circulating ice water actively and evenly removes heat and cools the injured tissue to reduce edema, muscle spasms, and pain.

ACTIVE COMPRESSION THERAPY

Intermittent pneumatic compression actively mimics natural “squeeze and release” muscle contractions, helping to pump edema away while stimulating the flow of oxygenated blood to the injury site.

CIRCUMFERENTIAL COVERAGE

Air pressure conforms the anatomically engineered, low-profile, circumferential wraps to the body for better surface contact, enhancing the system’s ability to deliver consistent cooling and to pull heat away from the injury site.

FASTER, DEEPER COOLING

Faster, deeper-penetrating, longer-lasting intramuscular cooling slows cellular metabolism, helping the body to minimize secondary tissue damage – and less damage means faster recovery.

PORTABLE CONVENIENCE

Easy portability and an available battery pack enable convenient therapeutic treatment on the go, on the sidelines, or wherever required.

INTUITIVE, SIMPLE USER CONTROLS



Game Ready technology is both more powerful and smarter. The GRPro 2.1 features an intuitive, simple interface so patients and athletes can work with their physicians and trainers to use pre-set programs and easily customize compression levels, temperature, and time settings with the touch of a button or the turn of a dial.

GAME READY WRAPS FOR HEAD TO TOE COVERAGE

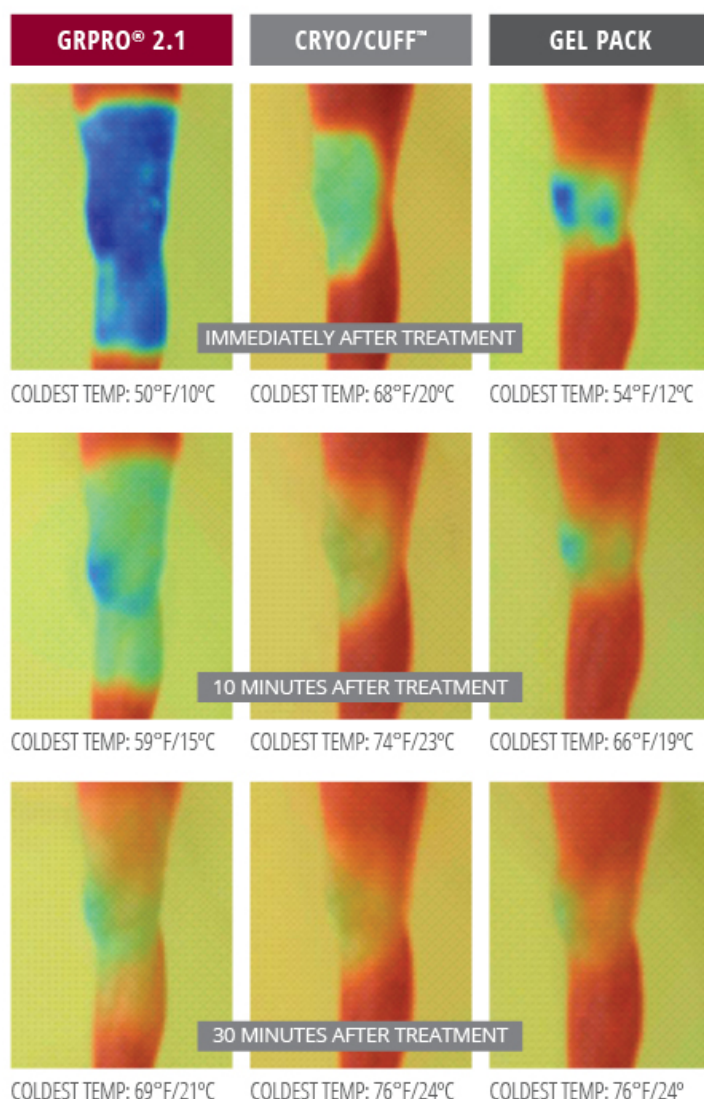


Game Ready's comprehensive line of dual-action, no-mess ATX® Wraps (Active Temperature Exchange) is fully compatible with the GRPro 2.1 System for head-to-toe, integrated cold and compression therapy. Featuring patented NASA technology, Game Ready's low-profile wraps deliver circumferential coverage and greater surface contact for more effective treatments. And they're anatomically engineered for all major body parts, ensuring better fit and comfort. All of which improves outcomes and increases satisfaction with the recovery process.

Why Does It Work?

Evidence Summary

The game-changing GRPro 2.1 integrates intermittent pneumatic compression and cryotherapy to reduce pain and swelling, reduce muscle spasms, enhance lymphatic function, encourage cellular oxygen supply, and stimulate tissue repair – naturally and without narcotics. Compared to traditional RICE applications, the Game Ready System offers more therapeutic benefits. And that means improved outcomes for patients and greater care satisfaction for providers.



Game Ready's active compression squeezes greater benefits out of cold therapy alone. Game Ready's anatomic, circumferential wraps envelope the injury or surgery site and then conform to the contours of the body with pneumatic compression, assuring better surface contact and thus more effective cooling. Head-to-head infrared thermal imagery shows that Game Ready provides faster, deeper, and longer-lasting therapy than other products.

Game Ready thermal imagery featuring treatment with GRPro 2.1 system. Side views shown. First skin temperature measurement immediately treatment after 30 minutes of treatment, subsequent images at 10 and 30 minutes post-treatment. All devices applied per manufacturer's instructions and all measurements taken from uniform distance. All devices applied on different days allowing full recovery for test subject.

**"WITH THE GAME READY SYSTEM, WE SEE
AT LEAST A 20% FASTER RECOVERY."***

PETER MILLETT, MD, MSC, THE STEADMAN CLINIC

*Based on physician's experience. Results may vary.

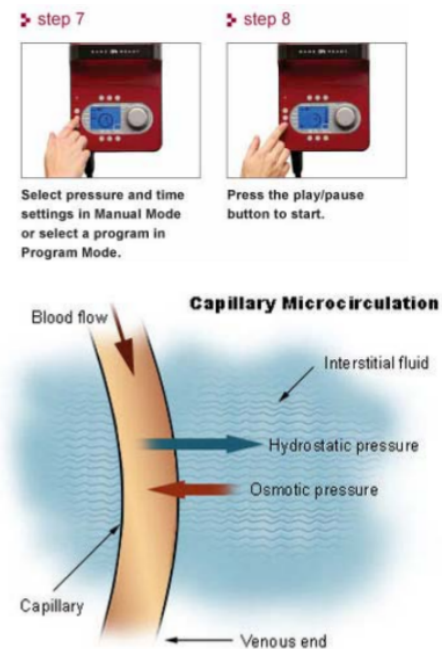
Why Do Cold and Compression Work So Well Together?

Studies show (*Knight KL. Cryotherapy in sport injury management. Champaign, IL: Human Kinetics; 1995.*) that cold therapy decreases pain, muscle spasms, and swelling in soft tissue injuries and decreases the likelihood of tissue damage. Intermittent compression pushes excess fluid away from the injury, which helps to eliminate existing swelling and minimize new swelling. When combined, these two therapies produce a new level of healing.

Game Ready delivers a unique combination of active compression and cooling, as well as comfortable, form-fitting anatomic wraps, and adjustable pressure and temperature settings, all in a state-of-the-art system. Simply put, there is nothing else like it.

Intermittent Compression: Effectiveness

- Game Ready® Adjustable Intermittent Pneumatic Compression (IPC):
 - 15 – 75 mm Hg
 - Controlled to personal tolerance
- IPC
 - Mimics effect of muscle contractions
 - Stimulates the lymphatic system to remove edema, accelerating the body's natural recovery process
- Lymphatic Drainage Of Breakdown Products (Metabolites)
- Improved Microcirculation
 - Nutrient flow
 - Oxygenation
- Improved Venous Return



Sources:
Van Grinsven KSSTA 2010
Dahl J Orthop Res 2007
Knobloch Am J Sports Med 2008
Capps Human Kinetics 2009

In 2012, Waterman reported a randomized controlled trial (RCT) of the GameReady device in 36 patients with ACL reconstruction. [16] Patients were instructed to use ice or the cryopneumatic device for 30 minutes at least 3 times per day and return to the clinic at 1,2, and 6 weeks postoperatively. Compliance during the first 2 weeks was not significantly different between the 2 groups (100% for GameReady and 83% for icing). The primary outcome measure (VAS) was not comparable at baseline, limiting interpretation of the results. There were no significant differences between the groups for knee circumference, the Lysholm short form-36, SF-36, or single assessment numerical evaluation (SANE) scores. A greater percentage of patients treated with the GameReady device discontinued narcotic use by 6 weeks (83% vs 28%).

Pairwise comparison of absolute skin temperatures at XX min and treatment (°C)

Table 5. Pairwise comparison of absolute skin temperatures at 1 min and treatment (°C)

Treatment (I)	Treatment (J)	Mean Difference (I-J)	Sig. (P)
Ice	Game Ready® no	-2.218	0.006
Ice	Game Ready® low	-2.719	0.0001
Ice	Game Ready® medium	-2.524	0.004
Ice	Game Ready® high	-2.291	0.025
Ice and ace wrap	Game Ready® low	-2.125	0.017

Table 6. Pairwise comparison of absolute skin temperatures at 5 min and treatment (°C)

Treatment (I)	Treatment (J)	Mean Difference (I-J)	Sig. (P)
Ice	Game Ready® no	-5.037	0.0001
Ice	Game Ready® low	-5.495	0.0001
Ice	Game Ready® medium	-4.370	0.0001
Ice	Game Ready® high	-3.874	0.0001
Ice and ace wrap	Game Ready® no	-5.800	0.0001
Ice and ace wrap	Game Ready® low	-6.257	0.0001
Ice and ace wrap	Game Ready® medium	-5.133	0.0001
Ice and ace wrap	Game Ready® high	-4.637	0.001

Table 7. Pairwise comparison of absolute skin temperatures at 10 min and treatment (°C)

Treatment (I)	Treatment (J)	Mean Difference (I-J)	Sig. (P)
Ice	Game Ready® no	-6.031	0.0001
Ice	Game Ready® low	-6.169	0.0001
Ice	Game Ready® medium	-4.286	0.001
Ice	Game Ready® high	-3.583	0.003
Ice and ace wrap	Game Ready® no	-7.628	0.0001
Ice and ace wrap	Game Ready® low	-7.767	0.0001
Ice and ace wrap	Game Ready® medium	-5.883	0.0001
Ice and ace wrap	Game Ready® high	-5.180	0.0001
Game Ready® high	Game Ready® mo	-2.448	0.032

Table 8. Pairwise comparison of absolute skin temperatures at 15 min and treatment (°C)

Treatment (I)	Treatment (J)	Mean Difference (I-J)	Sig. (P)
Ice	Game Ready® no	-6.291	0.0001
Ice	Game Ready® low	-6.062	0.0001
Ice	Game Ready® medium	-3.536	0.005
Ice	Game Ready® high	-3.309	0.004
Ice and ace wrap	Game Ready® no	-7.675	0.0001
Ice and ace wrap	Game Ready® low	-7.447	0.0001
Ice and ace wrap	Game Ready® medium	-4.921	0.0001
Ice and ace wrap	Game Ready® high	-4.694	0.0001
Game Ready® medium	Game Ready® no	-2.755	0.021
Game Ready® high	Game Ready® no	-2.981	0.016
Game Ready® medium	Game Ready® low	-2.526	0.010

Table 9. Pairwise comparison of skin temperatures at 20 min and treatment (°C)

Treatment (I)	Treatment (J)	Mean Difference (I-J)	Sig. (P)
Ice	Game Ready® no	-6.279	0.0001
Ice	Game Ready® low	-5.760	0.0001
Ice	Game Ready® medium	-3.247	0.020
Ice	Game Ready® high	-3.111	0.005
Ice and ace wrap	Game Ready® no	-7.575	0.0001
Ice and ace wrap	Game Ready® low	-7.057	0.0001
Ice and ace wrap	Game Ready® medium	-4.543	0.001
Ice and ace wrap	Game Ready® high	-4.407	0.0001
Game Ready® medium	Game Ready® no	-3.032	0.025
Game Ready® high	Game Ready® no	-3.168	0.013
Game Ready® medium	Game Ready® low	-2.513	0.015

Table 10. Pairwise comparison of skin temperatures at 30 min and treatment (°C)

Treatment (I)	Treatment (J)	Mean Difference (I-J)	Sig. (P)
Ice	Game Ready® no	-6.552	0.0001
Ice	Game Ready® low	-5.607	0.0001
Ice	Game Ready® high	-3.173	0.002
Ice and ace wrap	Game Ready® no	-7.557	0.0001
Ice and ace wrap	Game Ready® low	-6.612	0.0001
Ice and ace wrap	Game Ready® medium	-3.758	0.003
Ice and ace wrap	Game Ready® high	-4.178	0.0001
Game Ready® medium	Game Ready® no	-3.799	0.004
Game Ready® high	Game Ready® no	-3.379	0.006
Game Ready® medium	Game Ready® low	-2.854	0.008

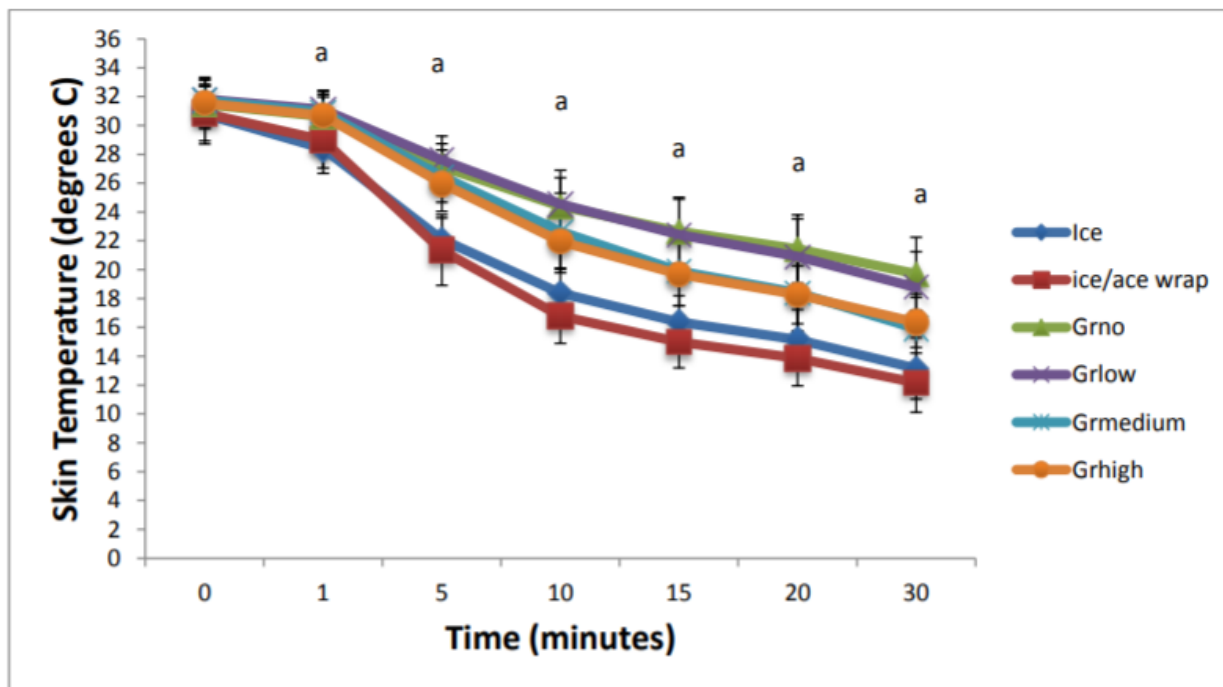


Figure 2. Absolute skin temperature over time

a: There was a significant treatment effect. See Tables 5-10 for significant differences between treatments.

Positive Patient Satisfaction

In ongoing surveys, >9700 patients report that Game Ready*...

96%

Provided a better post-op recovery than a previous surgery using a different cold therapy.

87%

Helped reduce the amount of pain medication they took or enabled them to stop taking meds sooner.

98%

Glad their physician or medical provider offered Game Ready as an option for recovery.

*Percentage of survey respondents as of June 2015.

“A REVOLUTIONARY COMBINATION OF EVIDENCE-BASED MODALITY AND BEST-PRACTICE PROTOCOL.”*

RANDY R. HITE, MPT, CSCS, SCS, GILLETTE PHYSICAL THERAPY

*Based on professional experience. Results may vary.

Clinical Study Abstracts

A Prospective, Multi-center, Randomized Trial To Evaluate The Efficacy Of A Cryopneumatic Device On Total Knee Arthroplasty Recovery

Su EP, et al., J Bone Joint Surg Br 94-B(11): 153-6, 2012.

The use of the Game Ready system after TKA decreases narcotic consumption and increases patient satisfaction.

A prospective, multi-center, randomized trial was performed to evaluate the effect of the Game Ready system, a cryopneumatic device on 280 post-operative TKA patients. Patients were evaluated for range of motion, knee girth, six minute walk test (6MWT) and timed up and go test at two and six weeks postoperatively. Visual analog pain scores and narcotic consumption were also measured. “A cryopneumatic device used after TKA appeared to decrease the need for narcotic medication from hospital discharge to 2 weeks post-operatively. There was also a trend toward a greater distance walked in the 6MWT. Patient satisfaction with the cryopneumatic cooling regimen was significantly higher than with the control treatment.”

[DOWNLOAD »](#)

Cryocompression Therapy After Elective Arthroplasty Of The Hip

Leegwater NC, et al., Hip Int 22(05): 527-33, 2012.

Intermittent cryocompression delivered by the Game Ready System reduces postoperative blood loss. A trend towards less analgesic use, shorter hospital stay, less wound discharge and less pain at 6 weeks postoperatively was also observed.

A pilot study was conducted where patients were randomized into two groups to measure the effects of combined cyclic compression and cryotherapy in total hip arthroplasty (THA). The 14 control patients received an absorbing bandage and tricot compression bandage. The 12 cryocompression patients received the same type of

dressing and intermittent cryocompression therapy 4 times per day for 30 minutes. Post-operative pain, morphine usage, blood loss, wound discharge, patient and medical staff satisfaction together with the feasibility of a cryocompression machine; total hospital admission time, infection rate, deep vein thrombosis and short-term prosthesis related problems were observed. The advantage of cryocompression therapy in postoperative blood loss reduction was demonstrated. “When compared at POD 1, study group patients had a 0.55 mmol/L (statistically significant) smaller decline in haemoglobin level. At POD 3 this advantage in haemoglobin levels persisted (0.47 mmol/L smaller decline in study group patients)” “A trend occurred towards lower morphine usage, shorter hospital admission time and less wound discharge in the study group.” Along with “a trend towards less analgesic use, shorter hospital stay, less wound discharge and less pain at 6 weeks postoperatively”.

[DOWNLOAD »](#)

The Efficacy Of Combined Cryotherapy And Compression Compared With Cryotherapy Alone Following Anterior Cruciate Ligament Reconstruction

Waterman BR, et al., J Knee Surg 1538-8506, 2012.

The use of combined cryotherapy and compression delivered by the Game Ready System in the postoperative period after ACL reconstruction results in improved short-term pain relief and a greater likelihood of independence from narcotic use compared with cryotherapy alone.

A randomized, prospective clinical trial was conducted to evaluate the effectiveness of cryotherapy with or without intermittent pneumatic compression after arthroscopic ACL reconstruction comparing Game Ready® and conventional ice pack therapy at preoperative, 1 week, 2 weeks and 6 weeks postoperative. All patients were required to use cryotherapy at least 3x30 minutes daily. Compliance, usage of pain medications, VAS scores, swelling (girth), quality of life and knee scores were measured. “During weeks 1 and 2, patients with compressive cryotherapy had 100% (n=18) compliance with use compared with 83% (n=18) of the control group (p=0.23).” “Baseline VAS for group 1 was 54.9 compared with group 2 at 35.6 (p=0.01). By 6 weeks, this had

lowered to 28.1 and 40.3 respectively, resulting in a significant 27-point decrease in mean VAS for group 1 ($p < 0.0001$)."

"At 6 weeks postoperatively, 15 of 18 (83.3%) of all patients in the compressive cryotherapy group had discontinued use of all pain medication, compared with 5 of 18 patients (27.8%) in the control group ($p = 0.0008$)."

[DOWNLOAD »](#)

Cryotherapy With Dynamic Intermittent Compression Improves Recovery From Revision Total Knee Arthroplasty

[DOWNLOAD »](#)

Cryotherapy With Dynamic Intermittent Compression For Analgesia After Anterior Cruciate Ligament Reconstruction

[DOWNLOAD »](#)

Case Studies & Professional Testimonials

Professional Testimonial: Dr. Xavier Cassard, Orthopedic Surgeon
Enhanced Recovery After Surgery with Game Ready...

[DOWNLOAD »](#)

Cold & Compression Therapy For "Industrial Athletes"

Employees return to "full duty" much quicker with the help of the Game Ready System...

[DOWNLOAD »](#)

Professional Testimonial: Jason McWilliams CTA
Steadman Hawkins Clinic Denver, Medicine in Motion

[DOWNLOAD »](#)

High-performance Rehab

World-renowned clinic uses Game Ready to get top athletes back into top shape...

[DOWNLOAD »](#)

Pain Management: Avoiding The Knife

Game Ready Minimizes Pain & Swelling after Non-Surgical Regenerative Procedures

[DOWNLOAD »](#)

Faster Post-op Recovery With Reduced Pain Medication

Orthopedic surgery patient reaches key recovery milestones quicker than expected...

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How New Cryotherapy Techniques Can Benefit Your Patients & Practice

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Intermittent Pneumatic Compression And Cryotherapy For Post-operative Patient Care

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Other Supportive Studies

Traditional Cryotherapy Treatments are More Effective than Game Ready® on Medium Setting at Decreasing Sinus Tarsi Tissue Temperatures in Uninjured Subjects

<https://www.scitechnol.com/2324-9080/2324-9080-1-101.pdf>

Cost Analysis of Cryotherapy and Compression Products

<https://pdfs.semanticscholar.org/d29a/e807feadc5036f781dc58e14f7275358d0eb.pdf>

Acute effects of cold therapy on knee skin surface temperature: gel pack versus ice bag

<https://bmjopensem.bmj.com/content/bmjosem/1/1/e000037.full.pdf>

Cooling Devices Used in the Home Setting

<http://blue.regence.com/trgmedpol/dme/dme07.pdf>

ICE AND ACE WRAP AND GAME READY® IN DECREASING QUADRICEPS TEMPERATURE

<https://library.ndsu.edu/ir/bitstream/handle/10365/27305/Ice%20and%20Ace%20Wr%20and%20Game%20Ready%C2%AE%20in%20Decreasing%20Quadriceps%20Temperature.pdf?sequence=1>

Effects of Intermittent Cryo-Compression Therapy in Primary Total Knee Arthroplasty Patients

https://cdn.shopify.com/s/files/1/0196/9872/files/GR-WP-Effects_of_Intermittent_Cryo.pdf

CLINICAL APPLICATIONS OF CRYOTHERAPY AMONG SPORTS PHYSICAL THERAPISTS

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4739043/>

Early post-operative outcomes using the game ready cooling compression system as part of an enhanced recovery protocol in primary total knee arthroplasty-A randomised controlled trial

<https://www.oatext.com/Early-post-operative-outcomes-using-the-game-ready-cooling-compression-system-as-part-of-an-enhanced-recovery-protocol-in-primary-total-knee-arthroplasty-A-randomised-controlled-trial.php>

Is continuous flow cold compression therapy better than ice and/or compression alone for the treatment of post-operative Total Knee Replacements?

<https://commons.pacificu.edu/cgi/viewcontent.cgi?article=1001&context=ptcats>

Traditional Cryotherapy Treatments are More Effective than Game Ready on Medium Setting at Decreasing Sinus Tarsi Tissue Temperatures in Uninjured Subjects

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The Efficacy of Cryotherapy and Dynamic Compression Compared to Ice and Static Compression Following Total Knee Arthroplasty

<https://digitalrepository.unm.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1144&context=dpt>

Game Ready® Clinical Study Results

1. Reduces patient narcotic consumption
2. Allows earlier discontinuation of narcotic pain meds
3. Improves key measurable physical therapy milestones
4. Increases patient satisfaction with recovery process
5. Reduces likelihood for blood transfusion
6. Shortens patient hospital admission time
7. Provides less wound discharge
8. Reduces risk of infection
9. Decreases pain

Source Links

1. <https://gameready.com/about-game-ready/>
2. <https://gameready.com/help-center/#manuals>
3. <http://cdn2.hubspot.net/hub/154630/file-364127094-pdf/docs/GR-USA-MedProsBrochure-101113-HiRes.pdf?t=1432944835000>
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