



MASSACHUSETTS

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Medical Policy

Continuous Passive Motion in the Home Setting

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Policy Number: 407

BCBSA Reference Number 1.01.10

NCD/LCD: National Coverage Determination (NCD) for Durable Medical Equipment Reference List (280.1)

Related Policies

- Autologous Chondrocyte Implantation and Other Cell-Based Treatments of Focal Articular Cartilage Lesions, #[374](#)
- Autografts and Allografts in the Treatment of Focal Articular Cartilage Lesions, #[111](#)

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity

Use of continuous passive motion in the home setting may be considered **MEDICALLY NECESSARY** as an adjunct to physical therapy in the following situations:

- Under conditions of low postoperative mobility or inability to comply with rehabilitation exercises following a total knee arthroplasty (TKA) or TKA revision. This may include patients with complex regional pain syndrome (reflex sympathetic dystrophy); extensive arthrofibrosis or tendon fibrosis; or physical, mental, or behavioral inability to participate in active physical therapy.
- During the non-weight-bearing rehabilitation period following articular cartilage repair procedures of the knee (eg, microfracture, osteochondral grafting, autologous chondrocyte implantation, treatment of osteochondritis dissecans, repair of tibial plateau fractures).

Use of continuous passive motion in the home setting for all other conditions is **NOT MEDICALLY NECESSARY**.

Note: CPM is covered as a DME benefit up for to 21 days. Coverage beyond 21 days must be substantiated by medical documentation from the member's treating physician. See [Durable Medical Equipment Payment Policy](#) – page 5.

Medicare HMO BlueSM and Medicare PPO BlueSM Members

Medical necessity criteria and coding guidance can be found through the link below.

[National Coverage Determinations \(NCDs\)](#)

National Coverage Determination (NCD) for Durable Medical Equipment Reference List (280.1)

Note: To review the specific NCD, please remember to click “accept” on the CMS licensing agreement at the bottom of the CMS webpage.

Prior Authorization Information

Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** if the procedure is performed **inpatient**.

Outpatient

- For services described in this policy, see below for situations where prior authorization **might be required** if the procedure is performed **outpatient**.

	Outpatient
Commercial Managed Care (HMO and POS)	Prior authorization is not required .
Commercial PPO and Indemnity	Prior authorization is not required .
Medicare HMO Blue SM	Prior authorization is not required .
Medicare PPO Blue SM	Prior authorization is not required .

CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

HCPCS Codes

HCPCS codes:	Code Description
E0935	Continuous passive motion exercise device for use on knee only

Description

Physical therapy of joints following surgery focuses both on passive motion to restore mobility and on active exercises to restore strength. While passive motion can be administered by a therapist, continuous passive motion (CPM) devices have also been used. CPM is thought to improve recovery by stimulating the healing of articular tissues and the circulation of synovial fluid; reducing local edema; and preventing adhesions, joint stiffness or contractures, or cartilage degeneration. CPM has been investigated primarily in the knee, particularly after total knee arthroplasty or ligamentous or cartilage repair. Acceptance of its use in the knee joint has created interest in CPM use for other weight-bearing joints (ie, hip, ankle, metatarsals) as well as non-weight-bearing joints (ie, shoulder, elbow, metacarpals, interphalangeal joints). Use of CPM in stroke and burn patients is also being explored.

The device used for the knee moves the joint (eg, flexion and extension) without patient assistance, continuously for extended periods of time (ie, up to 24 h/d). An electrical power unit is used to set the variable range of motion (ROM) and speed. The initial settings for ROM are based on a patient’s level of comfort and other factors assessed intraoperatively. The ROM is increased by three to five per day, as tolerated. The speed and ROM can be varied, depending on joint stability. The use of the device may be initiated in the immediate postoperative period and then continued at home for a variable period of time.

Over time, hospital lengths of stay have progressively shortened and, in some cases, surgical repair is done as an outpatient or with a length of stay of one to two days. As a result, there has been a

considerable shift in the rehabilitation regimen, moving from an intensive in-hospital program to a less intensive outpatient program. Some providers may want patients to continue CPM in the home setting as a means of duplicating services offered with a longer (7-day) hospital stay.

The focus of the current review is to examine the literature on the use of CPM in the home setting as it is currently being prescribed postoperatively. Relevant comparisons are treatment outcomes of CPM when used alone or with physical therapy, compared with physical therapy alone.

Summary

Continuous passive motion (CPM) devices are used to keep a joint in motion without patient assistance. CPM is being evaluated for treatment and postsurgical rehabilitation of the upper- and lower-limb joints and for a variety of musculoskeletal conditions.

For individuals who have total knee arthroplasty (TKA) who receive CPM in the home setting, the evidence includes randomized controlled trials (RCTs), case series, and systematic reviews. The relevant outcomes are symptoms and functional outcomes. Early trials generally used CPM in the inpatient setting and are less relevant to today's practice patterns of short hospital stays followed by outpatient rehabilitation. Current postoperative rehabilitation protocols differ considerably from when the largest body of evidence was collected, making it difficult to apply available evidence to the present situation. For use of CPM after TKA, recent studies have suggested that institutional and home use of CPM has no benefit compared with standard physical therapy (PT). There were no studies evaluating CPM in patients who could not perform standard PT. The evidence is insufficient to determine the effects of the technology on health outcomes.

For patients unable to tolerate exercise regimens following TKA, CPM is an alternative modality. However, there is no evidence to support its use in this situation. Clinical input obtained in 2010 supports the use of CPM under conditions of low postoperative mobility or inability to comply with rehabilitation exercises following a TKA or TKA revision.

For individuals who have articular cartilage repair of the knee who receive CPM in the home setting, the evidence includes nonrandomized studies, case series, and studies with nonclinical outcomes (eg, histology), and systematic reviews of these studies. The relevant outcomes are symptoms and functional outcomes. Systematic reviews of CPM for this indication have cited studies reporting better histologic outcomes in patients following CPM. A few studies have reported clinical outcomes, but inadequacies of these studies do not permit conclusions on efficacy. The evidence is insufficient to determine the effects of the technology on health outcomes.

Despite a lack of published evidence, clinical input obtained in 2016 supports the use of CPM after articular cartilage repair of the knee.

For individuals who have musculoskeletal conditions other than TKA or knee cartilage repair requiring PT who receive CPM in the home setting, the evidence includes RCTs for some conditions and case series for others. The relevant outcomes are symptoms and functional outcomes. Three small RCTs of CPM after rotator cuff surgery showed some evidence that CPM after this shoulder surgery improved short-term pain and range of motion; however, the trials were not high-quality, and the small differences in outcomes may not be clinically important. Two trials reported short-term improvements in range of motion for patients undergoing CPM, and one reported a short-term reduction in pain. None reported long-term improvements, and there are no reported benefits in functional status. Therefore, the clinical significance of the short-term improvements reported is uncertain. In addition, there is uncertainty about the optimal PT regimen following shoulder surgery such that the optimal treatment comparator for CPM is unclear. Two small RCTs compared CPM with conventional PT for treatment of adhesive capsulitis. One of the trials focused on diabetic patients with adhesive capsulitis. Both reported comparable improvements in range of motion and functional ability between treatment groups. For other musculoskeletal conditions, RCTs do not exist; case series either did not show efficacy of CPM or had important methodologic flaws. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have had a stroke requiring PT who receive CPM in the home setting, the evidence includes a small RCT. The relevant outcomes are symptoms and functional outcomes. This trial reported a trend toward improved shoulder joint stability but no statistical difference between CPM plus PT and PT alone. The trial was small, and treatment lasted only 20 days. The evidence is insufficient to determine the effects of the technology on health outcomes.

Policy History

Date	Action
4/2019	BCBSA National medical policy review. Description, summary and references updated. Policy statements unchanged.
5/2018	BCBSA National medical policy review. Background and summary clarified. Policy note clarified. Prior Authorization Information reformatted. Effective 5/1/2018.
7/2017	BCBSA National medical policy review. The word "intra-" removed from the second bullet point of the first policy statement and from the text. Policy statements otherwise unchanged.
4/2017	New references added from BCBSA National medical policy.
8/2016	New references added from BCBSA National medical policy.
4/2016	New references added from BCBSA National medical policy.
8/2015	New references added from BCBSA National medical policy.
9/2014	New references added from BCBSA National medical policy.
11/2013	BCBSA National medical policy review. New medical policy describing ongoing medically necessary and not medically necessary indications. CPM is covered as a DME benefit up for to 21 days. Removed E0936 as it does not meet the intent of the policy.

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

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