

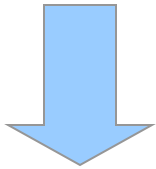
Game Ready – Clinical & Product Overview

The leader in injury treatment and post-operative recovery through active compression and cold technology

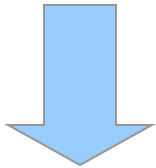


Cryotherapy: Evolution

1. Cold Therapy (Ice)



2. Cold + Static Compression



3. Cold + Intermittent Compression (Game Ready®)



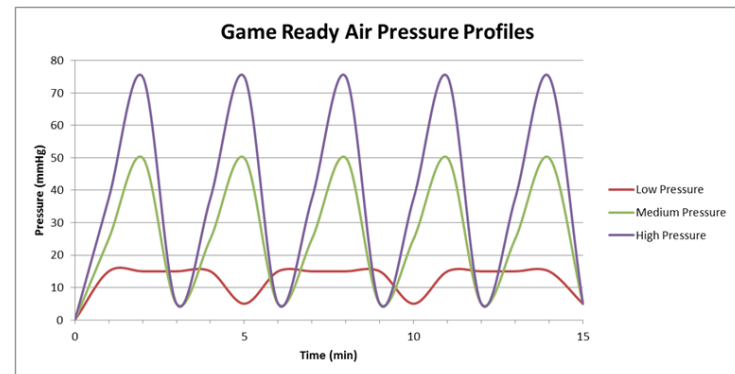
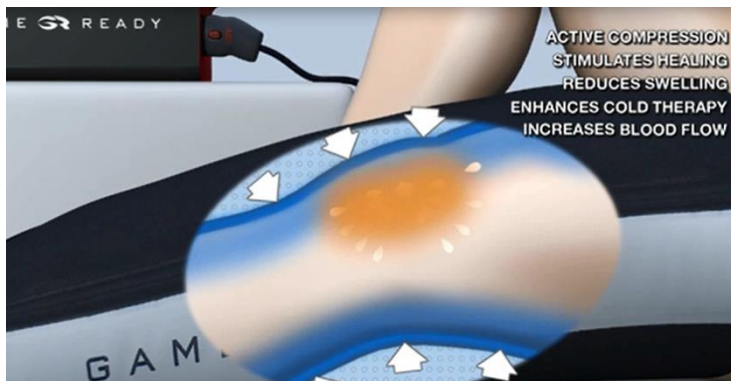
The Game Ready System

- Combines a portable control unit and a complete range of wraps to deliver active cold and compression therapies
- For acute musculoskeletal injuries, post-op rehab and at Home settings



Active Compression

- Active compression loosely mimics a natural muscle contraction, stimulating the lymph system to remove edema from the injury site
- Prolonged edema slows the body's natural recovery mechanisms and compromises the quality of tissue healing



Game Ready Snapshot

• History

- Company founded in 1997 using NASA technology
- In 2001, Brian Maxwell, world class running and founder of PowerBar, refocused the company in sports therapy under the Game Ready Brand
- Product Launched in 2002
- In 2007, company was repositioned as a medical device company to target the largest market opportunity

• Brief Snapshot

- Sports & Rehab, Post-Op, Hospital, Veterinary, Military
- Over 1,00,000 patients treated with Game Ready in USA alone last year
- Over 550 professional and collegiate sports teams use Game Ready
- Over 60,000 Game Ready units in the market



Some Important Users - Game Ready in Lifesciences

- Prominent Orthopedic Surgeons
- **Top rehabilitation and orthopedic clinics in the US, Europe and Asia**
 - Steadman Hawkins Clinic, Hospital for Special Surgery, Kerlan Jobst, Dr. Bert Mandelbaum, Dr. Jimmy Andrews, Intermountain Healthcare (TOSH)
 - 1,000 surgeons have prescribed post-op use of Game Ready
 - India – Medanta, Fortis, Sagar Hospital, Ramakrishna Hosp, Physios etc.,
- Other
 - Universities and Colleges: **396**, High schools: **266**
 - All US Olympic Training Centers & Olympic Games
 - Naval Special Warfare Groups, US Navy Seals



Some Important Users - Game Ready in Sports – US Market

- Professional Athletes
- Sports academies, Athletic Training
- Olympic teams
- Professional Teams – 100% on following sports
 - NFL – National Football League
 - NBA, WNBA, NCAA – Basketball Group
 - MLB - Major League Baseball
 - NHL - National Hockey League
 - AFL - American Football League
 - MLS - Major League Soccer
- Individual Players on all above sports use GameReady personally



Some Important Users - Game Ready in Sports – International

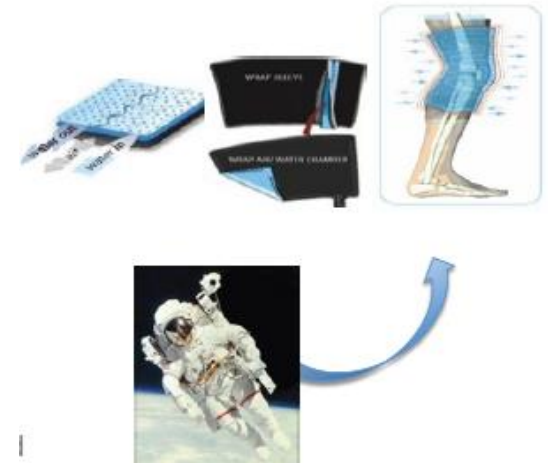
World Soccer

- Almost all English Premier Clubs includes Chelsea, Manchester City, Liverpool, Manchester United, Fulham, and Newcastle etc.,
 - European Clubs: AC Milan, Real Madrid, Bayern Munich, Juventus, Olympic Lyon etc.,
 - International Soccer Teams: Germany, England, France, England, Brazil, Argentina, France, Australia Socceroos, New Zealand All Whites, Japan etc.,
 - Indian Soccer groups – BFC, Goa, etc.,
- **World Rugby**
 - England, Ireland, Wales, South Africa Springboks, New Zealand All Blacks, British Lions
 - **World Cricket**
 - Australia, England, India, South Africa, National Cricket Academy, KSCA, IPL, TNPL, TNCA, and many more
 - Individual Professional Cricketers
 - **Other Sports :**
 - SAI – Badminton, Badminton associations – China Malaysia etc.,,
 - Cycling Teams
 - Endurance & High Performance facilities
 - Athletic groups
 - Tennis, Basketball, and many more



Active Cold Technology

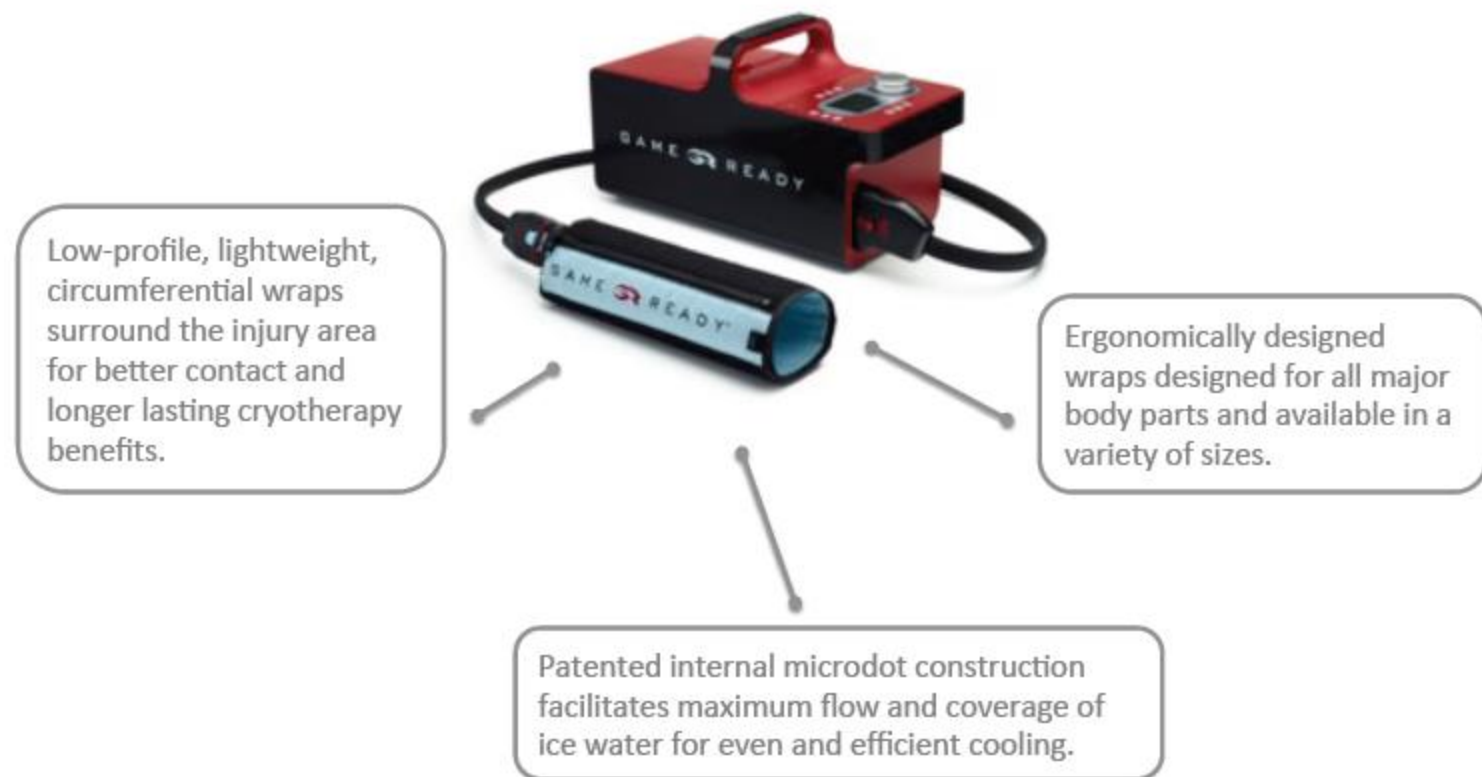
- Game Ready® wraps are based on NASA flexible garment technology
- Circulates ice cold water in an ergonomically designed wrap around specific joints and injuries
- Adjustable cooling level to personal tolerance
 - 1° C to 10° C, – Change in 1° increments
- Patented microdot technology offers high treatment efficacy
- Not all cold is equal. This technology = better cold
 - Fast circulating cold carries heat away
 - Compression contours cold comfortably around the injury



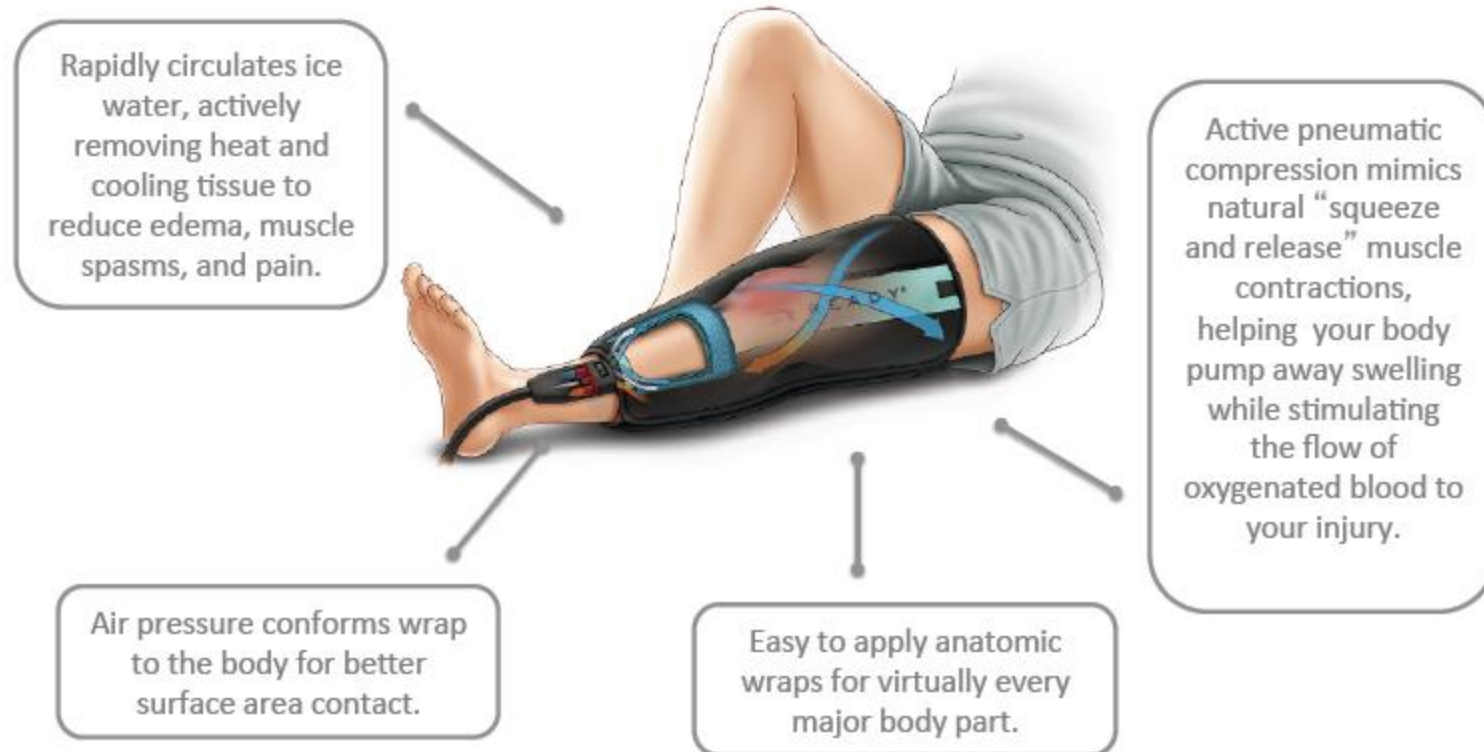
The Game Ready Unit



The Game Ready Wraps



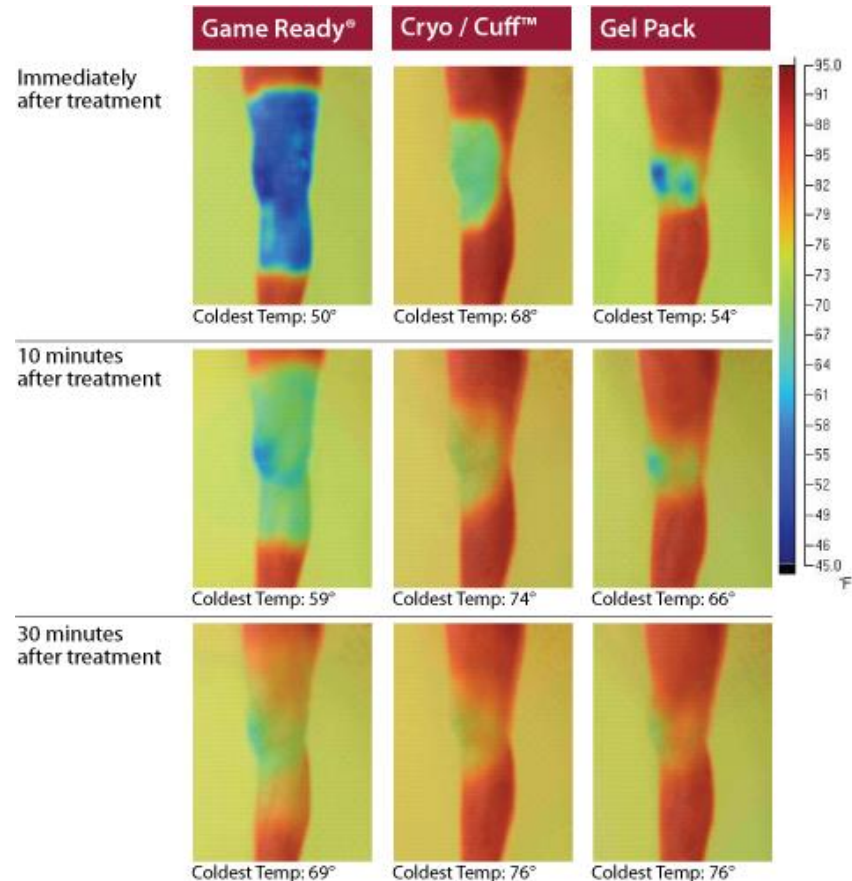
Game Ready Wrap Technology



Active Compression Squeezes Greater Benefits out of Cold Therapy

Head to head infrared thermal imagery shows that Game Ready's patented active compression technology enhances the delivery of cold therapy, helping Game Ready to provide faster, deeper, and longer lasting cold than other cryotherapy products.

*** Side view shown. First skin temperature measurement immediately after completing 30 minutes of treatment, and subsequent images at ten and thirty 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 joint."*



Game Ready Wraps

Hand Wrist Wrap



Elbow Wrap



Flexed Elbow Wrap



Shoulder Wrap



CT Spine Wrap



Back Wrap



Hip/Groin Wrap



Half Leg Boot Wrap



Articulated Knee Wrap



Straight Knee Wrap



Ankle Wrap



Above Knee Traumatic Amputee Wrap



ELBOW WRAP

Size One size fits all
Fit Universal – either arm

POTENTIAL APPLICATIONS

- Bursitis
- Elbow replacement surgery
- Interposition Arthroplasty
- Lateral Epicondylitis (Tennis Elbow surgery)
- Osteocapsular Arthroplasty
- Pain management
- Sprains, strains, fractures
- Synovectomy



FLEXED ELBOW WRAP

Size One size fits all
Fit Universal – either arm
Flexion 90° and 135°, for patients unable to straighten their elbows

POTENTIAL APPLICATIONS

- Bursitis
- Elbow replacement surgery
- Interposition arthroplasty
- Lateral epicondylitis (Tennis Elbow surgery)
- Osteocapsular arthroplasty
- Pain management
- Sprains, strains, fractures
- Synovectomy
- UCL reconstruction (Tommy John surgery)



SHOULDER WRAP

Medium Fits chest sizes 33" to 45"
Large Fits chest sizes 40" to 55"
Fit Left and Right shoulder models

POTENTIAL APPLICATIONS

- Arthroscopic stabilization or repair
- Capsulolabral reconstruction
- Clavical fracture stabilization
- Fracture fixations
- Pain management
- Rotator cuff repair
- Shoulder debridement
- Shoulder replacement
- SLAP tear
- Sprains, strains, fractures



HAND/WRIST WRAP

Size One size fits all, adjustable for comfort and fit
Fit Universal – either hand
Features Adjustable ergonomic hand support, customizable insulation zones

POTENTIAL APPLICATIONS

- Carpal tunnel release
- Carpal tunnel syndrome
- Distal radius fracture
- Knuckle (MCP Joint) replacement
- Pain management
- Sprains, strains, fractures
- Tendon repair
- Trapeziectomy
- Trigger finger release



C-T SPINE WRAP

Size Fits chest sizes 38" to 55", necks 15.75" to 19.5"
Features Targeted compression, expandable and adjustable chest straps for comfort and fit, ergonomic center chest opening, neck collar, customizable insulation for ears

POTENTIAL APPLICATIONS

- Degenerative spine disorders
- Immediate post-whiplash injuries
- Over-activity injuries (acute neck sprains and strains)
- Pain management
- Spinal surgery (disc replacement, scoliosis etc)



BACK WRAP

Size Fits waist sizes 22" to 55"

POTENTIAL APPLICATIONS

- Kyphoplasty
- Nerve Blocks
- Nucleoplasty
- Pain management
- Spine Fusion
- Sprains, strains, fractures



HIP/GROIN WRAP

Size One size fits a wide range of body types
Fit Left and Right hip models

POTENTIAL APPLICATIONS

- Hemiarthroplasty
- Hip resurfacing
- Pain management
- Sprains, strains, fractures
- Total hip replacement or total hip arthroplasty (THR/THA)



HALF-LEG BOOT WRAP

Size Fits men's shoe sizes 6 to 11
Fits women's shoe sizes up to 13
Fit Universal – either foot

POTENTIAL APPLICATIONS

- Achilles tendon rupture or tear
- Calf muscle surgery
- Fibula and tibia fracture surgery
- Lateral ankle repair
- Pain management
- Plantar fasciitis and bone spurs
- Sesamoiditis
- Sprain, strains, fractures
- Tendon surgery
- Tibial and peroneal artery bypass



KNEE WRAP

Size One size – 17" long, 32" circumference at top, 24" circumference at bottom
Fit Universal – either leg

POTENTIAL APPLICATIONS

- Anterior cruciate ligament (ACL) injury or surgery
- Collateral ligament injury or surgery
- Meniscus tear or repair
- Pain management
- Partial knee replacement
- Patellar tendinitis
- Patellar tendon tear
- Total knee replacement or total knee arthroplasty (TKR, TKA)



ARTICULATED KNEE WRAP

Size One size fits all
Fit Universal – either leg
Function CPM machine compatible

POTENTIAL APPLICATIONS

- For use with a continuous passive motion (CPM) machine



ANKLE WRAP

Large	Fits men's shoe sizes 6 to 11 Fits women's shoe sizes up to 13
X-Large	Fits men's shoe sizes 12 to 18
Fit	Universal – either foot

POTENTIAL APPLICATIONS

- Achilles tendon rupture or tear
- Lateral ankle repair
- Pain management
- Plantar fasciitis and bone spurs
- Sesamoiditis
- Sprain, strains, fractures
- Tendon surgery



CRYO CAP

Size	One size fits all, up to 28" in circumference
Features	Targeted compression, adjustable forehead, soft and flexible chin strap, customizable thermal insulation for ears and/or forehead

POTENTIAL APPLICATIONS

- Pain management
- Superficial head injuries
- Acute musculoskeletal injury around the cranium
- Contusions, bumps, bruises



BELOW-THE-KNEE TRAUMATIC AMPUTEE WRAP

Size One size fits all
Fit Below-the-knee amputated leg

FEATURES

- Ergonomic design for best lower limb fit
- Low-profile, circumferential coverage for better surface contact and more effective treatment
- Easy adjustability for enhanced comfort
- Can be used with prosthetic shrinker sleeves

POTENTIAL APPLICATIONS

- Traumatic lower leg amputation surgery



ABOVE-THE-KNEE TRAUMATIC AMPUTEE WRAP

Size One size fits all
Fit Above-the-knee amputated leg, left and right side-specific models

FEATURES

- Ergonomic design for best above-the-knee limb fit
- Low-profile, circumferential coverage for better surface contact and more effective treatment
- Easy adjustability for enhanced comfort
- Can be used with prosthetic shrinker sleeves

POTENTIAL APPLICATIONS

- Traumatic upper leg amputation surgery



UTILITY TRAUMATIC AMPUTEE WRAP

Size One size fits all
Fit Amputated arm, small above-the-knee amputated leg, small below-the-knee amputated leg

FEATURES

- Ergonomic design for best upper extremity or smaller lower extremity limb fit
- Low-profile, circumferential coverage for better surface contact and more effective treatment
- Easy adjustability for enhanced comfort
- Can be used with prosthetic shrinker sleeves

POTENTIAL APPLICATIONS

- Traumatic upper extremity amputation surgery
- Traumatic upper and lower leg amputation surgery



TRAUMATIC AMPUTEE WRAP HARNESS

Size One size fits all
Fit For use with Above-the-Knee, Below-the-Knee, and Utility Traumatic Amputee Wraps

FEATURES

- Loops around waist and fastens easily to wrap
- Helps secure wraps in place to prevent slipping during treatment
- Easy adjustability for enhanced comfort

POTENTIAL APPLICATIONS

- Traumatic upper and lower leg amputation surgery



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- 18. Murgier J, Cassard X. Cryotherapy with dynamic intermittent compression for analgesia after anterior cruciate ligament reconstruction. Preliminary study. *Orthop Traumatol Surg Res*. 2014;100(3):309-312.



Important Users

- Vail Valley Medical Center. Vail, CO
- Illinois Bone and Joint Institute. Chicago area, IL
- Richard R Roudebush Veterans Affairs (VA) Medical Facility. Indianapolis, IN
- Orthopedic One. Dublin, OH
- Palm Beach Orthopedic Institute. Palm Beach, FL
- Nashville Sports Medicine. Nashville, TN
- Peak Orthopedics and Spine. Denver, CO
- BSA Health System. Amarillo, TX
- Orthopaedic Associates USA. Plantation, Miami Lakes, Davie, FL
- SOAR Orthopedics. San Francisco, CA



Some Clinical Papers

- Reduces Narcotic Consumption – Leegwater, Su, Waterman, T
- Improves PT milestones (faster recovery) - Su, Cassard
- Patient Satisfaction – Leegwater and Su
- Shorted Hospital Stay Time – Leegwater, Womochel, Trowbridge
- Decrease pain, muscle spasms, edema and swelling – Leegwater, Waterman



Clinical Study – Example 1

- Results

- 39 Patients. 20 received dynamic. 19 received static compression.
- Mean VAS pain score was 2.4 (range, 0-6) with Game Ready and 2.7 with static compression ($P=0.3$)
- Corresponding values were 1.85 (0–9) vs. 3 (0–8) ($P = 0.16$) after 6 hours and 0.6 (0–3) vs. 1.14 (0–3) ($P = 0.12$) at discharge
- The cumulative mean tramadol dose per patient was 57.5 mg (0–200 mg) with Game Ready and 128.6 mg (0–250 mg) with static compression ($P = 0.023$)
- Corresponding values for morphine were 0 mg vs. 1.14 mg (0–8 mg) ($P < 0.05$).
- Mean range of knee flexion at discharge was 90.5° (80° – 100°) with Game Ready and 84.5° (75° – 90°) with static compression ($P = 0.0015$)

- Conclusion

- Game Ready decreases analgesic drug requirements after ACL reconstruction
- Game Ready improves the postoperative recovery of range of knee motion
- Level of evidence: Level III, case-control study



Clinical Study – Example 2

- Cryocompression therapy after elective arthroplasty of the hip
 - Nick D. Leegater, Jore H. Willems, Richard Brohet, Peter A. Nolte. Department of Orthopaedic Surgery, Spaarne Hospital, Hoofddorp. The Netherlands
- Materials and Methods
 - Observed postoperative pain, morphine usage, blood loss, wound discharge, patient and medical staff satisfaction, together with the feasibility of a cryocompression machine (Game Ready), total hospital admission time, infection rate, DVT, and short-term prosthesis related problems
 - 30 patients. Mean age 68 years (range 31 – 83 years.) Undergoing elective hip arthroplasty for end-stage osteoarthritis. Control patients (n=15) received tricot compression bandage alone, and patients studied received tricot compression bandage plus intermittent cryocompression therapy 15 times for 30 minutes



Clinical Study – Example 2

- Results

- Haemoglobin levels on postoperative day (POD) 1 dropped 2.34 mmol/L in the control group and 1.87 mmol/L in the intervention group ($p = 0.027$)
- At POD 3 haemoglobin levels were reduced by 2.63 and 2.16 respectively ($p = 0.646$)
- A trend occurred towards lower morphine usage, shorter hospital admission time and less wound discharge in the study group. No difference was found in postoperative pain scores
- One event of deep venous thrombosis occurred in the control group

- Conclusion

- Intermittent cryocompression therefore appears to reduce 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



Clinical Study Example 3

- Su EP, Perna M, Boettner F, Mayman DJ, Gerlinger T, Barsoum W, Randolph J, Lee G. A prospective, multi-center randomized trial to evaluate the efficacy of a cryopneumatic device on total knee arthroplasty recovery. J Bone & Joint Surg. November 2012. 94-B;SuppA:153-6
- Olympic Park Hip and Knee Clinic (Sydney, Australia)
- Protocol
 - Initiated within three hours of surgery. Applied for two hours on, and one hour off. Minimum of four cycles per day
 - After discharge from hospital, application time was one hour on, and 30 minutes off
 - Amount of cooling was titrated by each patient to their tolerance; the amount of compression was initially set at low (15 mm of Hg), but patients could adjust this once they were discharged to medium (50 mm of Hg) or high (75 mm of Hg)



Clinical Study – Example 1

- J. Murgier^{a,*}, X. Cassard^b
 - Cryotherapy with dynamic intermittent compression for analgesia after anterior cruciate ligament reconstruction
 - ^aService d'orthopédie-traumatologie, institut de l'appareil locomoteur, hospital. Toulouse, France.
 - ^bClinique des Cédres, chateau d'Alliez. Cornebarrieu, France.
- Materials and Methods
 - Case-control study of consecutive patients who underwent ACL reconstruction at a single institution over a 3-month period
 - Both groups received the same analgesic drug protocol. One group was managed with cryotherapy and dynamic intermittent compression (Game Ready®) and the other with cryotherapy and static compression (IceBand®)



Protocol: Surgeon Protocol Example

- Dr. Phillip Langer, MD. Atlanta Sports Medicine & Orthopaedic Center
 - Assistant Team Orthopedic Surgeon NFL Atlanta Falcons & NHL Atlanta Thrashers 2008 – 2011. Associate Team Orthopedic Surgeon NBA Miami Heat 2007 – 2008
 - Game Ready Prescriber
- Protocol
 - Surgery – Typical Use 2 – 3 weeks minimum
 - Outpatient Surgery: Patient start Game Ready use the night of Surgery
 - Exception: Hip Arthroscopy – Start in Recovery Room
 - In Patient Surgery (Hip/Knee Replacement): Patient starts Game Ready use night of surgery
 - “How Often?”
 - No “official recommendation”
 - Each Patient different – typically 2 – 4 times a day



Questions?

