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SAMBA 2024 Annual Meeting
May 2-4, 2024

Busting Perioperative Myths

Pre-Op Evaluation Does ~~Not~~ Improve Outcomes!

Kenneth Cummings, MD, MS, FASA, DFPM
Director, Center for Perioperative Medicine
Cleveland Clinic

1

Disclosures

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2

Objectives

- Understand the rationale for a preoperative clinic
- Examine the literature about preoperative evaluation and patient outcomes
- Develop a strategy for which patient should be seen preoperatively

3

Why Not to Do "Routine Testing"

Only order a test if…

- There's a reasonable chance it may be abnormal
- AND an abnormality increases risk
- AND treating that abnormality lowers risk or will change care

4

Routine Tests Shown Not to Be Useful

- ECG – no better than knowing history of CAD and surgery type
- CXR – 1/1,000 changed care
- Blood tests – rarely helpful, many false positives
- Stress Tests – harm!

Kumar A and Srivastava U. J Anaesthesiol Clin Pharmacol. 2011; 27(2): 174–179
van Klei WA, et al. Ann Surg 2007;246:165-70
Archer C, et al. CJA 1993;40:1022-7
Ladapo J, et al. Ann Intern Med 2014;161:482

5

Not a New Idea

ANÆSTHESIA

THE ANÆSTHETIC OUT-PATIENT CLINIC.

By J. ALFRED LEE, M.R.C.S., L.R.C.P., M.M.S.A., D.A., F.F.A.R.C.S.
ANÆSTHETIST TO THE GENERAL HOSPITAL, SOUTHEND. KING GEORGE HOSPITAL, ILFORD, ETC.

I think that an anæsthetic out-patient department could contribute considerably to preventive medicine. The anæsthetist is frequently confronted with a patient, admitted from the waiting list, who is not in the best possible state for operation. He has not, in Moynihan's words, been made as safe for surgery as is possible. The reasons for this are not difficult to understand, when one considers the pressure of work in the surgical out-patient clinic. The surgeon and his assistants are fully occupied taking the history, examining the patient, arranging for auxiliary investigations, co-relating the opinions of his specialist colleagues, and interviewing relatives. It is indeed gratifying that the preparation of the patient for operation is as thorough as it is, nevertheless, the anæsthetist often wishes that it had been more complete.

For the anæsthetist to see the patient the evening before operation, or even two or three days before that, is not enough. He should be seen as soon as possible after his name is added to the waiting list. The purpose of such an interview would be to give attention to the following points, among others, and where necessary, to give suitable advice or treatment.

Condition of respiratory system ; condition of teeth and gums ; condition of the heart and vessels ; condition of the blood, state of nutrition, liver and kidney function ; psychological considerations ; previous anæsthetic history.

Lee JA. Anaesthesia 1949; 4:169–74

6

Prior Literature

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Anesthesiologist-led preoperative clinics are associated with:

- Reduced case cancellations
- Reduced case delays
- Reduced preoperative testing
- Shorter hospital length of stay
- Lower costs
- Identification of comorbidities
- Improved in-hospital mortality

Parker B, et al. J Clin Anesth 2000;12:350-56
Ferschl MB, et al. Anesthesiology 2005;103:855-9
Fischer SP. Anesthesiology 1996;85:196-206
van Klei WA, et al. Anesth Analg 2002;94:644-9
Pollard JB, et al. Anesth Analg 1997; 85:1307–11
Correll DJ, et al. Anesthesiology 2006;105:1254-9
Gibby GL. Int Anesthesiol Clin 2002;40:17-30
Blitz JD, et al. Anesthesiology 2016;125:280-94

7

Uh Oh!

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JAMA Internal Medicine | Original Investigation | LESS IS MORE

Association of Preoperative Medical Consultation With Reduction in Adverse Postoperative Outcomes and Use of Processes of Care Among Residents of Ontario, Canada

Weiwei Beckerleg, MD, MPH; Daniel Kobewka, MD, MSc; Duminda N. Wijeysundera, MD, PhD; Manish M. Sood, MD, MSc; Daniel I. McIsaac, MD, MPH

JAMA Intern Med 2023;183:470-478

8

Uh Oh!

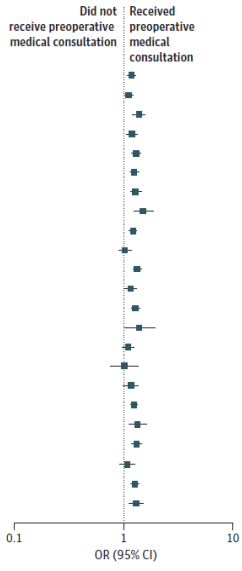
- Surgical patients, 40+, Ontario (intermediate-high risk NCS)
  - 179,809 propensity-matched pairs, 2005-2018
- Compared outcomes by preoperative medical consultation or not
- Consultation associated with:
  - ***Increased*** 1-year mortality, stroke, need for ventilation
  - ***Increased*** use of TTE, stress tests
  - ***Increased*** cost (US $235/patient)

JAMA Intern Med 2023;183:470-478

9

Figure. Odds Ratios (ORs) for 30-Day Mortality Among Patients Who Received Preoperative Medical Consultation vs Those Who Did Not (in Matched Subgroups)

Group	OR (95% CI)
Entire matched cohort	1.19 (1.11-1.29)
Year 2005-2010	1.12 (1.02-1.23)
Year 2011-2017	1.39 (1.23-1.56)
Teaching hospital	1.20 (1.07-1.35)
Nonteaching hospital	1.31 (1.19-1.45)
Male	1.25 (1.14-1.38)
Female	1.29 (1.15-1.46)
Age 40-64 y	1.51 (1.23-1.86)
Age ≥65 y	1.22 (1.13-1.32)
Ischemic heart disease	1.03 (0.91-1.18)
No ischemic heart disease	1.33 (1.22-1.46)
Diabetes	1.17 (1.03-1.33)
No diabetes	1.29 (1.18-1.41)
RCRI = 0	1.40 (1.01-1.94)
RCRI = 1-2	1.10 (0.98-1.25)
RCRI ≥ 3	1.02 (0.76-1.38)
Pulmonary disease	1.17 (0.99-1.38)
No pulmonary disease	1.25 (1.15-1.36)
Vascular procedure	1.34 (1.11-1.62)
Abdominal/thoracic procedure	1.32 (1.19-1.46)
Orthopedic procedure	1.08 (0.92-1.27)
Anesthesia consultation	1.27 (1.16-1.38)
No anesthesia consultation	1.31 (1.12-1.53)



JAMA Intern Med 2023;183:470-478

10

11

Uh Oh?

JAMA Inter

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The exposure was preoperative medical consultation in the 4 months preceding the index surgical procedure based on a validated exposure ascertainment algorithm (sensitivity 90%, specificity 92% in comparison with reabstracted medical records in which the provision of specific preoperative care was ascertained). This approach defines a preoperative medical consultation based on an Ontario health insurance plan physician service claim for a consultation by a general internist, cardiologist, endocrinologist, geriatrician, or nephrologist.[1,4]

JAMA Intern Med 2023;183:470-478

12

New Evidence!

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British Journal of Anaesthesia, 131 (5): 937–946 (2023)

doi: 10.1016/j.bja.2023.07.025
Advance Access Publication Date: 2 September 2023
Quality and Patient Safety

QUALITY AND PATIENT SAFETY

Association of preoperative anaesthesia consultation prior to elective noncardiac surgery with patient and health system outcomes: a population-based study

Jake S. Engel[1], Weiwei Beckerleg[1,2], Duminda N. Wijeysundera[3,4], Sylvie Aucoin[5], Julien Leblanc[5], Sylvain Gagne[5], Gregory L. Bryson[5], Manoj M. Lalu[5,6,7], Anna Wyand[5] and Daniel I. McIsaac[5,6,7,8,*]

13

New Evidence

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- Cohort: Ontario residents ≥40 yr, elective inpatient surgery
- Intermediate-high risk procedures, 2009-2017
- Exposure: preoperative anesthesiologist consultation within prior 60 days
- Primary outcome: Days alive at home in the 30 days after surgery (DAH_{30})
- Secondary outcomes:
  - DAH_{90}
  - Costs
  - Mortality
  - Readmission rates
  - LOS

Engel JS, et al. BJA 2023;131:937-946

14

Results - Overall

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Outcomes	Preoperative anaesthesia consultation (*n*=273,739; 75.4%)	No preoperative anaesthesia consultation (*n*=89,548; 24.6%)	Adjusted effect estimates*,†,‡
Primary outcome			
DAH_{30}, mean (SD)	22.5 (6.3)	22.5 (6.7)	1.00 (1.00–1.00)
Secondary outcomes			
DAH_{90}, mean (SD)	80.5 (13.6)	79.9 (15.3)	1.01 (1.01–1.01)
30-day mortality, *n* (%)	1625.6 (0.6)	627.3 (0.7)	0.85 (0.75–0.95)
1-yr mortality, *n* (%)	8684.7 (3.2)	3235.6 (3.6)	0.86 (0.82–0.90)
30-day readmission, *n* (%)	14,778.9 (5.4)	4789.9 (5.3)	1.01 (0.97–1.05)
Index hospitalisation LOS, mean (SD)¶	5.3 (8.7)	5.9 (11.8)	0.90 (0.89–0.92)
30-day health system costs, mean (SD)§	$16,803 (11,704)	$16,962 (12,380)	0.99 (0.98–0.997)

Engel JS, et al. BJA 2023;131:937-946

15

Sicker Patients Had Better DAH30 If Seen

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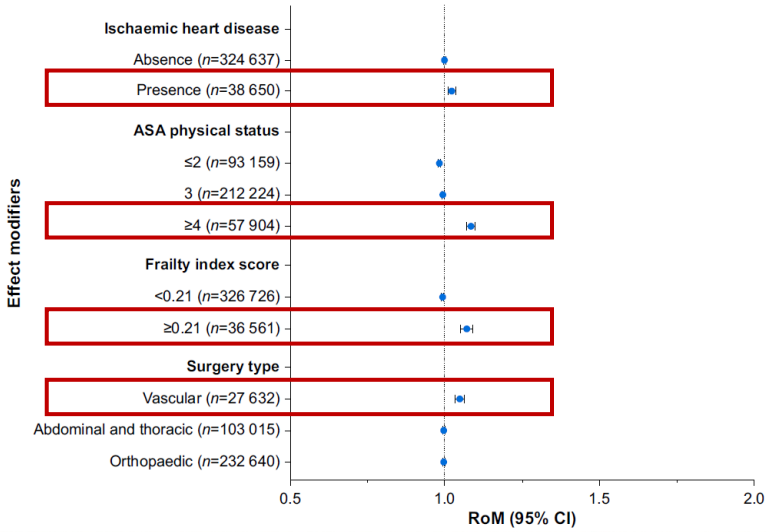

Engel JS, et al. BJA 2023;131:937-946

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16

Study Conclusions

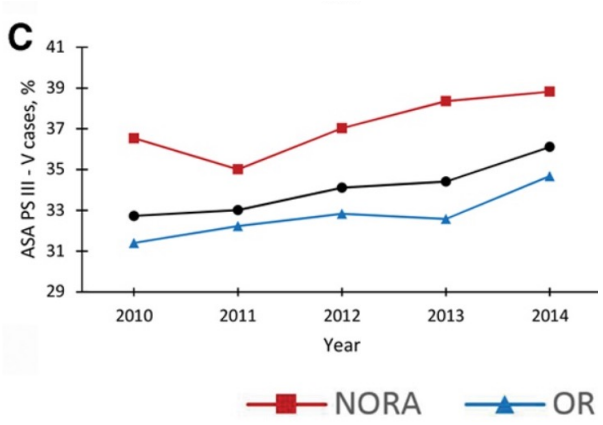
- No overall DAH_{30} benefit from consultation
- ***High-risk patients had improved DAH_{30} with consultation***
- ***Anesthesiologist consultation associated with improved:***
  - Overall 30d, 1y mortality
  - Hospital LOS
  - Overall costs
- Preoperative risk stratification is needed to identify greatest benefit

Engel JS, et al. BJA 2023;131:937-946

17

Sick Patients Undergo NORA Procedures

NACOR analysis, 2010-2014

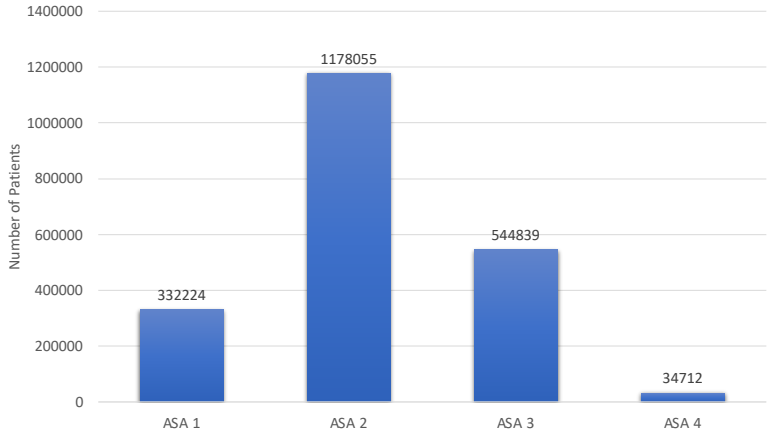


Nagrebetsky A, et al. A&A 2017;124:1261

18

Sick Patients Also Have Ambulatory Surgery

NSQIP analysis, >2 million US ambulatory procedures 2005-2016



Foley C, et al. BMC Surg 2021;21:253

19

Identifying High-Risk Patients

- ASA PS
- Specific risk scores (SORT, RCRI, NSQIP, ARISCAT, etc.)
- Home-built questionnaires
- Predictive analytics

20

CCF Preoperative Triage Tool - Current

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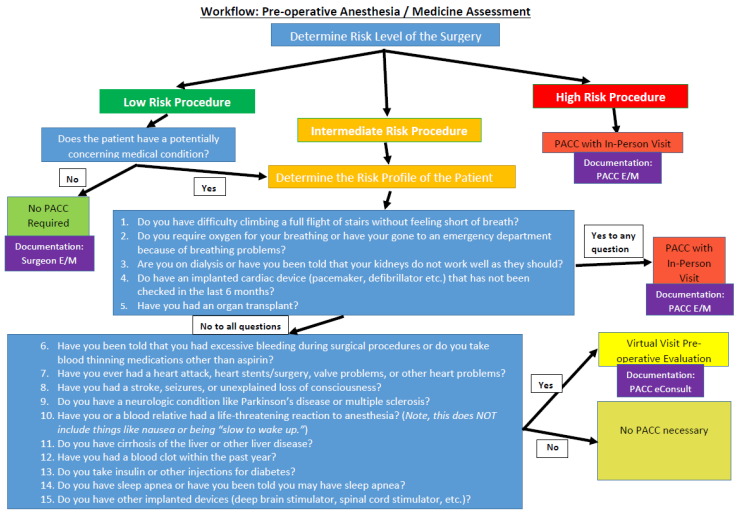

21

CCF Preoperative Triage – Imminent

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SQI	Procedure	Surgeon (Location)	Length of Stay	Unplanned Readmission (90d)	Likelihood of Facility Discharge	Mortality	Major Adverse Cardiac Event (MACE)	Major Adverse Pulmonary Event (MAPE)
	Reoperation, femoral-popliteal or femoral...	J066 IN	5 DAYS Avg: 6 DAYS	Low 40th	High 95th	High 95th	Low 60th	Low 80th
	Extracapsular cataract removal with insertion of...	I010 OP		Medium 80th	Medium 85th	Medium 85th	Low 80th	Medium 85th
N/A	Catheter placement in coronary artery(s) for coronary...	J081 IN	-- --	-- --	-- --	-- --	-- --	-- --
	Exploratory laparotomy, exploratory celiotomy with or...	MAIN IN	6 DAYS Avg: 6 DAYS	Low 20th	Medium 85th	High 100th	-- 20th	Low 50th
	Thoracentesis, needle or catheter, aspiration of the... Feb 26, 09:30 am	H023 OP	6 DAYS Avg: 3 DAYS	Low 50th	High 95th	High 100th	Low 40th	Medium 80th

22

Summary

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- Preoperative (anesthesiologist) evaluation has demonstrated benefits
- Routine testing is not helpful and potentially harmful
- Anesthesiologist-led evaluation of high-risk patients may improve outcomes
- Identification of high-risk patients should guide resource allocation