

# Orthopaedics

## Ten Things Physicians and Patients Should Question

by  
The Canadian Orthopaedic Association  
The Canadian Arthroplasty Society  
Arthroscopy Association of Canada  
Last updated: February 2018



### 1 **Don't use arthroscopic debridement as a primary treatment in the management of osteoarthritis of the knee.**

Several recent meta-analyses have culminated in clinical practice guidelines recommending against the use of arthroscopic debridement for the treatment of degenerative knee arthritis and meniscal tears in patients over the age of 35, as it appears there is no maintained benefit of arthroscopic surgery over conservative management (exercise therapy, injections, and drugs). However, this does not preclude the judicious use of arthroscopic surgery when indicated to manage symptomatic co-existing pathology in the presence of osteoarthritis or degeneration.

### 2 **Don't order a knee MRI when weight-bearing x-rays demonstrate osteoarthritis and symptoms are suggestive of osteoarthritis as the MRI rarely adds useful information to guide diagnosis or treatment.**

The diagnosis of knee osteoarthritis can be effectively made based upon the patient's history, physical examination, and plain radiography consisting of weight-bearing posterior-anterior, lateral and skyline views. Ordering MRI scans incurs further waiting times for patients, can cause unnecessary anxiety while waiting.

### 3 **Don't order a hip MRI when x-rays demonstrate osteoarthritis and symptoms are suggestive of osteoarthritis as the MRI rarely adds useful information to guide diagnosis or treatment.**

The diagnosis of hip osteoarthritis can be effectively made based upon the patient's history, physical examination and plain radiography. Ordering MRI scans incurs further waiting times for patients, can cause unnecessary anxiety while waiting for specialist consultation, and can delay MRI imaging for appropriate patients.

### 4 **Don't prescribe opioids for management of osteoarthritis before optimizing the use of non-opioid approaches to pain management.**

The use of opioids in chronic non-cancer pain is associated with significant risks. Optimization of non-opioid pharmacotherapy and non-pharmacologic therapy is strongly recommended. Treatment with opioids is not superior to treatment with non-opioid medications in improving pain-related function over 12 months in patients with moderate to severe hip, knee or back pain due to osteoarthritis.

### 5 **Don't routinely request pathological examination of tissue from uncomplicated primary hip and knee replacement surgery undertaken for degenerative arthritis.**

Several large reviews including thousands of patients have demonstrated that routine pathological examination of operative specimens from uncomplicated primary hip and knee arthroplasty surgeries does not alter patient management or outcome.

### 6 **Avoid performing routine post-operative deep vein thrombosis ultrasonography screening in patients who undergo elective hip or knee arthroplasty.**

Since ultrasound is not effective at diagnosing unsuspected deep vein thrombosis (DVT) and appropriate alternative screening tests do not exist, if there is no change in the patient's clinical status, routine post-operative screening for DVT after hip or knee arthroplasty does not change outcomes or clinical management.

### 7 **Don't use needle lavage to treat patients with symptomatic osteoarthritis of the knee for long-term relief.**

The use of needle lavage in patients with symptomatic osteoarthritis of the knee does not lead to measurable improvements in pain, function, 50-foot walking time, stiffness, tenderness or swelling.

**8 Don't use glucosamine and chondroitin to treat patients with symptomatic osteoarthritis of the knee.**

Both glucosamine and chondroitin sulfate do not provide relief for patients with symptomatic osteoarthritis of the knee.

**9 Don't use lateral wedge insoles to treat patients with symptomatic medial compartment osteoarthritis of the knee.**

In patients with symptomatic osteoarthritis of the knee, the use of lateral wedge or neutral insoles does not improve pain or functional outcomes. Comparisons between lateral and neutral heel wedges were investigated, as were comparisons between lateral wedged insoles and lateral wedged insoles with subtalar strapping. The systematic review concludes that there is only limited evidence for the effectiveness of lateral heel wedges and related orthoses. In addition, the possibility exists that those who do not use them may experience fewer symptoms from osteoarthritis of the knee.

**10 Don't use post-operative splinting of the wrist after carpal tunnel release for long-term relief.**

Routine post-operative splinting of the wrist after the carpal tunnel release procedure showed no benefit in grip or lateral pinch strength or bowstringing. In addition, the research showed no effect in complication rates, subjective outcomes or patient satisfaction. Clinicians may wish to provide protection for the wrist in a working environment or for temporary protection. However, objective criteria for their appropriate use do not exist. Clinicians should be aware of the detrimental effects including adhesion formation, stiffness and prevention of nerve and tendon movement.

## How the list was created:

### Recommendations 1-5

The Canadian Orthopaedic Association (COA) developed recommendations 1-5 in early 2018 in collaboration with the Canadian Arthroplasty Society (CAS) and the Arthroscopy Association of Canada (AAC). Recommendation 1 arises from the position statement from the AAC concerning arthroscopy of the knee joint. Recommendations 2, 3 and 5 were brought forth by members of the CAS at their Annual Meeting in 2017. Recommendation 4 was brought forth by members of the COA Standards Committee following the COA Annual Meeting in June 2017.

### Recommendations 6-10

Recommendations 6-10 were published before 1-5 in April 2014. COA established its first list Choosing Wisely Canada Top 5 recommendations by asking its National Standards Committee to review the evidence base associated with the five treatments and procedures chosen by the American Academy of Orthopaedic Surgeons for the Choosing Wisely® campaign in the United States. Satisfied that the list was relevant to the Canadian clinical context, the Committee recommended its adoption to the COA's Executive Committee, and the motion was then unanimously approved by the Board of Directors. Therefore, all five items were adopted with permission from the Five Things Physicians and Patients Should Question, © 2013 American Academy of Orthopaedic Surgeons.

## Sources

- 1** Arthroscopy Association of Canada. [Position Statement of Arthroscopy Association of Canada \(AAC\) Concerning Arthroscopy of the Knee Joint](#) [Internet]. September 2017 [cited 2018 Feb].  
Brignardello-Petersen R, et al. Knee arthroscopy versus conservative management in patients with degenerative knee disease: a systematic review. *BMJ Open*. 2017 May 11;7(5):e016114. [PMID: 28495819](#).  
Khan M, et al. Arthroscopic surgery for degenerative tears of the meniscus: a systematic review and meta-analysis. *CMAJ*. 2014 Oct 7;186(14):1057-64. [PMID: 25157057](#).  
Laupattarakasem W, et al. Arthroscopic debridement for knee osteoarthritis. *Cochrane Database Syst Rev*. 2008 Jan 23;(1):CD005118. [PMID: 18254069](#).  
Thorlund JB, Juhl CB, Roos EM, Lohmander LS. Arthroscopic surgery for degenerative knee: systematic review and meta-analysis of benefits and harms. *BMJ*. 2015 Jun 16;350:h2747. [PMID: 26080045](#).  
Siemieniuk RAC, et al. Arthroscopic surgery for degenerative knee arthritis and meniscal tears: a clinical practice guideline. *BMJ*. 2017 May 10;357:j1982. [PMID: 28490431](#).
- 2** Menashe L, et al. The diagnostic performance of MRI in osteoarthritis: a systematic review and meta-analysis. *Osteoarthritis Cartilage*. 2012 Jan;20(1):13-21. [PMID: 22044841](#).  
Sakellariou G, et al. EULAR recommendations for the use of imaging in the clinical management of peripheral joint osteoarthritis. *Ann Rheum Dis*. 2017 Sep;76(9):1484-1494. [PMID: 28389554](#).  
Zhang W, et al. EULAR evidence-based recommendations for the diagnosis of knee osteoarthritis. *Ann Rheum Dis*. 2010 Mar;69(3):483-9. [PMID: 19762361](#).
- 3** Menashe L, et al. The diagnostic performance of MRI in osteoarthritis: a systematic review and meta-analysis. *Osteoarthritis Cartilage*. 2012 Jan;20(1):13-21. [PMID: 22044841](#).  
Sakellariou G, et al. EULAR recommendations for the use of imaging in the clinical management of peripheral joint osteoarthritis. *Ann Rheum Dis*. 2017 Sep;76(9):1484-1494. [PMID: 28389554](#).
- 4** Busse JW, et al. Guideline for opioid therapy and chronic noncancer pain. *CMAJ*. 2017 May 8;189(18):E659-E666. [PMID: 28483845](#).  
Krebs EE, et al. Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients with Chronic Back Pain or Hip or Knee Osteoarthritis Pain: The SPACE Randomized Clinical Trial. *JAMA*. 2018; 319(9):872-882. [PMID: 29509867](#).
- 5** Campbell ML, et al. Collection of surgical specimens in total joint arthroplasty. Is routine pathology cost effective? *J Arthroplasty*. *J Arthroplasty*. 1997 Jan;12(1):60-3. [PMID: 9021503](#).  
Kocher MS, et al. Cost and effectiveness of routine pathological examination of operative specimens obtained during primary total hip and knee replacement in patients with osteoarthritis. *J Bone Joint Surg Am*. 2000 Nov;82-A(11):1531-5. [PMID: 11097439](#).  
Lin MM, et al. Histologic examinations of arthroplasty specimens are not cost-effective: a retrospective cohort study. *Clin Orthop Relat Res*. 2012 May;470(5):1452-60. [PMID: 22057818](#).  
Meding JB, et al. Determining the necessity for routine pathologic examinations in uncomplicated total hip and total knee arthroplasties. *J Arthroplasty*. 2000 Jan;15(1):69-71. [PMID: 10654465](#).
- 6** Abraham P, et al. Does venous microemboli detection add to the interpretation of D-dimer values following orthopedic surgery? *Ultrasound Med Biol*. 1999 May;25(4):637-40. [PMID: 10386740](#).  
American Academy of Orthopaedic Surgeons. [Preventing venous thromboembolic disease in patients undergoing elective hip and knee arthroplasty: Evidence-based guideline and evidence report](#) [Internet]. 2011 Sep [cited 2014 Feb 20].  
Bounameaux H, et al. Measurement of plasma D-dimer is not useful in the prediction or diagnosis of postoperative deep vein thrombosis in patients undergoing total knee arthroplasty. *Blood Coagul Fibrinolysis*. 1998 Nov;9(8):749-52. [PMID: 9890718](#).  
Ciccone WJ 2nd, et al. Ultrasound surveillance for asymptomatic deep venous thrombosis after total joint replacement. *J Bone Joint Surg Am*. 1998 Aug;80(8):1167-74. [PMID: 9730126](#).  
Davidson BL, et al. Low accuracy of color Doppler ultrasound in the detection of proximal leg vein thrombosis in asymptomatic high-risk patients. The RD heparin arthroplasty group. *Ann Intern Med*. 1992 Nov 1;117(9):735-8. [PMID: 1416575](#).  
Garino JP, et al. Deep venous thrombosis after total joint arthroplasty. The role of compression ultrasonography and the importance of the experience of the technician. *J Bone Joint Surg Am*. 1996 Sep;78(9):1359-65. [PMID: 8816651](#).  
Larcom PG, et al. Magnetic resonance venography versus contrast venography to diagnose thrombosis after joint surgery. *Clin Orthop Relat Res*. 1996 Oct;(331)(331):209-15. [PMID: 8895640](#).  
Lensing AW, et al. A comparison of compression ultrasound with color Doppler ultrasound for the diagnosis of symptomless postoperative deep vein thrombosis. *Arch Intern Med*. 1997 Apr 14;157(7):765-8. [PMID: 9125008](#).  
Mont MA, et al. Preventing venous thromboembolic disease in patients undergoing elective hip and knee arthroplasty. *J Am Acad Orthop Surg*. 2011 Dec;19(12):768-76. [PMID: 22134209](#).  
Niimi R, et al. Evaluation of soluble fibrin and D-dimer in the diagnosis of postoperative deep vein thrombosis. *Biomarkers*. 2010 Mar;15(2):149-57. [PMID: 19903012](#).

Pellegrini VD Jr, et al. The John Charnley Award: Prevention of readmission for venous thromboembolic disease after total hip arthroplasty. *Clin Orthop Relat Res*. 2005 Dec;441:56-62. [PMID: 16330984](#).

Pellegrini VD Jr, et al. The Mark Coventry Award: Prevention of readmission for venous thromboembolism after total knee arthroplasty. *Clin Orthop Relat Res*. 2006 Nov;452:21-7. [PMID: 16906107](#).

Robinson KS, et al. Ultrasonographic screening before hospital discharge for deep venous thrombosis after arthroplasty: The post-arthroplasty screening study. A randomized, controlled trial. *Ann Intern Med*. 1997 Sep 15;127(6):439-45. [PMID: 9313000](#).

Schmidt B, et al. Ultrasound screening for distal vein thrombosis is not beneficial after major orthopedic surgery. A randomized controlled trial. *Thromb Haemost*. 2003 Nov;90(5):949-54. [PMID: 14597992](#).

Westrich GH, et al. The incidence of deep venous thrombosis with color Doppler imaging compared to ascending venography in total joint arthroplasty: A prospective study. *Contemp Surg*. 1997;51:225-34.

- 7** American Academy of Orthopaedic Surgeons. [Treatment of osteoarthritis of the knee \(non-arthroplasty\): Full guideline](#) [Internet]. 2008 Dec [cited 2014 Feb 20].
- Arden NK, et al. A randomised controlled trial of tidal irrigation vs corticosteroid injection in knee osteoarthritis: The KIVIS study. *Osteoarthritis Cartilage*. 2008 Jun;16(6):733-9. [PMID: 18077189](#).
- Bradley JD, et al. Tidal irrigation as treatment for knee osteoarthritis: A sham-controlled, randomized, double-blinded evaluation. *Arthritis Rheum*. 2002 Jan;46(1):100-8. [PMID: 11817581](#).
- Chang RW, et al. A randomized, controlled trial of arthroscopic surgery versus closed-needle joint lavage for patients with osteoarthritis of the knee. *Arthritis Rheum*. 1993 Mar;36(3):289-96. [PMID: 8452573](#).
- Dawes PT, et al. Saline washout for knee osteoarthritis: Results of a controlled study. *Clin Rheumatol*. 1987 Mar;6(1):61-3. [PMID: 3581699](#).
- Ike RW, et al. Tidal irrigation versus conservative medical management in patients with osteoarthritis of the knee: A prospective randomized study. Tidal Irrigation Cooperating Group. *J Rheumatol*. 1992 May;19(5):772-9. [PMID: 1613709](#).
- Richmond J, et al. Treatment of osteoarthritis of the knee (nonarthroplasty). *J Am Acad Orthop Surg*. 2009 Sep;17(9):591-600. [PMID: 19726743](#).
- Vad VB, et al. Management of knee osteoarthritis: Knee lavage combined with hylan versus hylan alone. *Arch Phys Med Rehabil*. 2003 May;84(5):634-7. [PMID: 12736873](#).
- 8** American Academy of Orthopaedic Surgeons. [Treatment of osteoarthritis of the knee \(non-arthroplasty\): Full guideline](#) [Internet]. 2008 Dec [cited 2014 Feb 20].
- Altman RD, et al. Effects of a ginger extract on knee pain in patients with osteoarthritis. *Arthritis Rheum*. 2001 Nov;44(11):2531-8. [PMID: 11710709](#).
- Bourgeois P, et al. Efficacy and tolerability of chondroitin sulfate 1200 mg/day vs chondroitin sulfate 3 x 400 mg/day vs placebo. *Osteoarthritis Cartilage*. 1998 May;6 Suppl A:25-30. [PMID: 9743816](#).
- Bucsi L, et al. Efficacy and tolerability of oral chondroitin sulfate as a symptomatic slow-acting drug for osteoarthritis (SYSADOA) in the treatment of knee osteoarthritis. *Osteoarthritis Cartilage*. 1998 May;6 Suppl A:31-6. [PMID: 9743817](#).
- Cibere J, et al. Randomized, double-blind, placebo-controlled glucosamine discontinuation trial in knee osteoarthritis. *Arthritis Rheum*. 2004 Oct 15;51(5):738-45. [PMID: 15478160](#).
- Clegg DO, et al. Glucosamine, chondroitin sulfate, and the two in combination for painful knee osteoarthritis. *N Engl J Med*. 2006 Feb 23;354(8):795-808. [PMID: 16495392](#).
- Das A Jr, et al. Efficacy of a combination of FCHG49 glucosamine hydrochloride, TRH122 low molecular weight sodium chondroitin sulfate and manganese ascorbate in the management of knee osteoarthritis. *Osteoarthritis Cartilage*. 2000 Sep;8(5):343-50. [PMID: 10966840](#).
- Giordano N, et al. The efficacy and tolerability of glucosamine sulfate in the treatment of knee osteoarthritis: A randomized, double-blind, placebo-controlled trial. *Curr Ther Res Clin Exper*. 2009 Jun;70(3):185-96. [PMID: 24683229](#).
- Houpt JB, et al. Effect of glucosamine hydrochloride in the treatment of pain of osteoarthritis of the knee. *J Rheumatol*. 1999 Nov;26(11):2423-30. [PMID: 10555905](#).
- Hughes R, et al. A randomized, double-blind, placebo-controlled trial of glucosamine sulphate as an analgesic in osteoarthritis of the knee. *Rheumatology (Oxford)*. 2002 Mar;41(3):279-84. [PMID: 11934964](#).
- Kahan A, et al. Long-term effects of chondroitins 4 and 6 sulfate on knee osteoarthritis: The study on osteoarthritis progression prevention, a two-year, randomized, double-blind, placebo-controlled trial. *Arthritis Rheum*. 2009 Feb;60(2):524-33. [PMID: 19180484](#).
- Mazieres B, et al. Chondroitin sulfate in osteoarthritis of the knee: A prospective, double blind, placebo controlled multicenter clinical study. *J Rheumatol*. 2001 Jan;28(1):173-81. [PMID: 11196521](#).
- Mazieres B, et al. Effect of chondroitin sulphate in symptomatic knee osteoarthritis: A multicentre, randomised, double-blind, placebo-controlled study. *Ann Rheum Dis*. 2007 May;66(5):639-45. [PMID: 17204566](#).
- McAlindon T, et al. Effectiveness of glucosamine for symptoms of knee osteoarthritis: Results from an internet-based randomized double-blind controlled trial. *Am J Med*. 2004 Nov 1;117(9):643-9. [PMID: 15501201](#).
- Moller I, et al. Effectiveness of chondroitin sulphate in patients with concomitant knee osteoarthritis and psoriasis: A randomized, double-blind, placebo-controlled study. *Osteoarthritis Cartilage*. 2010 Jun;18 Suppl 1:S32-40. [PMID: 20399899](#).
- Noack W, et al. Glucosamine sulfate in osteoarthritis of the knee. *Osteoarthritis Cartilage*. 1994 Mar;2(1):51-9. [PMID: 11548224](#).
- Pavelka K Jr, et al. Glycosaminoglycan polysulfuric acid (GAGPS) in osteoarthritis of the knee. *Osteoarthritis Cartilage*. 1995 Mar;3(1):15-23. [PMID: 7536623](#).
- Pavelka K, et al. Efficacy and safety of piascaline 300 versus chondroitin sulfate in a 6 months treatment plus 2 months observation in patients with osteoarthritis of the knee. *Clin Rheumatol*. 2010 Jun;29(6):659-70. [PMID: 20179981](#).
- Rai J, et al. [Efficacy of chondroitin sulfate and glucosamine sulfate in the progression of symptomatic knee osteoarthritis: A randomized, placebo-controlled, double blind study](#) [Internet]. 2004 January [cited 2014 Feb 20].
- Richmond J, et al. Treatment of osteoarthritis of the knee (nonarthroplasty). *J Am Acad Orthop Surg*. 2009 Sep;17(9):591-600. [PMID: 19726743](#).
- Rindone JP, et al. Randomized, controlled trial of glucosamine for treating osteoarthritis of the knee. *West J Med*. 2000 Feb;172(2):91-4. [PMID: 10693368](#).
- Samson DJ, et al. Treatment of primary and secondary osteoarthritis of the knee. 2007 Sep 1. Report No.: 157. [PMID: 18088162](#).
- Tao QW, et al. Clinical efficacy and safety of gubitong recipe ( ) in treating osteoarthritis of knee joint. *Chin J Integr Med*. 2009 Dec;15(6):458-61. [PMID: 20082253](#).
- Trc T, et al. Efficacy and tolerance of enzymatic hydrolysed collagen (EHC) vs. glucosamine sulphate (GS) in the treatment of knee osteoarthritis (KOA). *Int Orthop*. 2011 Mar;35(3):341-8. [PMID: 20401752](#).
- Uebelhart D, et al. Intermittent treatment of knee osteoarthritis with oral chondroitin sulfate: A one-year, randomized, double-blind, multicenter study versus placebo. *Osteoarthritis Cartilage*. 2004 Apr;12(4):269-76. [PMID: 15023378](#).
- Zakeri Z, et al. [Evaluating the effects of ginger extract on knee pain, stiffness and difficulty in patients with knee osteoarthritis](#) [Internet]. 2011 Aug 4 [cited 2014 Feb 20].

- 9 American Academy of Orthopaedic Surgeons. Treatment of osteoarthritis of the knee (non-arthroplasty): Full guideline [Internet]. 2008 Dec [cited 2014 Feb 20].
- Baker K, et al. A randomized crossover trial of a wedged insole for treatment of knee osteoarthritis. *Arthritis Rheum*. 2007 Apr;56(4):1198-203. PMID: [17393448](#).
- Bennell KL, et al. Lateral wedge insoles for medial knee osteoarthritis: 12 month randomised controlled trial. *BMJ*. 2011 May 18;342:d2912. PMID: [21593096](#).
- Brouwer RW, et al. Braces and orthoses for treating osteoarthritis of the knee. *Cochrane Database Syst Rev*. 2005 Jan 25;(1)(1):CD004020. PMID: [15674927](#).
- Maillefert JF, et al. Laterally elevated wedged insoles in the treatment of medial knee osteoarthritis: A prospective randomized controlled study. *Osteoarthritis Cartilage*. 2001 Nov;9(8):738-45. PMID: [11795993](#).
- Nigg BM, et al. Unstable shoe construction and reduction of pain in osteoarthritis patients. *Med Sci Sports Exerc*. 2006 Oct;38(10):1701-8. PMID: [17019290](#).
- Pham T, et al. Laterally elevated wedged insoles in the treatment of medial knee osteoarthritis. A two-year prospective randomized controlled study. *Osteoarthritis Cartilage*. 2004 Jan;12(1):46-55. PMID: [14697682](#).
- Richmond J, et al. Treatment of osteoarthritis of the knee (nonarthroplasty). *J Am Acad Orthop Surg*. 2009 Sep;17(9):591-600. PMID: [19726743](#).
- Toda Y, et al. Usefulness of an insole with subtalar strapping for analgesia in patients with medial compartment osteoarthritis of the knee. *Arthritis Rheum*. 2002 Oct 15;47(5):468-73. PMID: [12382293](#).
- Toda Y, et al. Effect of a novel insole on the subtalar joint of patients with medial compartment osteoarthritis of the knee. *J Rheumatol*. 2001 Dec;28(12):2705-10. PMID: [11764221](#).
- Toda Y, et al. A 2-year follow-up of a study to compare the efficacy of lateral wedged insoles with subtalar strapping and in-shoe lateral wedged insoles in patients with varus deformity osteoarthritis of the knee. *Osteoarthritis Cartilage*. 2006 Mar;14(3):231-7. PMID: [16271485](#).
- Toda Y, et al. A comparative study on the effect of the insole materials with subtalar strapping in patients with medial compartment osteoarthritis of the knee. *Mod Rheumatol*. 2004 Dec;14(6):459-65. PMID: [24387723](#).
- Toda Y, et al. A six-month followup of a randomized trial comparing the efficacy of a lateral-wedge insole with subtalar strapping and an in-shoe lateral-wedge insole in patients with varus deformity osteoarthritis of the knee. *Arthritis Rheum*. 2004 Oct;50(10):3129-36. PMID: [15476225](#).
- 10 American Academy of Orthopaedic Surgeons. Clinical practice guideline on the treatment of carpal tunnel syndrome [Internet]. 2008 Sep [cited 2014 Feb 20].
- Bury TF, et al. Prospective, randomized trial of splinting after carpal tunnel release. *Ann Plast Surg*. 1995 Jul;35(1):19-22. PMID: [7574280](#).
- Cook AC, et al. Early mobilization following carpal tunnel release. A prospective randomized study. *J Hand Surg Br*. 1995 Apr;20(2):228-30. PMID: [7797977](#).
- Fagan DJ, et al. A controlled clinical trial of postoperative hand elevation at home following day-case surgery. *J Hand Surg Br*. 2004 Oct;29(5):458-60. PMID: [15336749](#).
- Finsen V, et al. No advantage from splinting the wrist after open carpal tunnel release. A randomized study of 82 wrists. *Acta Orthop Scand*. 1999 Jun;70(3):288-92. PMID: [10429608](#).
- Hochberg J. A randomized prospective study to assess the efficacy of two cold-therapy treatments following carpal tunnel release. *J Hand Ther*. 2001 Jul-Sep;14(3):208-15. PMID: [11511016](#).
- Jeffrey SL, et al. Use of arnica to relieve pain after carpal-tunnel release surgery. *Altern Ther Health Med*. 2002 Mar-Apr;8(2):66-8. PMID: [11892685](#).
- Martins RS, et al. Wrist immobilization after carpal tunnel release: A prospective study. *Arq Neuropsiquiatr*. 2006 Sep;64(3A):596-9. PMID: [17119800](#).
- Provinciali L, et al. Usefulness of hand rehabilitation after carpal tunnel surgery. *Muscle Nerve*. 2000 Feb;23(2):211-6. PMID: [10639613](#).
- Arthroscopy Association of Canada. Position Statement of Arthroscopy Association of Canada (AAC) Concerning Arthroscopy of the Knee Joint [Internet]. September 2017 [cited 2018 Feb].

### The Canadian Orthopaedic Association

The Canadian Orthopaedic Association (COA) is a proud partner of the Choosing Wisely Canada campaign. With more than 1,800 Canadian members, the COA is the national professional association that represents Canada's orthopaedic surgeons. Our mandate is to promote excellence in bone and joint care through continuing professional development, models of care, practice-management strategies, government relations and a code of ethics. The COA has met annually since 1945, providing a venue for Canada's orthopaedic surgeons to update and refine their skills, as well as discuss and respond to professional and patient issues. The COA also supports multiple subspecialty societies, including the Arthroscopy Association of Canada (AAC) and Canadian Arthroplasty Society (CAS), and continues to speak with a united voice on behalf of the orthopaedic community in Canada.



### About Choosing Wisely Canada

Choosing Wisely Canada is a campaign to help physicians and patients engage in conversations about unnecessary tests, treatments and procedures, and to help physicians and patients make smart and effective choices to ensure high-quality care.

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