

Finding the balance

Clinical value and utilization management of combination cold compression therapy



Introduction

Combination cold compression therapy has become a difficult category for workers' compensation payers to manage. The devices can support recovery after selected orthopedic procedures, yet they also carry high costs and are sometimes requested for purchase, extended rental, or conditions that fall outside clinical guidance. Orders may arrive close to hospital discharge, leaving little time to determine whether the patient needs continuous cooling, compression, both modalities, or a simpler form of care.

These pressures create two risks. Broad approval can increase spending without a corresponding clinical benefit, while skepticism can delay appropriate treatment for a patient recovering from major surgery. Current medical treatment guidelines provide a more useful path by defining the procedures, symptoms, rehabilitation requirements, and duration that support use. Applied consistently, those criteria allow payers to protect access, address overutilization, and keep the decision centered on recovery and function.

Understanding combination cold compression therapy

Combination units deliver controlled cooling through a wrap while applying static or intermittent pneumatic pressure. Cooling lowers tissue temperature and is used to manage acute pain and swelling. Compression adds external pressure that can assist with edema management and circulation.² Together, the two modalities are intended to make the early postoperative time frame more manageable and help the patient participate in prescribed rehabilitation.

A 2026 systematic review and meta-analysis of 28 randomized trials evaluated postoperative cryotherapy across musculoskeletal procedures. The review found statistically significant improvements in pain, although the average change did not reach the authors' threshold for clinical importance. It also found small to moderate improvements in range of motion and smaller effects on swelling and function.¹

Research focused on combined cold and compression has produced more varied results. A review of 21 randomized trials found differences across pain, swelling, and range-of-motion outcomes, in part because devices, compression methods, and treatment protocols differed among studies. Trials involving total knee arthroplasty were more favorable than several other clinical settings.²

The evidence therefore supports a procedure-specific assessment in which the reviewer can identify the outcome the device is expected to support, the reason compression is needed in addition to cooling, and when the treatment can reasonably end.

How clinical guidance has evolved

The Official Disability Guidelines (ODG) previously limited recommended use of combination cold compression units to home rental for up to seven days after major knee surgery. Guidance effective June 26, 2026, expanded the indications while retaining clear limits. Current criteria address acute postoperative pain or edema control, expected use of less than two weeks, active participation in rehabilitation, and alignment between the requested modality and a listed surgical indication.⁶

The updated guidance includes continuous-flow cryotherapy after arthroscopic knee surgery, shoulder surgery, and total knee arthroplasty. Cold compression therapy is supported after arthroscopic knee surgery and total knee arthroplasty. The distinction matters because the clinical need for controlled cooling may be established in a case where compression adds no defined benefit. The guidance also continues to limit prolonged use beyond the acute postoperative period and identifies procedures and conditions for which these devices are not recommended.⁶

For payers, the updated guidance changes the nature of the review. The question is no longer whether combination therapy is appropriate in workers' compensation care, but whether the specific request fits the procedure, modality, functional plan, and treatment period recognized by current guidance.



“The 2026 guideline update expanded the procedures eligible for therapy and extended expected use from seven days to less than two weeks. Those changes allow more postoperative requests to meet defined criteria, while duration and rehabilitation requirements continue to set clear boundaries.”

Shawn Waters, MSN,
RN, MBA,
Optum Director
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When combination therapy is clinically appropriate

The strongest candidates are patients in the acute recovery period after a procedure included in current guidance who have substantial pain or edema and a documented reason for adding compression to cooling. Total knee arthroplasty is a clear example because postoperative symptoms can limit mobility and interfere with rehabilitation. Arthroscopic knee procedures may also qualify when the clinical record supports the need and the expected duration remains within the guideline window.⁶

Major surgery and limited mobility are established risk factors for venous thromboembolism (VTE). The Centers for Disease Control and Prevention (CDC) identifies major surgery involving the hip or legs, confinement to bed, and limited movement among the factors that increase risk.³ The treating clinical team remains responsible for the patient's complete VTE prevention plan, including anticoagulation, mobilization, and other medically indicated measures. A request for combination cold compression therapy should be evaluated separately for its intended role in postoperative pain and edema management. It should not be presented as a substitute for an established VTE prophylaxis plan.



“Appropriate use starts with the patient’s clinical situation. The device should support safety, recovery, and return to function, and treatment should end when the clinical need has resolved.”

Robert Hall, MD
Optum Workers’ Comp
and Auto No-Fault

Active rehabilitation provides another important boundary. The device should help the patient manage acute symptoms well enough to participate in therapy and make functional progress. Continued use should be reassessed when the patient’s medical documentation no longer shows an acute need or a connection to the rehabilitation plan.

When less intensive alternatives may be sufficient

A combination unit represents one level within a range of postoperative options. Standard ice packs may meet the need after minor procedures, for mild symptoms, or later in recovery when sustained cooling is unnecessary. Continuous-flow cryotherapy can provide controlled cooling when pain or swelling warrants more than intermittent ice and the clinical record does not establish a separate reason for compression.

This distinction is especially relevant for shoulder procedures. Current guidance supports continuous-flow cryotherapy after certain shoulder surgeries while excluding cold compression therapy for shoulder conditions.⁶ Selecting cryotherapy alone in that setting preserves the treatment component supported by guidance and avoids adding a modality without an established indication.

Duration should also match the acute need. An initial authorization can be tied to the postoperative period and rehabilitation plan, with any extension requiring updated clinical information. This creates a natural reassessment point and allows treatment intensity to decrease as the patient progresses.

Coverage policies outside workers' compensation illustrate the continued debate about powered devices. A 2026 Premera Blue Cross medical policy considers outpatient cooling devices, with or without compression, not medically necessary because published studies have not demonstrated better health outcomes than ice packs and bandages.⁴ The policy does not govern workers' compensation decisions, but it reinforces the need to establish why a powered device is expected to add value in the individual case.

Understanding payer concerns

Payer concerns generally converge around clinical necessity, treatment duration, and payment method. The expected course of postoperative recovery is often short, which makes purchase requests difficult to reconcile with temporary need. Rental arrangements can align cost with a defined treatment period, while a purchase adds the full equipment cost to the claim regardless of the length of use. Fee schedules, contract terms, and comparative costs still require case-specific review.

Timing adds another complication. Orders submitted immediately before discharge can create pressure to authorize and deliver equipment before the clinical record has been fully reviewed. Earlier submission gives the reviewer time to verify the procedure, symptoms, modality, rehabilitation plan, and expected duration. It also creates an opportunity to recommend a suitable alternative before equipment is delivered.

Extended use presents a different cost risk. A device may be appropriate immediately after surgery and unnecessary once acute pain and swelling have improved. Defining the authorization period at the outset helps prevent continued billing after clinical need has ended and gives the treating team a clear point for reassessment.

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“When cooling is clinically appropriate and the patient has no documented need for compression, a cryotherapy-only unit can provide the needed cold therapy at a lower level of intensity. Compression should be reserved for cases with a clear clinical reason for adding it.”

Shawn Waters, MSN,
RN, MBA

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“Cost concerns are closely tied to utilization. Spending increases when a device is prescribed outside the appropriate clinical setting or continues beyond the time frame the patient actually needs it. Effective clinical review addresses both the original indication and the duration of use.”

Robert Hall, MD
Optum Workers' Comp
and Auto No-Fault

The role of clinical review and utilization management

Clinical review connects the evidence and guidance to the circumstances of the individual claim. The medical record should identify the procedure, postoperative timing, pain and edema findings, mobility restrictions, rehabilitation participation, reason for compression, requested duration, and proposed rental or purchase arrangement. These elements allow the reviewer to determine whether the requested level of therapy is appropriate for the need.

A useful recommendation is specific enough to guide the claim decision. When the criteria are met, the recommendation can state the authorized modality and duration. When cooling is justified and compression is not, the reviewer can recommend cryotherapy alone. When the documentation is incomplete, the response can identify the missing criterion and the information needed to complete the assessment. This approach gives claims professionals a clinical basis for action while allowing the treating provider to respond with relevant information.

Monitoring patterns across requests complements case-level review. Measures such as request volume by procedure and body part, recommendation outcomes, average duration, rental-to-purchase ratio, extension frequency, and timing of orders can reveal where education or process changes are needed. These measures should be used to improve consistency and identify gaps rather than infer intent.

The goal is to match the therapy to the patient's clinical need. Patients who meet the criteria receive timely access, patients who need less intensive treatment receive an appropriate alternative, and requests outside current guidance are redirected before unnecessary cost enters the claim.

Looking ahead

The evidence base is likely to become more precise as future studies separate the effects of cooling, static compression, and intermittent pneumatic compression and also report outcomes by procedure. Current research already shows meaningful variation among different joint surgeries and treatment protocols. A 2025 systematic review of postoperative cryotherapy outside the knee found differing results by surgical context, including inconsistent evidence for shoulder procedures and more consistent findings in selected hip studies.⁵

Policies should be able to incorporate new evidence without losing the controls that remain important across device types: a documented treatment objective, a modality matched to that objective, a defined duration, and evidence of functional improvement. Those controls support patient recovery and responsible stewardship at the same time.

Conclusion

Combination cold compression therapy has an appropriate role for selected postoperative workers' compensation patients. The clearest rationale exists when current guidance supports the procedure, acute pain or edema is documented, active rehabilitation is underway, and compression provides a defined clinical benefit in addition to cooling.

Responsible management pairs that clinical rationale with a short, evidence-supported treatment period and a rental or purchase decision that reflects expected use. Standard ice therapy and cryotherapy-only devices remain valid options when they can meet the patient's needs with less intensity and lower cost.

A consistent review process allows payers and clinicians to support recovery while addressing overutilization and avoidable costs. The strongest decisions remain grounded in the patient's procedure, symptoms, risk, rehabilitation plan, and expected course of recovery.



Sources

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