

Addendum to CMM-312: Knee Surgery - Arthroscopic and Open Procedures

Addendum.CMM-312

This addendum serves as notice of changes to the **Procedures Not Addressed Elsewhere** section of **CMM-312: Knee Surgery-Arthroscopic and Open Procedures** guideline resulting from American Medical Association (AMA) code updates effective 10/01/2026.

- The criteria in this addendum apply to **AMA codes 1092T-1095T** and is effective **10/01/2026**. This criteria will be incorporated into **v1.0.2027** of the guideline (planned effective date **08/01/2027**).

Criteria for codes 1092T-1095T

Experimental, Investigational, or Unproven

Based on the lack of evidence of long-term efficacy and safety, the codes in the table below are considered experimental, investigational, or unproven:

Code	Code Description
1092T	Implantation of acellular scaffold (eg, hyaluronan), knee, single implant; into chondral defect, open;
1093T	Implantation of acellular scaffold (eg, hyaluronan), knee, single implant; into a chondral or osteochondral defect, arthroscopic;
+1094T	Implantation of acellular scaffold (eg, hyaluronan), knee, single implant; each additional acellular scaffold implantation (List separately in addition to code for primary procedure);
1095T	Harvesting and processing of autologous bone marrow aspirate concentrate (BMAC), with application onto scaffold or injection into anatomical recipient site (eg, subchondral bone, joint space, chondral lesion), including imaging guidance, when performed, for therapeutic musculoskeletal treatment, excluding spinal procedures;

References (AMA Codes 1092T-1096T)

- Altschuler, N., Zaslav, K. R., Di Matteo, B., Sherman, S. L., Gomoll, A. H., Hacker, S. A., Verdonk, P., Dulic, O., Patrascu, J. M., Levy, A. S., Robinson, D., & Kon, E. (2023). Aragonite-based scaffold versus microfracture and debridement for the treatment of knee chondral and osteochondral lesions: Results of a multicenter randomized controlled trial. *The American Journal of Sports Medicine*, 51(4), 957–967. <https://doi.org/10.1177/03635465231151252>

2. Altschuler, N., Zaslav, K. R., Di Matteo, B., Sherman, S. L., Gomoll, A. H., Hacker, S. A., Verdonk, P., Dulic, O., Patrascu, J. M., Levy, A. S., Robinson, D., & Kon, E. (2026). Five-year follow-up of a multicenter randomized controlled trial comparing an aragonite-based scaffold with microfracture and debridement for chondral and osteochondral knee lesions. *The American Journal of Sports Medicine*, 54(6), 1376–1385. <https://doi.org/10.1177/03635465261437781>
3. Cavinatto, L., Hinckel, B. B., Tomlinson, R. E., Gupta, S., Farr, J., & Bartolozzi, A. R. (2019). The role of bone marrow aspirate concentrate for the treatment of focal chondral lesions of the knee: A systematic review and critical analysis of animal and clinical studies. *Arthroscopy*, 35(6), 1860–1877. <https://doi.org/10.1016/j.arthro.2018.11.073>
4. de Girolamo, L., Schönhuber, H., Viganò, M., Bait, C., Quaglia, A., Thiebat, G., & Volpi, P. (2019). Autologous matrix-induced chondrogenesis (AMIC) and AMIC enhanced by autologous concentrated bone marrow aspirate (BMAC) allow for stable clinical and functional improvements at up to 9 years follow-up: Results from a randomized controlled study. *Journal of Clinical Medicine*, 8(3), 392. <https://doi.org/10.3390/jcm8030392>
5. Di Martino, A., Perdisa, F., Filardo, G., Busacca, M., Kon, E., Marcacci, M., & Zaffagnini, S. (2021). Cell-free biomimetic osteochondral scaffold for the treatment of knee lesions: Clinical and imaging results at 10-year follow-up. *The American Journal of Sports Medicine*, 49(10), 2645–2650. <https://doi.org/10.1177/03635465211029292>
6. Fortier, L. M., Knapik, D. M., Dasari, S. P., Polce, E. M., Familiari, F., Gursoy, S., & Chahla, J. (2023). Clinical and magnetic resonance imaging outcomes after microfracture treatment with and without augmentation for focal chondral lesions in the knee: A systematic review and meta-analysis. *The American Journal of Sports Medicine*, 51(8), 2193–2206. <https://doi.org/10.1177/03635465221087365>
7. Gobbi, A., & Whyte, G. P. (2016). One-stage cartilage repair using a hyaluronic acid-based scaffold with activated bone marrow-derived mesenchymal stem cells compared with microfracture: Five-year follow-up. *The American Journal of Sports Medicine*, 44(11), 2846–2854. <https://doi.org/10.1177/0363546516656179>
8. Jin, Q. H., Chung, Y. W., Na, S. M., Ahn, H. W., Jung, D. M., & Seon, J. K. (2021). Bone marrow aspirate concentration provided better results in cartilage regeneration to microfracture in knee of osteoarthritic patients. *Knee Surgery, Sports Traumatology, Arthroscopy*, 29(4), 1090–1097. <https://doi.org/10.1007/s00167-020-06099-x>
9. Kon, E., Roffi, A., Filardo, G., Tesei, G., & Marcacci, M. (2015). Scaffold-based cartilage treatments: With or without cells? A systematic review of preclinical and clinical evidence. *Arthroscopy*, 31(4), 767–775. <https://doi.org/10.1016/j.arthro.2014.11.017>
10. Krych, A. J., Nawabi, D. H., Farshad-Amacker, N. A., Jones, K. J., Maak, T. G., Potter, H. G., & Williams, R. J., III. (2016). Bone marrow concentrate improves early cartilage phase maturation of a scaffold plug in the knee: A comparative magnetic resonance imaging analysis to platelet-rich plasma and control. *The American Journal of Sports Medicine*, 44(1), 91–98. <https://doi.org/10.1177/0363546515609597>
11. Migliorini, F., Maffulli, N., Baroncini, A., Bell, A., Hildebrand, F., & Schenker, H. (2022). Autologous matrix-induced chondrogenesis is effective for focal chondral defects of the knee. *Scientific Reports*, 12(1), 9328. <https://doi.org/10.1038/s41598-022-13591-6>
12. Ow, Z. G. W., Cheang, H. L. X., Koh, J. H., Koh, J. Z. E., Lim, K. K., Wang, D., Minas, T., Carey, J. L., Lin, H. A., & Wong, K. L. (2023). Does the choice of acellular scaffold and augmentation with bone marrow aspirate concentrate affect short-term outcomes in cartilage repair? A systematic review and meta-analysis. *The American Journal of Sports Medicine*, 51(6), 1622–1633. <https://doi.org/10.1177/03635465211069565>
13. Palka, K., Kubisa, M., Akbas, A., Kubisa, M., & Dobrakowski, M. (2025). Does scaffold enhancement show significant superiority over microfracture alone for treating knee chondral defects? A systematic review and meta-analysis of randomised clinical trials. *Knee Surgery, Sports Traumatology, Arthroscopy*, 33(6), 2027–2043. <https://doi.org/10.1002/ksa.12495>
14. Seewoonarain, S., Ganesh, D., Perera, E., Popat, R., Jones, J., Sugand, K., & Gupte, C. (2023). Scaffold-associated procedures are superior to microfracture in managing focal cartilage defects in the knee: A systematic review and meta-analysis. *The Knee*, 42, 320–338. <https://doi.org/10.1016/j.knee.2023.04.001>
15. Smitterberg, C. W., Mont, M. A., & Scuderi, G. R. (2026). Contemporary Management of Knee Chondral Defects, Part IV: Scaffold-Augmented Repair and Osteochondral Allograft Transplantation. *The Journal of Knee Surgery*, 10.1055/a-2865-1893. *Advance online publication*. <https://doi.org/10.1055/a-2865-1893>
16. Volz, M., Schaumburger, J., Frick, H., Grifka, J., & Anders, S. (2017). A randomized controlled trial demonstrating sustained benefit of Autologous Matrix-Induced Chondrogenesis over microfracture at five years. *International Orthopaedics*, 41(4), 797–804. <https://doi.org/10.1007/s00264-016-3391-0>

17. Whyte, G. P., Bizzoco, L., & Gobbi, A. (2024). One-step cartilage repair of full-thickness knee chondral lesions using a hyaluronic acid-based scaffold embedded with bone marrow aspirate concentrate: Long-term outcomes after mean follow-up duration of 14 years. *The American Journal of Sports Medicine*, 52(14), 3561–3568. <https://doi.org/10.1177/03635465241287524>