



**MEDICAL COVERAGE GUIDELINES**  
**SECTION: Durable Medical Equipment (DME)**

**ORIGINAL EFFECTIVE DATE: 03/12/02**  
**LAST REVIEW DATE: 08/19/14**  
**LAST CRITERIA REVISION DATE: 08/19/14**  
**ARCHIVE DATE:**

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## **CONTINUOUS PASSIVE MOTION (CPM)**

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Coverage for services, procedures, medical devices and drugs are dependent upon benefit eligibility as outlined in the member's specific benefit plan. This Medical Coverage Guideline must be read in its entirety to determine coverage eligibility, if any.

The section identified as "Description" defines or describes a service, procedure, medical device or drug and is in no way intended as a statement of medical necessity and/or coverage.

The section identified as "Criteria" defines criteria to determine whether a service, procedure, medical device or drug is considered medically necessary or experimental or investigational.

State or federal mandates, e.g., FEP program, may dictate that any drug, device or biological product approved by the U.S. Food and Drug Administration (FDA) may not be considered experimental or investigational and thus the drug, device or biological product may be assessed only on the basis of medical necessity.

Medical Coverage Guidelines are subject to change as new information becomes available.

For purposes of this Medical Coverage Guideline, the terms "experimental" and "investigational" are considered to be interchangeable.

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### **Description:**

Physical therapy of joints following surgery focuses on passive motion to restore mobility and active exercises to restore strength. Passive motion is most commonly administered by a continuous passive motion (CPM) device. CPM is thought to improve recovery by stimulating the healing of articular tissues and circulation of synovial fluid, reduce local edema and prevent adhesions, joint stiffness, contractures or cartilage degeneration. The device moves the joint (e.g., flexion/extension) continuously without individual assistance for extended periods of time (i.e., up to 24 hours/day). The speed and range of motion (ROM) can be varied depending on joint stability. ROM is increased by 3–5 degrees per day as tolerated. The use of the CPM device may be initiated in the immediate postoperative period and then continued at home for a variable period of time.

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## **CONTINUOUS PASSIVE MOTION (CPM) (cont.)**

### **Criteria:**

- Continuous passive motion immediately following surgery is considered **medically necessary** for a maximum of 3 weeks for **ANY** of the following:
  1. Total knee arthroplasty (replacement) or revision
  2. Ligamentous reconstruction of the knee
  3. Any condition of the knee causing range of motion restriction that requires intervention with either open repair or manipulation
- Continuous passive motion beyond 3 weeks of use is considered **not medically necessary**.
- Continuous passive motion for all other indications not previously listed or if above criteria not met is considered **experimental or investigational** based upon a lack of scientific evidence to support improvement of the net health outcome as much as, or more than, established alternatives.

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### **Resources:**

1. 1.01.10 BCBS Association Medical Policy Reference Manual. Continuous Passive Motion (CPM) in the Home Setting. Re-issue 07/10/2014, issue date 11/1996.
2. Beaupre LA, Davies DM, Jones CA, Cinats JG. Exercise combined with continuous passive motion or slider board therapy compared with exercise only: a randomized controlled trial of patients following total knee arthroplasty. *Phys Ther.* 2001 Apr 2001;81(4):1029-1037.
3. Bennett LA, Brearley SC, Hart JA, Bailey MJ. A comparison of 2 continuous passive motion protocols after total knee arthroplasty: a controlled and randomized study. *J Arthroplasty.* 2005 Feb 2005;20(2):225-233.
4. Chen B, Zimmerman JR, Soulen L, DeLisa JA. Continuous passive motion after total knee arthroplasty: a prospective study. *Am J Phys Med Rehabil.* 2000 Sep-Oct 2000;79(5):421-426.
5. Davies DM, Johnston DW, Beaupre LA, Lier DA. Effect of adjunctive range-of-motion therapy after primary total knee arthroplasty on the use of health services after hospital discharge. *Can J Surg.* 2003 Feb 2003;46(1):30-36.
6. Denis M, Moffet H, Caron F, Ouellet D, Paquet J, Nolet L. Effectiveness of continuous passive motion and conventional physical therapy after total knee arthroplasty: a randomized clinical trial. *Phys Ther.* 2006 Feb 2006;86(2):174-185.



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## **CONTINUOUS PASSIVE MOTION (CPM) (cont.)**

### **Resources:** (cont.)

7. Ferretti M, Srinivasan A, Deschner J, et al. Anti-inflammatory effects of continuous passive motion on meniscal fibrocartilage. *J Orthop Res*. 2005 Sep 2005;23(5):1165-1171.
8. Friemert B, Bach C, Schwarz W, Gerngross H, Schmidt R. Benefits of active motion for joint position sense. *Knee Surg Sports Traumatol Arthrosc*. 2006 Jun 2006;14(6):564-570.
9. Lau SK, Chiu KY. Use of continuous passive motion after total knee arthroplasty. *J Arthroplasty*. 2001 Apr 2001;16(3):336-339.
10. Lenssen AF, Crijns YH, Waltje EM, et al. Effectiveness of prolonged use of continuous passive motion (CPM) as an adjunct to physiotherapy following total knee arthroplasty: design of a randomised controlled trial. *BMC Musculoskelet Disord*. 2006 2006;7:15.
11. Pope RO, Corcoran S, McCaul K, Howie DW. Continuous passive motion after primary total knee arthroplasty. Does it offer any benefits? *J Bone Joint Surg Br*. 1997 Nov 1997;79(6):914-917.
12. Sosin P, Dutka J, Stabach M. [A comparison of kinesitherapy with and without continuous passive motion (CPM) after the entire allograft surgery of the knee]. *Chir Narzadow Ruchu Ortop Pol*. 2000 2000;65(1):47-53.
13. Worland RL, Arredondo J, Angles F, Lopez-Jimenez F, Jessup DE. Home continuous passive motion machine versus professional physical therapy following total knee replacement. *J Arthroplasty*. 1998 Oct 1998;13(7):784-787.
14. Yashar AA, Venn-Watson E, Welsh T, Colwell CWJ, Lotke P. Continuous passive motion with accelerated flexion after total knee arthroplasty. *Clin Orthop Relat Res*. 1997 Dec 1997(345):38-43.