



TITLE: Physician Assistants or Nurses Assisting with Surgical Procedures: Clinical and Cost-Effectiveness and Guidelines

DATE: 15 July 2016

RESEARCH QUESTIONS

1. What is the clinical effectiveness and safety associated with using physician assistants or nurses as assistants during surgical procedures?
2. What is the cost-effectiveness associated with using physician assistants or nurses as assistants during surgical procedures?
3. What are the evidence-based guidelines associated with using physician assistants or nurses as assistants during surgical procedures?

KEY FINDINGS

One non-randomized study was identified regarding the clinical effectiveness and safety associated with using physician assistants or nurses as assistants during surgical procedures.

METHODS

A limited literature search was conducted on key resources including MEDLINE with in-process records & daily updates via Ovid, CINAHL via EBSCOhost, The Cochrane Library via Wiley, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic studies and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2006 and July 3, 2016. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

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SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Adults undergoing surgery (any type) in the hospital operating room setting
Intervention	Nurses assisting with surgery; Physician assistants assisting with surgery
Comparator	Q1 & 2: Nurses; Physician assistants; Physicians (e.g., but not limited to, surgeons, retired and non-retired general practitioners); No comparator Q3: No comparator
Outcomes	Clinical effectiveness and patient safety (harms, benefits); Cost-effectiveness; Guidelines
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations, evidence-based guidelines

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, economic evaluations, and evidence-based guidelines.

One non-randomized study was identified regarding the clinical effectiveness and safety associated with using physician assistants or nurses as assistants during surgical procedures. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, economic evaluations, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

One non-randomized study¹ compared the safety associated with using surgeons or physician assistants as the first assistant during cardiac surgeries. No differences were identified between the two groups.¹

REFERENCES SUMMARIZED

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

1. Ranzenbach EA, Poa L, Puig-Palomar M, Holtzman M, Miller S, Mohr M. The safety and efficacy of physician assistants as first assistant surgeons in cardiac surgery. JAAPA. 2012 Aug;25(8):52.
[PubMed: PM22928278](#)

Economic Evaluations

No literature identified.

Guidelines and Recommendations

No literature identified

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APPENDIX – FURTHER INFORMATION:**Previous CADTH Reports**

2. Physician assistants: clinical evidence, cost-effectiveness, and guidelines [Internet]. Ottawa: CADTH; 2010 Oct 21. [cited 2016 Jul 14]. (Health technology inquiry service). Available from:
https://www.cadth.ca/sites/default/files/pdf/J0484_Physician_Assistants_final.pdf

Non-Randomized Studies – Type of Assistant Not Specified in Abstract

3. Kim YW, Min BS, Kim NK, Kim JY, Hur H, Lee KY, et al. The impact of incorporating of a novice assistant into a laparoscopic team on operative outcomes in laparoscopic sigmoidectomy: a prospective study. *Surg Laparosc Endosc Percutan Tech.* 2010 Feb;20(1):36-41.
[PubMed: PM20173619](#)

Qualitative Studies

4. Lynn A, Brownie S. The Perioperative Nurse Surgeon's Assistant: issues and challenges associated with this emerging advanced practice nursing role in Australia. *Collegian.* 2015;22(1):109-15.
[PubMed: PM26285415](#)
5. Resnick AS, Todd BA, Mullen JL, Morris JB. How do surgical residents and non-physician practitioners play together in the sandbox? *Curr Surg.* 2006 Mar;63(2):155-64.
[PubMed: PM16520122](#)

Policies and Position Statements

6. BlueCross BlueShield of North Carolina. Corporate reimbursement policy. Co-surgeon, assistant surgeon, team surgeon and assistant-at-surgery guidelines [Internet]. Durham (NC): BCBSNC; 2016 Mar. [cited 2016 Jul 14]. Available from:
https://www.bcbsnc.com/assets/services/public/pdfs/medicalpolicy/co-surgeon_assistant_surgeon_and_assistant_at_surgery_guidelines.pdf
7. Canadian Association of Physician Assistants. CanMEDS-PA. 2015 edition [Internet]. Ottawa: CAPA. 2015 Oct 16. [cited 2016 Jul 14]. Available from: <https://capa-acam.ca/wp-content/uploads/2015/11/CanMEDS-PA.pdf>
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<https://www.rcseng.ac.uk/publications/docs/rcs-position-statement-surgical-assistants/@@download/pdffile/RCS%20position%20statement%20-%20Surgical%20assistants.pdf>

10. Registered Nurses' Association of Ontario. Position statement – physician assistants [Internet]. Toronto: RNAO. 2010 Jan 30. [cited 2016 Jul 14]. Available from: http://rnao.ca/sites/rnao-ca/files/storage/related/6526_PA_statement_BOD_-_final_version-Jan_30_2010.pdf
11. The Ontario Medical Association's statement on surgical first assistants [Internet]. Toronto: Ontario Medical Association. 2007 Oct. [cited 2016 Jul 14]. Available from: <https://www.oma.org/Resources/Documents/2007SurgicalFirstAssistant.pdf>

Review Articles

12. Miller L, Williams J, Marvell R, Tassinari A. Assistant practitioners in the NHS in England [Internet]. Bristol (United Kingdom): Skills for Health. 2015. [cited 2016 Jul 14]. Available from: <http://www.skillsforhealth.org.uk/images/resource-section/reports/Assistant%20Practitioners%20in%20England%20Report%202015.pdf>
13. Quick J, Hall S. The surgical first assistant: are you compliant? *J Perioper Pract.* 2014 Sep;24(9):195-8.
[PubMed: PM25326939](#)
14. Gafni A, Birch S, Buckley G. Economic analysis of physician assistants in Ontario: literature review and feasibility study [Internet]. Hamilton (ON): Centre for Health Economics and Policy Analysis, McMaster University. 2011 Dec 19. [cited 2016 Jul 14]. (CHEPA working paper series, paper 11-03). Available from: <http://www.chepe.org/docs/working-papers/chepe-wp-11-03>
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[PubMed: PM20618196](#)
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Additional References

17. Pear SM, Williamson TH. The RN first assistant: an expert resource for surgical site infection prevention. *AORN J.* 2009 Jun;89(6):1093-7.
[PubMed: PM19500700](#)
18. Schroeder JL. Acute care nurse practitioner: an advanced practice role for RN first assistants. *AORN J.* 2008 Jun;87(6):1205-15.
[PubMed: PM18549834](#)
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[PubMed: PM17036610](#)