



PONV – Vad är nytt?

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Är PONV ett problem idag?

Historiskt:
30% PONV.

Idag:
Bättre?



ARM-UPP METER FRÅGA

Är PONV ett problem inom dagkirurgi 2014?



Definitioner

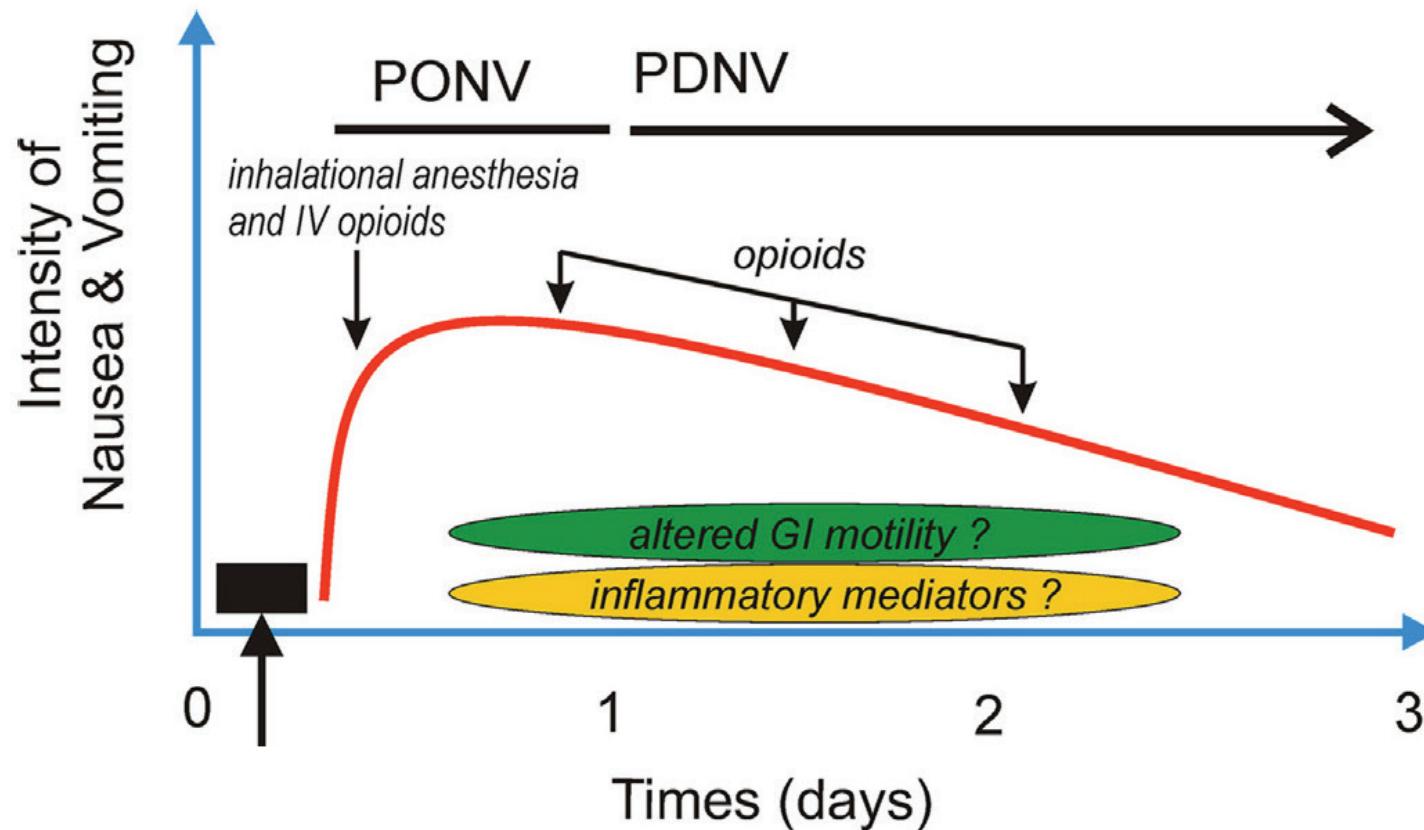
PONV = Postoperative nausea and vomiting

PDNV = Postdischarge nausea and vomiting

Pathophysiological and neurochemical mechanisms of postoperative nausea and vomiting

Charles C. Horn ^{a,b,c,d,*}, William J. Wallisch ^c, Gregg E. Homanics ^{c,e,d}, John P. Williams ^c

European Journal of Pharmacology 722 (2014) 55–66



Problem ?



(ANESTHESIOLOGY 2014; 120:343-54)

Impact of Risk Assessments on Prophylactic Antiemetic Prescription and the Incidence of Postoperative Nausea and Vomiting

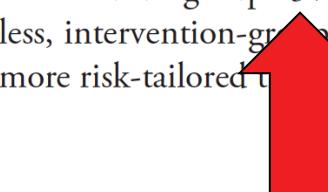
A Cluster-randomized Trial

Teus H. Kappen, M.D., Karel G.M. Moons, Ph.D., Leo van Wolfswinkel, M.D., Ph.D.,
Cornelis J. Kalkman, M.D., Ph.D., Yvonne Vergouwe, Ph.D., Wilton A. van Klei, M.D., Ph.D.

41 %

Methods: A single-center, cluster-randomized trial was performed in 12,032 elective surgical patients receiving anesthesia from 79 anesthesiologists. Anesthesiologists were randomized to either exposure or nonexposure to automated risk calculations for PONV (without patient-specific recommendations on prophylactic antiemetics). Anesthesiologists who received less

Results: There were no differences in PONV incidence between allocation groups (crude incidence intervention group 41%, care-as-usual group 43%; odds ratio, 0.97; 95% CI, 0.87–1.1; risk-dependent odds ratio, 0.92; 95% CI, 0.80–1.1). Nevertheless, intervention-group anesthesiologists administered more prophylactic antiemetics (rate ratio, 2.0; 95% CI, 1.6–2.4) and more risk-tailored than care-as-usual-group anesthesiologists (risk-dependent rate ratio, 1.6; 95% CI, 1.3–2.0).



43 %



Who Is at Risk for Postdischarge Nausea and Vomiting after Ambulatory Surgery?

Christian C. Apfel, M.D., Ph.D.,* Beverly K. Philip, M.D.,† Ozlem S. Cakmakkaya, M.D.,‡

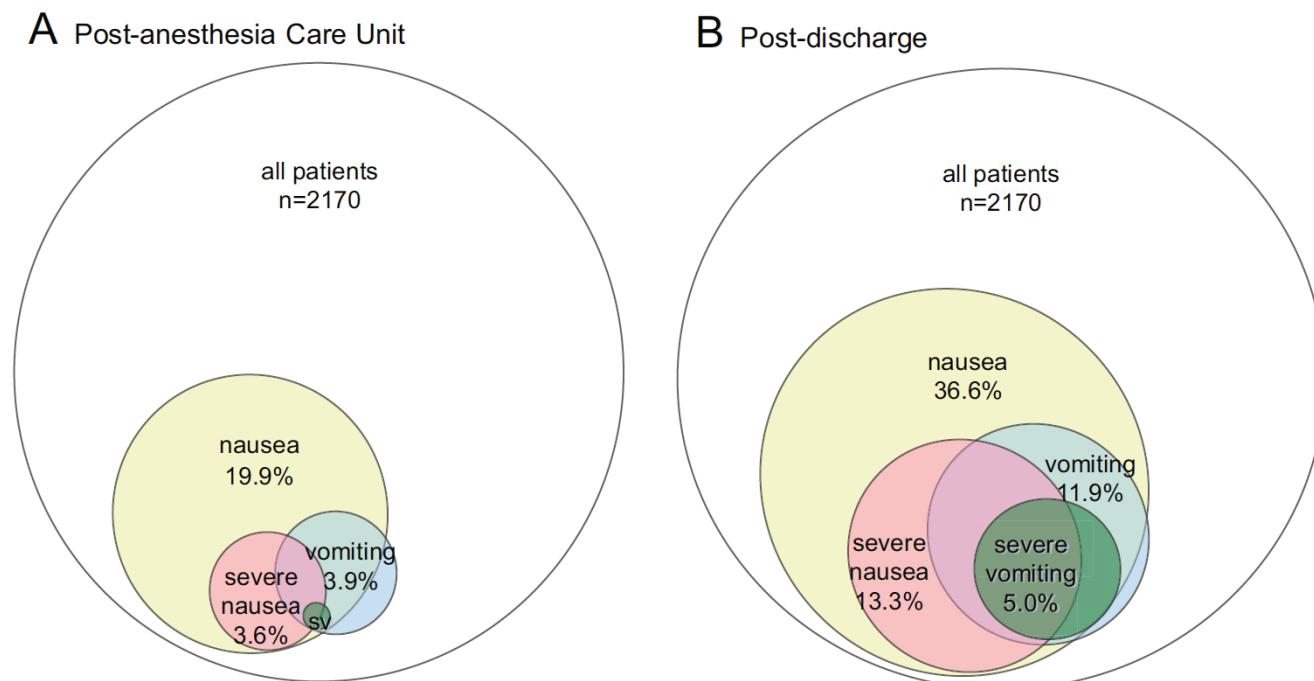


Fig. 1. Percentage of patients who experienced nausea and/or vomiting (A) in the postanesthesia care unit and (B) postdischarge. The incidence of severe vomiting (SV) in the postanesthesia care unit was 0.2%.

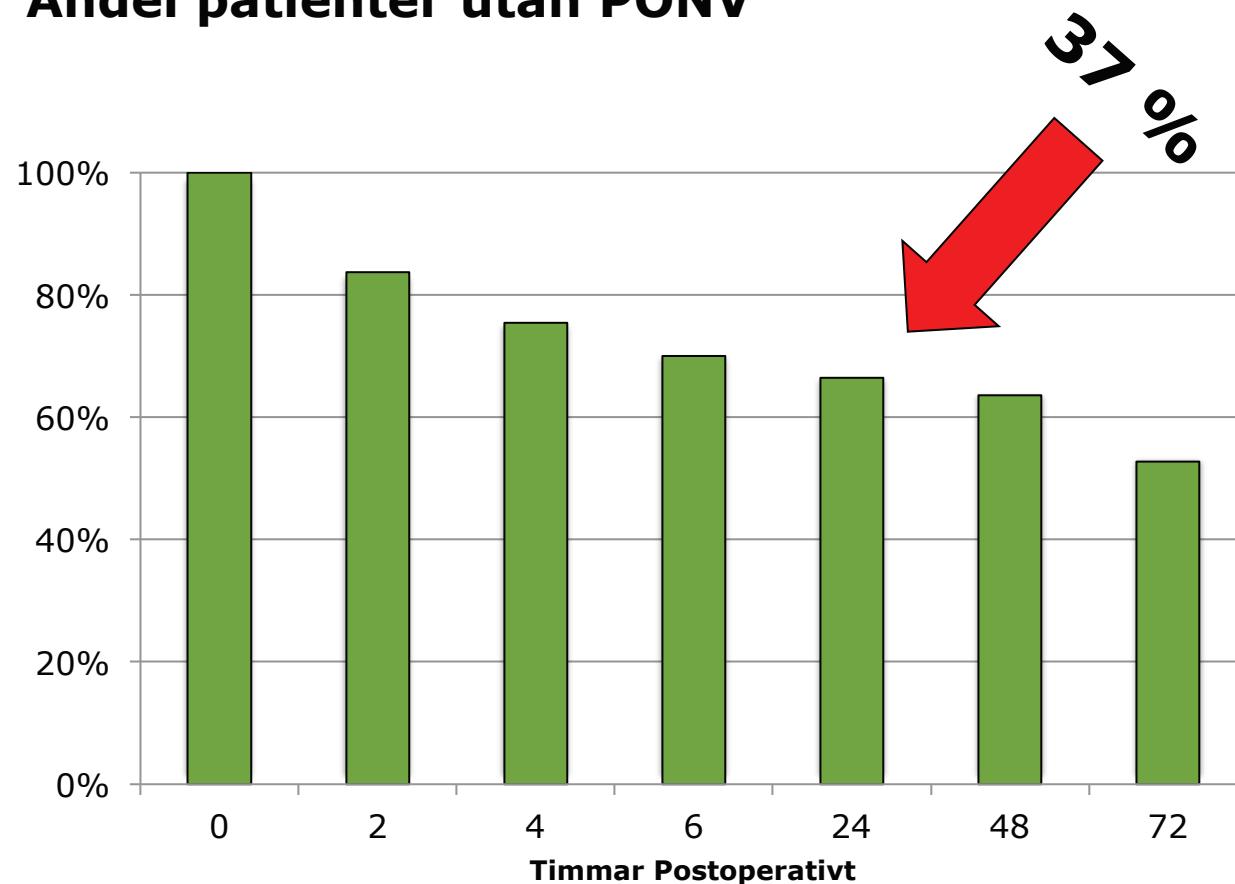
Dagkirurgi, Sundsvalls Sjukhus

Kirurgi och Ortopedi

Prospektiv observationstudie upp till 72 timmar.

n=110

Andel patienter utan PONV



M Pechold,
Examensarbete
Läkarprogrammet
UmU 2013



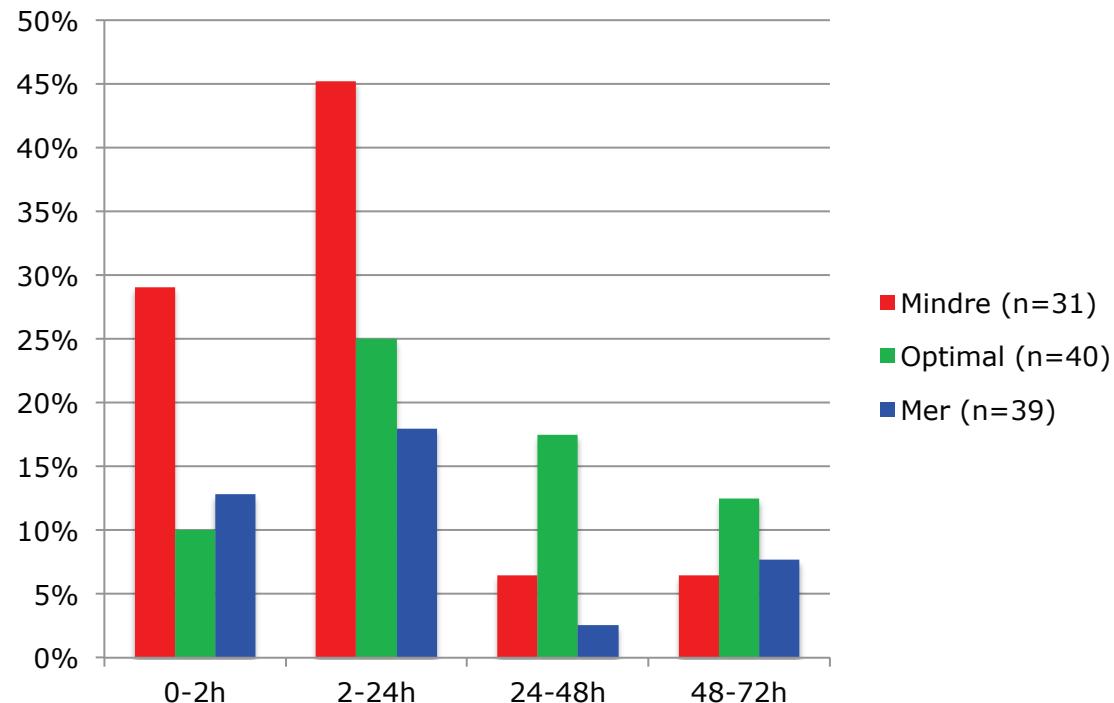
Dagkirurgi, Sundsvalls Sjukhus

Kirurgi och Ortopedi

Prospektiv observationstudie upp till 72 timmar.

n=110

Incidens PONV utifrån optimal profylax



M Pechold,
Examensarbete
Läkarprogrammet
UmU 2013



PONV är

problem idag.

...ett ganska stort...

...ett stort...

...ett litet...

..inget...

Hur ska vi hantera PONV?



Landstinget
Västernorrland

PONV är ett problem idag.

Hur ska vi hantera det?



Anesth Analg 2014;118:85-113

CME **Consensus Guidelines for the Management of Postoperative Nausea and Vomiting**

Tong J. Gan, MD, MHS, FRCA,* Pierre Diemunsch, MD, PhD,† Ashraf S. Habib, MB, FRCA,* Anthony Kovac, MD,‡ Peter Kranke, MD, PhD, MBA,§ Tricia A. Meyer, PharmD, MS, FASHP,|| Mehenoor Watcha, MD,¶ Frances Chung, MBBS,# Shane Angus, AA-C, MS,** Christian C. Apfel, MD, PhD, †† Sergio D. Bergese, MD,†† Keith A. Candiotti, MD,§§ Matthew TV Chan, MB, BS, FANZCA,|| || Peter J. Davis, MD,¶¶ Vallire D. Hooper, PhD, RN, CPAN, FAAN,## Sandhya Lagoo-Deenadayalan, MD, PhD,*** Paul Myles, MD,††† Greg Nezat, CRNA, CDR, USN, PhD,§§§ Beverly K. Philip, MD,|| || || and Martin R. Tramèr, MD, DPhil¶¶¶

Publicerad 2014
Expertgruppsutlåtande

Tidigare versioner 2003 och 2007

CME Consensus Guidelines for the Management of Postoperative Nausea and Vomiting

Tong J. Gan, MD, MHS, FRCA,* Pierre Diemunsch, MD, PhD,† Ashraf S. Habib, MB, FRCA,* Anthony Kovac, MD,‡ Peter Kranke, MD, PhD, MBA,§ Tricia A. Meyer, PharmD, MS, FASHP|| Mehermoor Watcha, MD,¶ Frances Chung, MBBS,# Shane Angus, AAC, MS,** Christian C. Apfel, MD, PhD,|| Sergio D. Bergese, MD,||† Keith A. Candiotti, MD,||§§ Matthew TV Chan, MB, BS, FANZCA, |||| Peter J. Davis, MD,¶¶ Vallire D. Hooper, PhD, RN, CPAN, FAAN,## Sandhya Lagoo-Deenadayalan, MD, PhD,*** Paul Myles, MD,††† Greg Nezat, CRNA, CDR, USN, PhD,¶¶¶ Beverly K. Philip, MD,|||| and Martin R. Tramèr, MD, DPhil¶¶¶¶

WHY DOES THIS GUIDELINE DIFFER FROM EXISTING GUIDELINES?

The present guidelines include new information on PONV risk factors; a risk scoring system for postdischarge nausea and vomiting; recommendations on new antiemetics, for example, neurokinin-1 receptor antagonists; changes in recommendations from previous guidelines based on new published information on efficacy and risk of antiemetics, including new data on QT prolongation; recommendation on a new antiemetic combination strategy and a multimodal prevention approach in adults and children to prevent PONV and implementation of PONV prevention and treatment strategies in the clinical setting.

Ny information om riskfaktorer för PONV

Riskvärdering PDNV

Rekommendationer nya antiemetika (ex neurokinin-1

antagonister)

Nya data för effektivitet och risk med antiemetika

Rekommendationer av nya kombinationer av antiemetika

Rekommendationer multimodal prevention och

implementering i kliniken



Riskfaktorer



Riskfaktorer PONV hos vuxna

FAKTOR	Odds Ratio (OR)
Kvinnligt kön	2.57 (2.32-2.84)

Vad är oddskvot?

Anta att 2 av 5 **kvinnor** upplever PONV efter anestesi

Oddstalet är 2:3 = 0.67

Risktalet är 2:5 = 0.40

Anta att 1 av 5 som **inte är kvinnor** upplever PONV efter anestesi

Oddstalet är 1:4 = 0.25

Risktalet är 1:5 = 0.20

Oddskvot (OR)

$$0.67 / 0.25 = 2.68$$

Riskkvot (RR)

$$0.40/0.20 = 2.0$$



Landstinget
Västernorrland

Riskfaktorer PONV hos vuxna

FAKTOR	Odds Ratio (OR)
Kvinnligt kön	2.57 (2.32-2.84)
Tidigare PONV	2.09 (1.90-2.29)
Icke rökare	1.82 (1.68-1.98)
Rörelsesjuka	1.77 (1.55-2.04)
Ålder (per decennium)	0.88 (0.84-0.92)
Inhalationsanestetika per timme	1.46 (1.30-1.63)
Postoperativa opioider	1.47 (1.31-1.65)
Lustgas	1.45 (1.31-1.65)
NYTT	
Ålder <50 år	1.79 (1.39-2.30)
Cholecystectomy	1.90 (1.36-2.68)
Gynekologisk kirurgi	1.24 (1.02-1.52)
Laparoskopisk kirurgi	1.37 (1.07-1.77)
Intraoperativa opioider	svag



Table 1. Risk Factors for PONV in Adults

Evidence	Risk factors
Positive overall	Female sex (B1) History of PONV or motion sickness (B1) Nonsmoking (B1) Younger age (B1) General versus regional anesthesia (A1) Use of volatile anesthetics and nitrous oxide (A1) Postoperative opioids (A1) Duration of anesthesia (B1) Type of surgery (cholecystectomy, laparoscopic, gynecological) (B1)
Conflicting	ASA physical status (B1) Menstrual cycle (B1) Level of anesthetist's experience (B1) Muscle relaxant antagonists (A2)
Disproven or of limited clinical relevance	BMI (B1) Anxiety (B1) Nasogastric tube (A1) Supplemental oxygen (A1) Perioperative fasting (A2) Migraine (B1)

PONV = postoperative nausea and vomiting; BMI = body mass index; MS = motion sickness.

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Anesth Analg 2014;118:85-113

Riskvärdering PONV och PDNV



PONV - Apfelscore

Prediktivt värde:
Sensitivitet och specificitet 65-70%

Risk Factors	Points
Female Gender	1
Non-Smoker	1
History of PONV	1
Postoperative Opioids	1
Sum =	0 ... 4

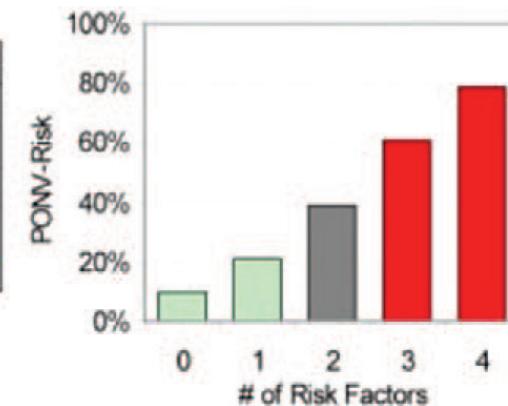


Figure 1. Risk score for PONV in adults. Simplified risk score from Apfel et al.⁹ to predict the patient's risk for PONV. When 0, 1, 2, 3, and 4 of the risk factors are present, the corresponding risk for PONV is about 10%, 20%, 40%, 60%, and 80%, respectively. PONV = postoperative nausea and vomiting.

PDNV

Anesthesiology 2012; 117:475-86

Who Is at Risk for Postdischarge Nausea and Vomiting after Ambulatory Surgery?

Christian C. Apfel, M.D., Ph.D.,* Beverly K. Philip, M.D.,† Ozlem S. Cakmakkaya, M.D.,‡

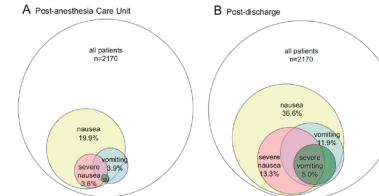


Fig. 1. Percentage of patients who experienced nausea and/or vomiting (A) in the postanesthesia care unit and (B) postdischarge. The incidence of severe vomiting (SV) in the postanesthesia care unit was 0.2%.

Faktor	Adjusted OR (95% CI)
Kvinna	1.54 (1.22-1.94)
< 50 år	2.17 (1.75-2.69)
PONV anamnes	1.50 (1.19-1.88)
Opioider UVA	1.93 (1.53-2.43)
Illamående UVA	3.79 (3.00-4.04)

Riskvärdering PDNV

Oberoende faktorer:

- Kvinnligt kön
- Anamnes PONV
- Ålder < 50 år
- Opioider på uppvaket
- Illamående på uppvaket

	PONV risk
0 faktor	10 %
1 faktorer	20 %
2 faktorer	30 %
3 faktorer	50 %
4 faktorer	60 %
5 faktorer	80 %

Riskvärdering PDNV

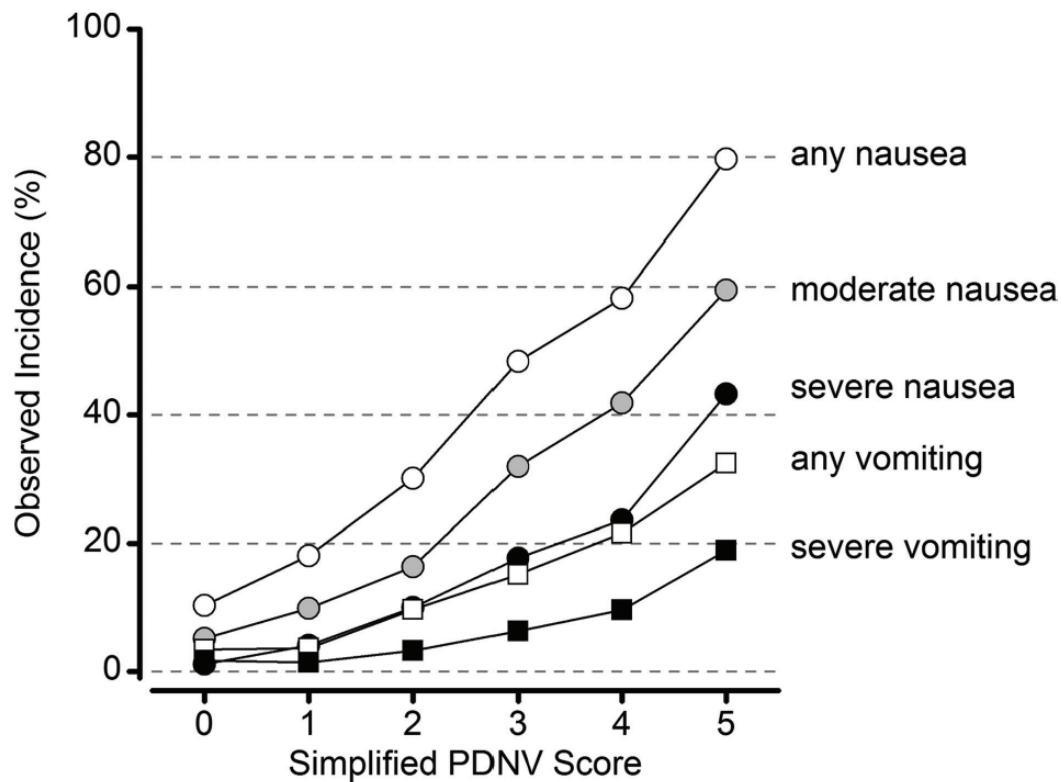


Fig. 6. Relationship between the simplified postdischarge nausea and vomiting (PDNV) risk score and the incidence of PNV in the validation dataset.

Riskvärdering barn

POV = Postoperative Vomiting

Oberoende faktorer:

Operationstid >30 min

Ålder >3 år

Anamnes POV hos barnet, syskon eller föräldrar

Strabismuskirurgi

PONV risk

0 faktor	3.4 %
1 faktorer	11.6 %
2 faktorer	28.2 %
3 faktorer	42.3 %

Kranke et al Anest Analg 2007;105:1592-7



Interventioner



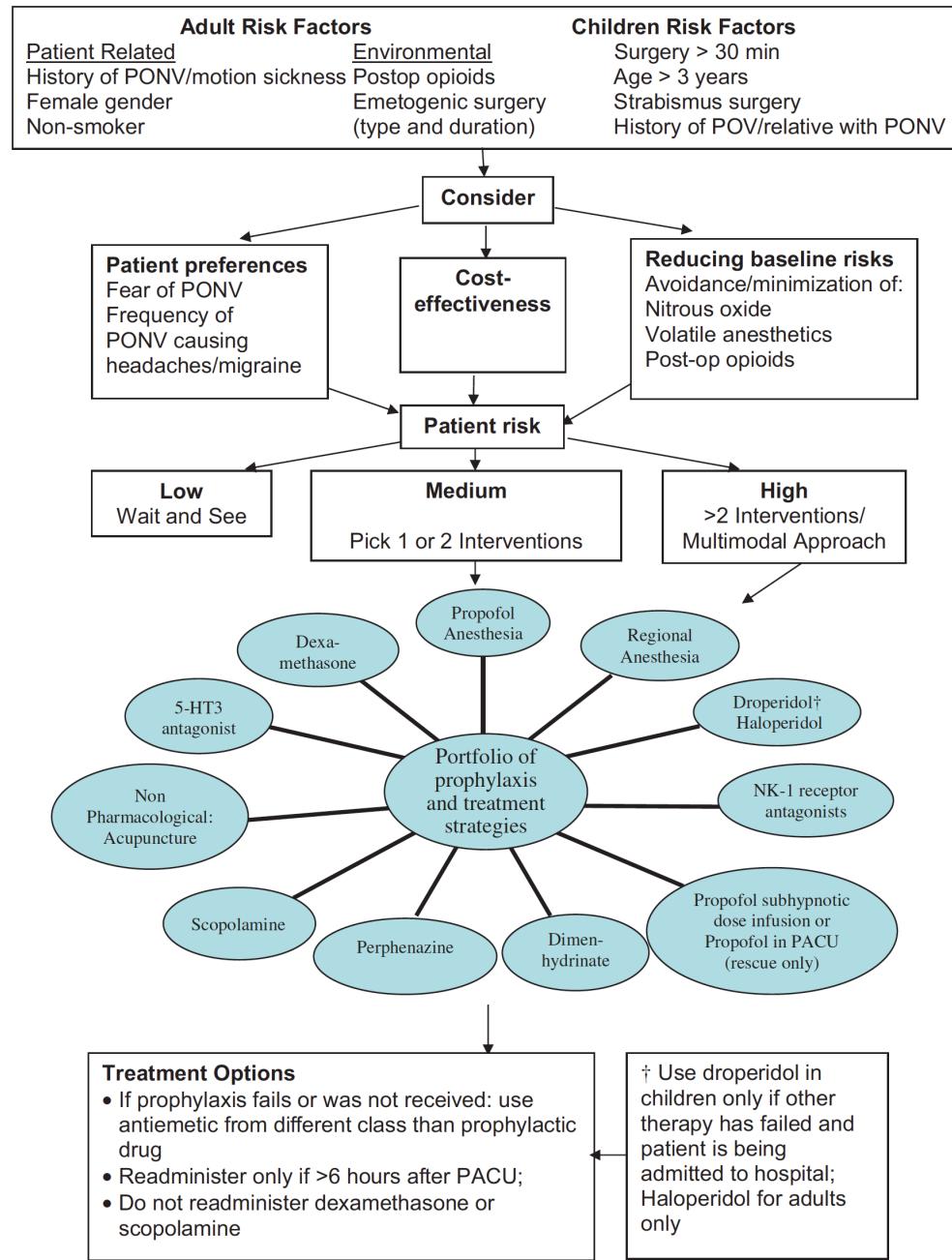


Figure 4. Algorithm for management of postoperative nausea and vomiting. PONV = postoperative nausea and vomiting.

Reducera "Base-line" risk:

Regional anestesi istället för generell anestesi

Använd propofol för induktion och underhåll

Undvik lustgas

Undvik inhalationsanestetika

Minimera intraoperativa och postoperativa opioider

Adekvat hydrering

Reducera "Base-line" risk:

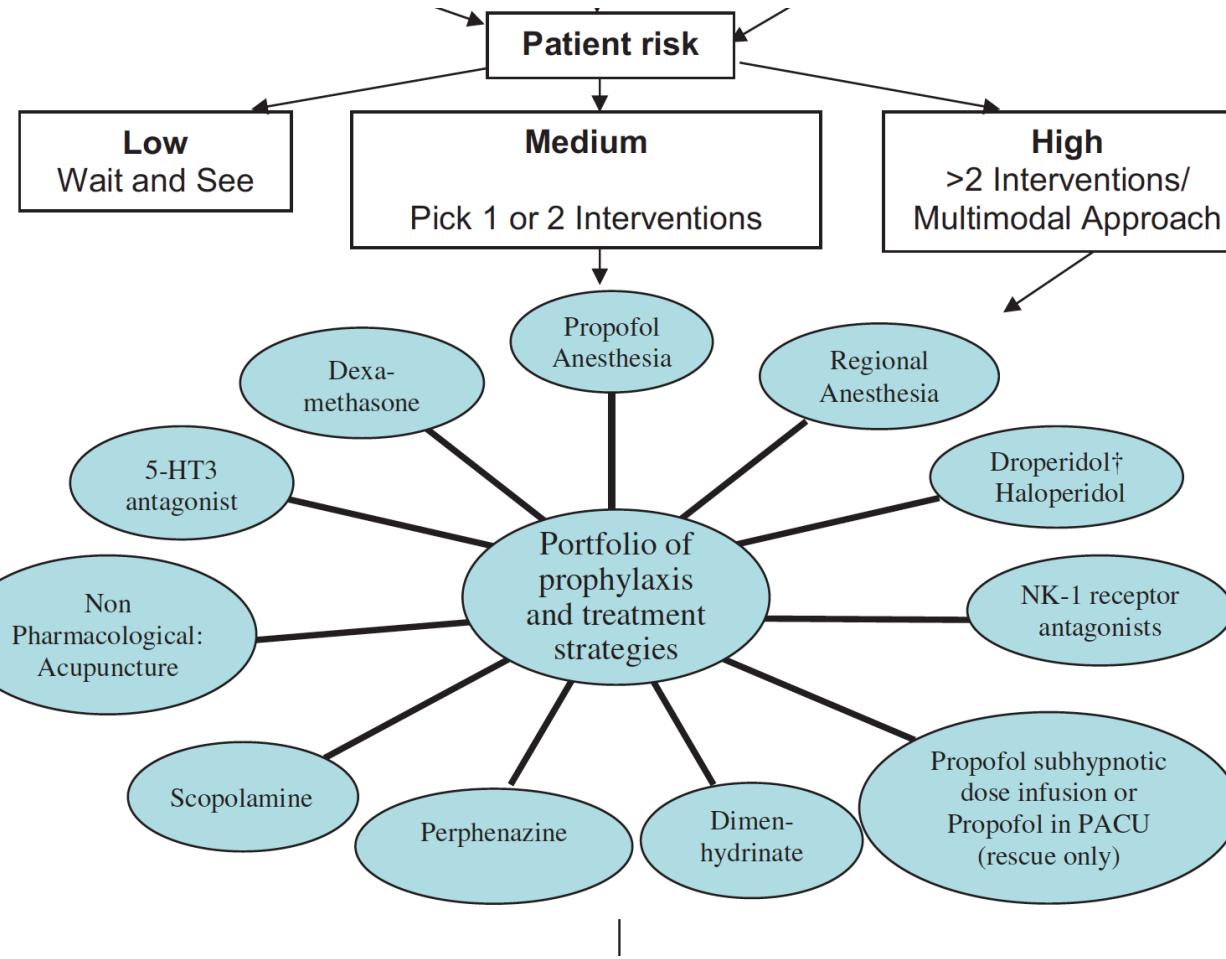
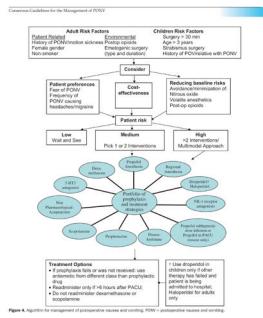
NYTT

Minimera neostigmine hjälper inte.

Subhypnotiska doser propofol hos barn i kombination med antiemetika reducerar incidens av PONV.



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Postoperative Nausea and Vomiting
Anesth Analg 2014;118:85-113

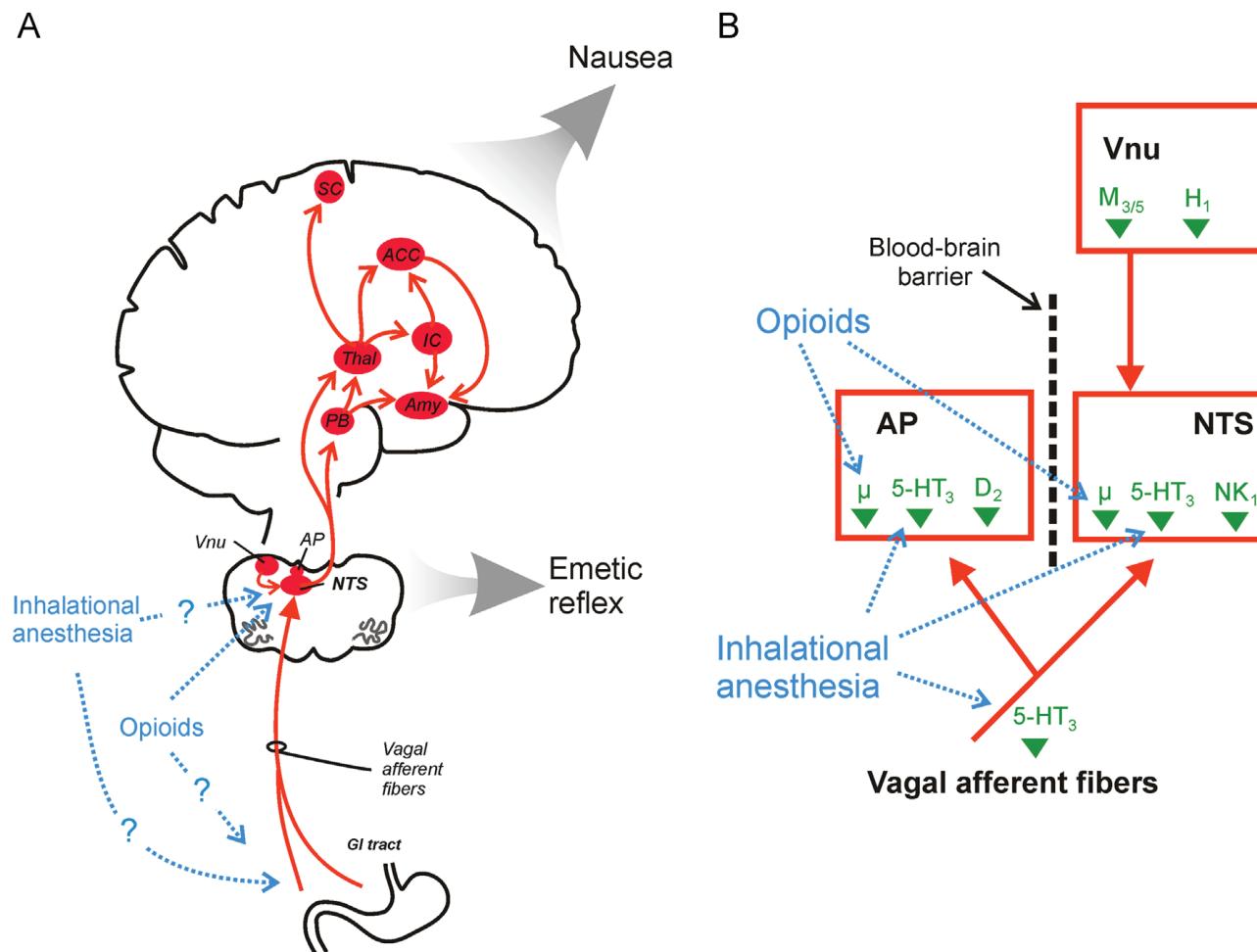


Interventioner



Pathophysiological and neurochemical mechanisms of postoperative nausea and vomiting

Charles C. Horn ^{a,b,c,d,*}, William J. Wallisch ^c, Gregg E. Homanics ^{c,e,d}, John P. Williams ^c



5-HT3 antagonister

Ondansetron

Kräkning NNT 6

Illamående NNT 7

Generika

Billigt (4-5 kr/profylaxdos)

Ges i slutet av operationen.

Biverkningar: Huvudvärk, Leverpåverkan, Konstipation

Andra 1:a generationens: Dolasetron, Granisetron, Tropisetron...



2:a generationens 5-HT3 antagonister

Palonosetron

Aloxi ®

75 µg i.v.

Halveringstid 40 timmar.

Effektivare än Ondansetron.

Registrerat för CINV (Cytostatika Induced Nausea and Vomiting)

Pris: Ampull i.v. 250 µg 699 kronor.



DA2-antagonister

Droperidol

PONV NNT 5

Generika

Billigt

Ges i slutet av operationen.

Biverkningar: Trötthet. QT-prolongation



DA2-antagonister

Haloperidol

PONV NNT 4-6

0,5-2,0 mg i.v i.m.

Billigt

Ges i slutet av operationen.



Steroider

Dexamethasone

Metylprednisolon

Betamethasone

4 – 8 mg: Ges i början av operationen.

Likvärdig effekt som Ondansetron och Droperidol.

Andra effekter: 8 mg bättre återhämtning och smärtlindring.

Nackdelar: Sårinfektion? Sockerkontroll.



Antihistaminer

Meclizine Postafen ®

50 mg

Effektivt
Lång duration (12h)

Meclizine in combination with ondansetron for prevention of postoperative nausea and vomiting in a high-risk population.

[Forrester CM¹, Benfield DA Jr, Matern CE, Kelly JA, Pellegrini JE.](#)

[Author information](#)

Abstract

Postoperative nausea and vomiting (PONV) is prevalent in surgical patients with known risk factors: general anesthesia, female, nonsmoker, motion sickness history, and PONV history. Common treatment involves ondansetron; however, the effects are short-lived, and supplemental medication may be required. Meclizine, a long-acting drug with a low side-effect profile, may be ideal in combination with ondansetron for at-risk patients. We randomized 77 subjects scheduled for general anesthesia and screened for 4 of 5 PONV risk factors for experimental or control group assignment. Severity of PONV was measured using a 0 to 10 verbal numeric rating scale (VNRS). Other measured variables included time to onset and incidence of PONV and total antiemetic requirements. No significant differences in demographics (excluding weight), surgical or anesthesia time, analgesic requirements, or nausea incidence in the postanesthesia care unit (PACU) and same-day surgery unit were noted. The meclizine group had lower VNRS scores in the PACU at 15 ($P = .013$) and 45 ($P = .006$) minutes following rescue treatment. The incidence of nausea was lower in the meclizine vs. placebo group (10% vs. 29%) following discharge ($P = .038$). Prophylactic meclizine resulted in lower incidence and severity of PONV in a high-risk population, especially after rescue treatment.

PMID: 17304780 [PubMed - indexed for MEDLINE]

[AANA J. 2010 Feb;78\(1\):55-62.](#)

Biphasic dosing regimen of meclizine for prevention of postoperative nausea and vomiting in a high-risk population.

[Bopp EJ¹, Estrada TJ, Kilday JM, Spradling JC, Daniel C, Pellegrini JE.](#)

[Author information](#)

Abstract

The purpose of this study was to determine if giving 50 mg of meclizine the night before and on the day of surgery would effectively reduce postoperative nausea and vomiting (PONV) for the entire 24 hours after surgery in patients identified as being at high risk for PONV. Subjects were randomly assigned to receive either 50 mg of oral meclizine (experimental group) or a placebo (control group) the night before and the day of surgery. All subjects were intravenously administered 4 mg of ondansetron before the conclusion of surgery. Seventy subjects (35 control; 35 experimental) were included in analysis. Postoperatively the placebo group we noted higher verbal numeric rating scale scores for nausea, a higher incidence of nausea and vomiting (PONV) continues to be a common complication after general anesthesia, with the incidence ranging from 17% to 87%. It has been reported that PONV increased antiemetic requirements, and lower overall anesthesia satisfaction scores at all time intervals measured, compared with the experimental group, but the differences were not statistically significant until analyzed by postoperative setting. No difference in sedation or side effects was noted between groups. Based on these results, we recommend that the administration of 50 mg of oral meclizine the night before and on the day of surgery be considered effective antiemetic prophylaxis in patients identified as having a high risk for PONV.

PMID: 20977130 [PubMed - indexed for MEDLINE]



NK1-receptor antagonist

Aprepitant

Emend ®

oralt 40-80 mg

Halveringstid 40 timmar

Likvärdigt/bättre än ondansetron 0-24 h.

Bättre än Ondansetron 24-48 h.

Registrerat för CINV (Cytostatika Induced Nausea and Vomiting)

Pris: Kapsel 200 kronor.

Liten klinisk erfarenhet i PONV-sammanhang



Propofol

Antiemetisk effekt i låg dos (10% av anestesidos).

Som del i TIVA riskreduktion PONV 25%.



Alpha-2-Agonister

Clonidine

Dexmedetomidine

Metaanalys

Svag och kortlivad antiemetisk effekt

(Blaudzun et al Anesthesiology 2012;116:1312-22)



Midazolam

2 mg vid operationsslut lika effektivt som Ondansetron 4 mg och dexamethasone.



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Anesth Analg 2014;118:85-113

Gabapentin's anti-nausea and anti-emetic effects: a review

Thomas Guttuso Jr.

Exp Brain Res

Table 1 Summary of 12 clinical studies assessing N/V as 1° outcome measures

References	1° Outcome measure	Gabapentin dose	Study type	Results
Jahromi et al. (2013)	PONV (facial trauma surgery)	300 mg, 1 h before IOA	RCT ($n = 150$)	Decreased N&V ($p < 0.05$)
Misra et al. (2013)	PONV (intracranial surgery)	600 mg, 2 h before IOA	RCT ($n = 73$)	Decreased N ($p = 0.02$), not V ($p = 0.06$)
Ajori et al. (2012)	PONV (abdominal hysterectomy)	600 mg, 1 h before IOA	RCT ($n = 140$)	Decreased N ($p = 0.018$) & V ($p = 0.009$)
Khademi et al. (2010)	PONV (open cholecystectomy)	600 mg, 2 h before IOA	RCT ($n = 90$)	Decreased N&V ($p = 0.02$)
Mohammadi and Seyed (2008)	PONV (pelvic lap. surgery)	300 mg, 1 h before IOA	RCT ($n = 70$)	Decreased N ($p = 0.022$), not V ($p = 0.114$)
Pandey et al. (2006)	PONV (lap. cholecystectomy)	600 mg, 2 h before IOA	RCT ($n = 250$)	Decreased N&V ($p = 0.04$)
Guttuso et al. (2005)	PONV (intracranial surgery)	300 mg tid	Case report ($n = 1$)	Fully resolved severe emesis & anorexia

P6 Stimulerings

Stimulerings handled (Nålar, armband, stimulator)

Metaanalys 4858 patienter

Lika effektivt som ondansetron i PONV reduktion

Citation: Lee A, Fan LTY. Stimulation of the wrist acupuncture point P6 for preventing postoperative nausea and vomiting. *Cochrane Database of Systematic Reviews* 2009, Issue 2. Art. No.: CD003281. DOI: 10.1002/14651858.CD003281.pub3.

Hjälper INTE mot PONV

Musikterapi

Dekompression av magsäcken peroperativt

Protonpumpshämmare

Nicotinplåster till icke-rökare

Hög syrgaskoncentration peroperativt.

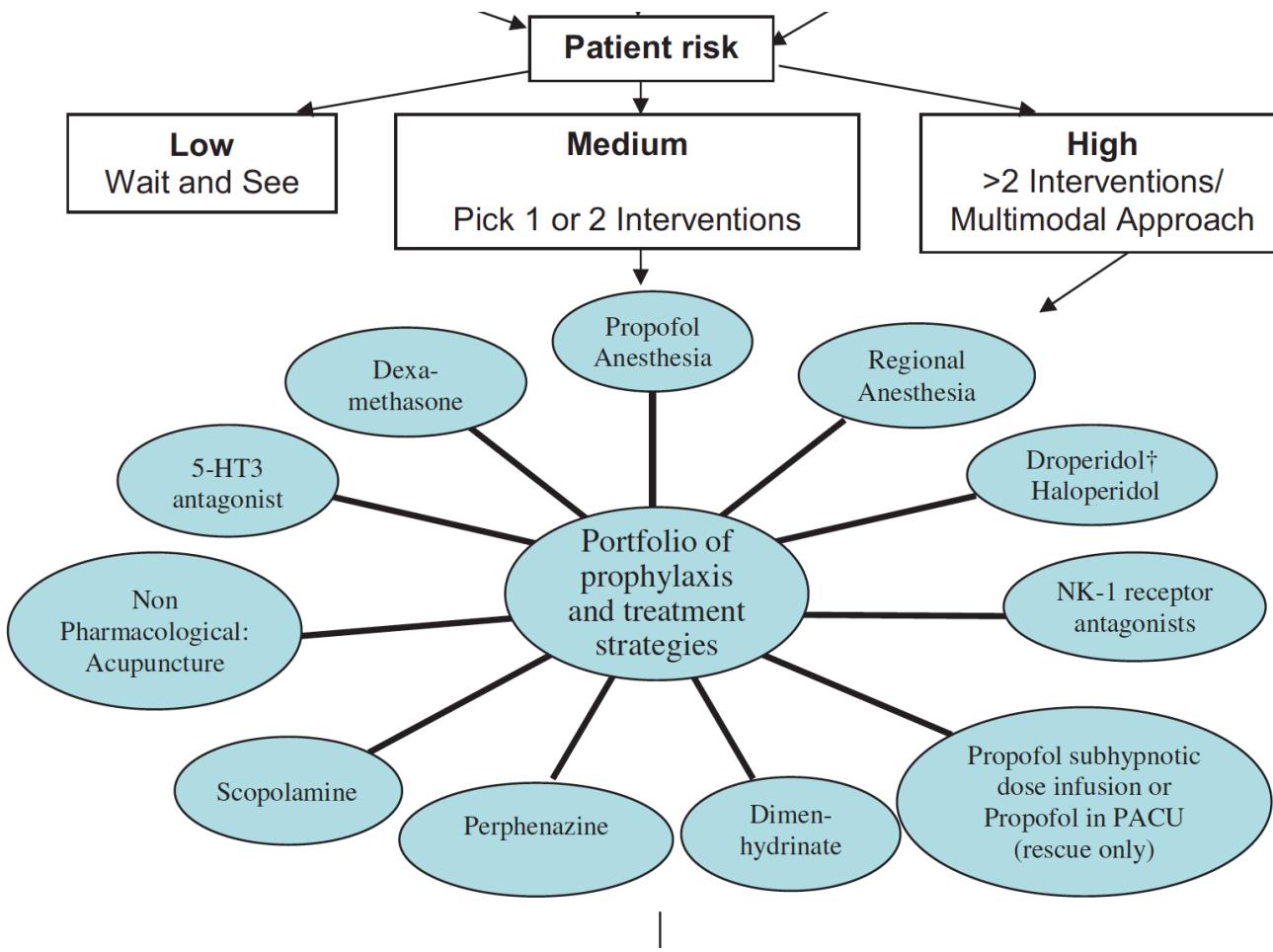


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Kombinationsprofylax

Additiv effekt om de verkar på olika
receptorer (Apfel et al, IMPACT-study, NEJM 2004.)

Mycket "nytt" i litteraturen...
Kombinationer är mer effektiva.



Liberalt med profylax till alla?

PRO: 3 profylax till alla!

(Scuderi Editorial A&A 2010)

CON: Biverkningar...

CME Consensus Guidelines for the Management of Postoperative Nausea and Vomiting
Anesth Analg 2014;118:85-113



t
and

Behandling av etablerat PONV



Behandling av etablerat PONV

Gå på annan receptor än profylax

1:a hand Ondansetron 1 mg iv.

Upprepa inte < 6 timmar (Ondansetron, Dridol)

Upprepa inte steroider.



CME Consensus Guidelines for the Management of
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Hantering av PNV

PNV är ett problem

Fåtal nya studier

Kombinationer bättre än monoterapi

Långverkande preparat bättre än kortverkande

Profylax perop + profylax postop bättre än enbart profylax perop.

Plats för Aprepitant och Palonosetron?

Använda riskvärderingen PNV och ge profylax vid hemgång?



CME Consensus Guidelines for the Management of Postoperative Nausea and Vomiting
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Implementering



INVITED COMMENTARY

Effective management of postoperative nausea and vomiting: let us practise what we preach!

Peter Kranke

European Journal of Anaesthesiology 2011, 28:152–154

The *Big-little problem* idag är inte PONV i sig utan implementeringen av kunskapen runt PONV så att det kommer patienten till nytta.



Automated reminders decrease postoperative nausea and vomiting incidence in a general surgical population

F. O. Kooij^{1,2}, N. Vos², P. Siebenga², T. Klok², M. W. Hollmann^{1*} and J. E. Kal²

Results. In the control period, 981 patients, of whom 378 (29%) were high-risk patients, received general anaesthesia. Overall, 264 (27%) patients experienced PONV within 24 h. In the support period, 1681 patients, of whom 525 (32%) had a high risk for PONV, received general anaesthesia. In this period, only 378 (23%) patients experienced PONV within 24 h after operation. This difference is statistically significant ($P=0.01$).

29% -> 23%

Franck M, Radtke FM, Baumeyer A, et al. Adherence to treatment guidelines for postoperative nausea and vomiting. How well does knowledge transfer result in improved clinical care? *Anaesthesist* 2010; **59**:524–528.

76,6%

Tab. 1		PONV-Inzidenz (%)				
Risiko	SOP-Behandlung	Teil in %	AWR	p	24 h	p
	Konformität/Abweichung					
Niedrig (n=725)	Untertherapiert					
	Konform therapiert	8,5		0,951	16,2	0,075
	Übertherapiert	8,8			33,3	
Mittel n=1050	Untertherapiert		11,8	0,043	21,1	0,452
	Konform therapiert	5,6			22,5	
	Übertherapiert	7,1			35,7	
Hoch n=954	Untertherapiert	76,6	19,4	0,045	52,3	0,004
	Konform therapiert	23,4	13,0		22,2	
	Übertherapiert	0				

AWR AWR, SOP „standard operating procedure“.

(ANESTHESIOLOGY 2014; 120:343-54)

Impact of Risk Assessments on Prophylactic Antiemetic Prescription and the Incidence of Postoperative Nausea and Vomiting

A Cluster-randomized Trial

Teus H. Kappen, M.D., Karel G.M. Moons, Ph.D., Leo van Wolfswinkel, M.D., Ph.D.,
Cornelis J. Kalkman, M.D., Ph.D., Yvonne Vergouwe, Ph.D., Wilton A. van Klei, M.D., Ph.D.

Methods: A single-center, cluster-randomized trial was performed in 12,032 elective surgical patients receiving anesthesia from 79 anesthesiologists. Anesthesiologists were randomized to either exposure or nonexposure to automated risk calculations for PONV (without patient-specific recommendations on prophylactic antiemetics). Anesthesiologists who treated less

Results: There were no differences in PONV incidence between allocation groups (crude incidence intervention group 41%, care-as-usual group 43%; odds ratio, 0.97; 95% CI, 0.87–1.1; risk-dependent odds ratio, 0.92; 95% CI, 0.80–1.1). Nevertheless, intervention-group anesthesiologists administered more prophylactic antiemetics (rate ratio, 2.0; 95% CI, 1.6–2.4) and more risk-tailored than care-as-usual-group anesthesiologists (risk-dependent rate ratio, 1.6; 95% CI, 1.3–2.0).

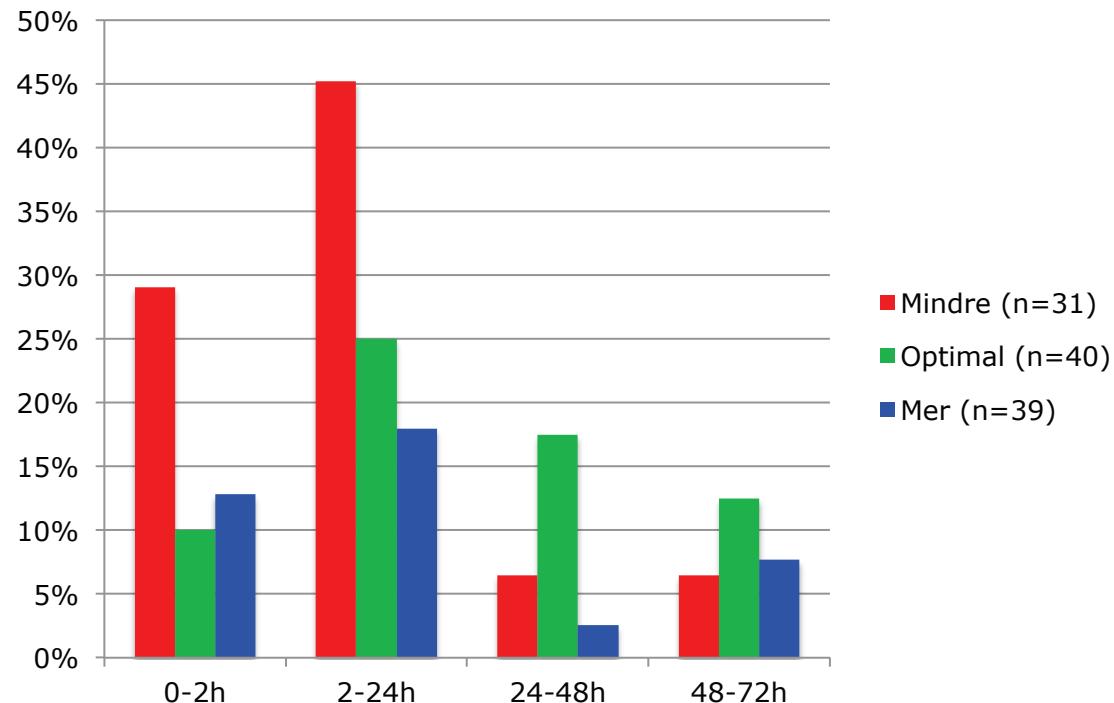
Dagkirurgi, Sundsvalls Sjukhus

Kirurgi och Ortopedi

Prospektiv observationstudie upp till 72 timmar.

n=110

Incidens PONV utifrån optimal profylax



M Pechold,
Examensarbete
Läkarprogrammet
UmU 2013



Implementering

Finns rutiner på kliniken?

Följs rutiner på kliniken?

Följ upp PONV/PDNV!

Sundsvall

Lathund PONV-profylax
Jakob Walldén

Profylax mot illamående och kräkning (PONV-profylax).

Sedan ett drygt år tillbaka har vi inom ramen för PONV-studien samlat in data på hur vi ger PONV-profylax och hur utfallet av PONV är hos våra patienter. Preliminära analyser har visat att vi fortfarande har en betydande andel patienter som mår illa efter operation (20-35%). Varför mår de illa och kräks trots att vi ger profylax? Vi har sett några tendenser i vårt material. Alla får inte optimalt med profylax. Vi ska ordinera och ge profylax utifrån risk, men det görs inte. För patienter som genomgår höft och knäprotekskirurgi får endast 60% tillräckligt med profylax och tittar vi specifikt på gruppen kvinnor får bara 31% tillräckligt med profylax. Andelen PONV i den senare gruppen var över 50%!

Vi behöver förbättra medvetenheten och följdsmåten till riktlinjerna för PONV-profylax så att våra patienter mår bättre!.

Apfel-Score	Max 4 p
Kvinnligt kön	1 p
Icke-rökare	1 p
Tidigare PONV eller åksjuka	1 p
Postoperativa opioider	1 p

Antal preparat/metoder

Apfel-score	Antal PONV-profylax	Risk för PONV utan profylax
0 - 1 p	0 preparat/metod	10-20%
2 p	1 preparat/metod	20-40%
3 p	2 preparat/metod	40-60%
4 p	3 preparat/metod	60-80%

Preparat för PONV-profylax

Alla preparat/metoder har i princip samma riskreducerande effekt (20-25%). TIVA har samma riskreducerande effekt som de vanliga profylaktiska preparaten.

Läkemedel

1:a hand Betamethasone	4 mg – (8 mg) iv	Ges i början av operation
2:a hand Ondansetron	4 mg iv	Ges i slutet av operation
3:e hand Dridol	0.5mg – 1 mg iv	Ges i slutet av operation

Anestesimetod

Överväg Total intravenös anestesi (TIVA) som alternativ till gasanestesi vid hög risk för PONV.

Morfin spinalt

Vi tror att spinalt morfin ger en ytterligare ökad risk för PONV jämfört med opioider generellt. Ordinera därför ytterligare ett preparat som profylax. **Vid användande av intratekalt morfin bör alla män ha minst 2 preparat och kvinnor 3 preparat.**



2013-12-20

Sammanfattning

PONV och PDNV är ett problem.

Riskvärdera för PONV och PDNV!

Ge profylax efter risk!

Implementera till rutin och utvärdera!



TACK!

