



Postoperative Atrial Fibrillation Prevention.

Level of Evidence	Moderate
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Consensus Statement

Postoperative atrial fibrillation is optimally addressed through the use of a multifaceted prevention strategy.

Main Points

- Postoperative atrial fibrillation is common after cardiac surgery and is associated with stroke, longer hospitalization, higher cost, and later recurrence.
- A prevention strategy should be multifaceted and may include risk stratification, beta-blockers, amiodarone, and procedural measures to reduce retained pericardial blood.
- Posterior pericardiotomy is highlighted as one intervention associated with meaningful reductions in effusion, tamponade, and atrial fibrillation.

Key References

1. Ali-Hassan-Sayegh S, Mirhosseini SJ, et al. Antioxidant supplementations for prevention of atrial fibrillation after cardiac surgery: an updated comprehensive systematic review and meta-analysis of 23 randomized controlled trials. *Interact Cardiovasc Thorac Surg.* 2014;18:646-654.
2. Bagshaw SM, Galbraith PD, Mitchell LB, Sauve R, Exner DV, Ghali WA. Prophylactic amiodarone for prevention of atrial fibrillation after cardiac surgery: a meta-analysis. *Ann Thorac Surg.* 2006;82:1927-1937.
3. Buckley MS, Nolan PE Jr, Slack MK, Tisdale JE, Hilleman DE, Copeland JG. Amiodarone prophylaxis for atrial fibrillation after cardiac surgery: meta-analysis of dose response and timing of initiation. *Pharmacotherapy.* 2007;27:360-368.

4. Eikelboom R, Sanjanwala R, Le ML, Yamashita MH, Arora RC. Postoperative atrial fibrillation after cardiac surgery: a systematic review and meta-analysis. *Ann Thorac Surg.* 2021;111:544-554.
5. Fairley JL, Zhang L, Glassford NJ, Bellomo R. Magnesium status and magnesium therapy in cardiac surgery: a systematic review and metaanalysis focusing on arrhythmia prevention. *J Crit Care.* 2017;42:69-77.
6. Gaudino M, Sanna T, Ballman KV, et al. PALACS Investigators. Posterior left pericardiotomy for the prevention of atrial fibrillation after cardiac surgery: an adaptive, single-centre, single-blind, randomised, controlled trial. *Lancet.* 2021;398:2075-2083.
7. Gozdek M, Pawliszak W, Hagner W, et al. Systematic review and meta-analysis of randomized controlled trials assessing safety and efficacy of posterior pericardial drainage in patients undergoing heart surgery. *J Thorac Cardiovasc Surg.* 2017;153:865-875.
8. Jack JM, McLellan E, Versyck B, Englesakis MF, Chin KJ. The role of serratus anterior plane and pectoral nerves blocks in cardiac surgery, thoracic surgery and trauma: a qualitative systematic review. *Anaesthesia.* 2020;75:1372-1385.
9. Kar P, Ramachandran G. Pain relief following sternotomy in conventional cardiac surgery: a review of non neuraxial regional nerve blocks. *Ann Card Anaesth.* 2020;23:200-208.
10. Li J, Lin L, Peng J, He S, Wen Y, Zhang M. Efficacy of ultrasoundguided parasternal block in adult cardiac surgery: a meta-analysis of randomized controlled trials. *Minerva Anesthesiol.* 2022;88:719-728.
11. Liu L, Jing FY, Wang XW, et al. Effects of corticosteroids on newonset atrial fibrillation after cardiac surgery: a meta-analysis of randomized controlled trials. *Medicine (Baltimore).* 2021;100:e25130.
12. Lowres N, Mulcahy G, Jin K, Gallagher R, Neubeck L, Freedman B. Incidence of postoperative atrial fibrillation recurrence in patients discharged in sinus rhythm after cardiac surgery: a systematic review and meta-analysis. *Interact Cardiovasc Thorac Surg.* 2018;26:504-511.

13. Misra S, Awal S. Does erector spinae plane block result in improved postoperative analgesia and enhanced recovery in adult patients after cardiac surgery? *Interact Cardiovasc Thorac Surg*. 2021;32:873-877.
14. Omorphos S, Hanif M, Dunning J. Are prophylactic beta-blockers of benefit in reducing the incidence of AF following coronary bypass surgery? *Interact Cardiovasc Thorac Surg*. 2004;3:641-646.
15. Ruan Y, Robinson NB, Naik A, et al. Effect of atrial pacing on postoperative atrial fibrillation following coronary artery bypass grafting: pairwise and network meta-analyses. *Int J Cardiol*. 2020;302:103-107.
16. Stenberg E, Dos Reis Falc~ao LF, O'Kane M, et al. Guidelines for perioperative care in bariatric surgery: Enhanced Recovery After Surgery (ERAS) Society recommendations: a 2021 update [published correction appears in *World J Surg*. 2022;46:752]. *World J Surg*. 2022;46:729-751.
17. Woldendorp K, Farag J, Khadra S, Black D, Robinson B, Bannon P. Postoperative atrial fibrillation after cardiac surgery: a meta-analysis. *Ann Thorac Surg*. 2021;112:2084-2093.
18. Zhu J, Wang C, Gao D, et al. Meta-analysis of amiodarone versus bblocker as a prophylactic therapy against atrial fibrillation following cardiac surgery. *Intern Med J*. 2012;42:1078-1087.

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