

Content... *Does RA benefit trunk (breast) surgery*

- Background
- What options have we and what works?
- **Evidence of benefits?**

Paravertebral Blocks (TPVB)

Immediate perioperative

Long term

Inter-fascial Plane Blocks

.... what's current

What we know FOR PECS 2017

‘... These studies do not allow a viable and meaningful meta-analysis due to the *limited number of trials, too diverse endpoints and/or endpoints reported on different time points or intervals...*’

(*Acta Anaesth. Belg.*, 2017, 68, 49-62)

A Qualitative Systematic Review of the Pectoral Nerves Block Type I and II

B. VERSYCK (*), P. VAN HOUWE (**), G. J. VAN GEFFEN, M. VAN DE VELDE (*) and R. SLAPPENDEL (***)

Conclusion

(Acta Anaesth. Belg., 2017, 68, 49-62)

A Qualitative Systematic Review of the Pectoral Nerves Block Type I and II

B. VERSYCK (*), P. VAN HOUWE (**), G. J. VAN GEFFEN, M. VAN DE VELDE (*) and R. SLAPPENDEL (***)

‘... available results present encouraging evidence that the *Pecs blocks* provide effective analgesia and reduce postoperative opioid consumption...’ ‘.. in combination with GA or sedation and/or in combination with other regional anesthesia techniques...’

‘... also in *chronic pain medicine*.’

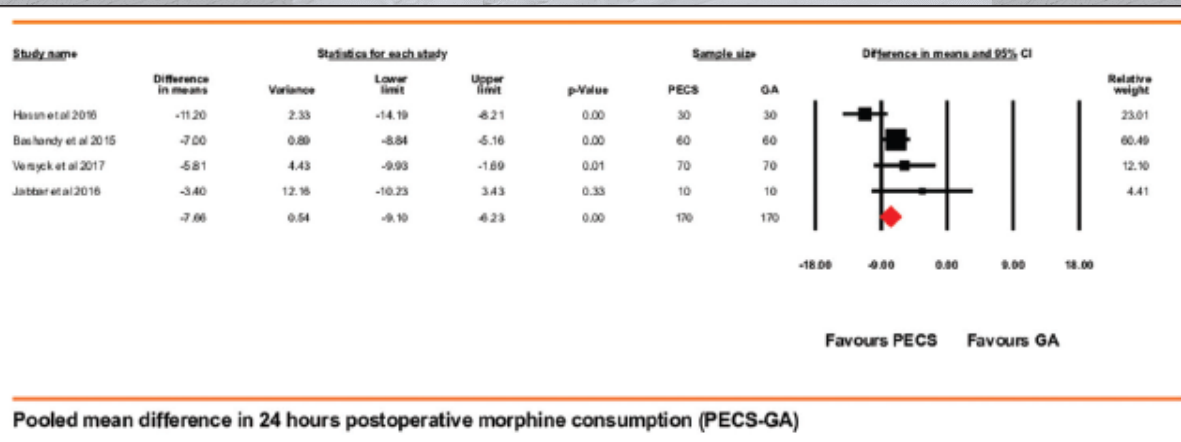
‘... Pecs blocks *are safe* techniques..’

No RCT for PIFB, SIFB,
TTP or SPB were
identified

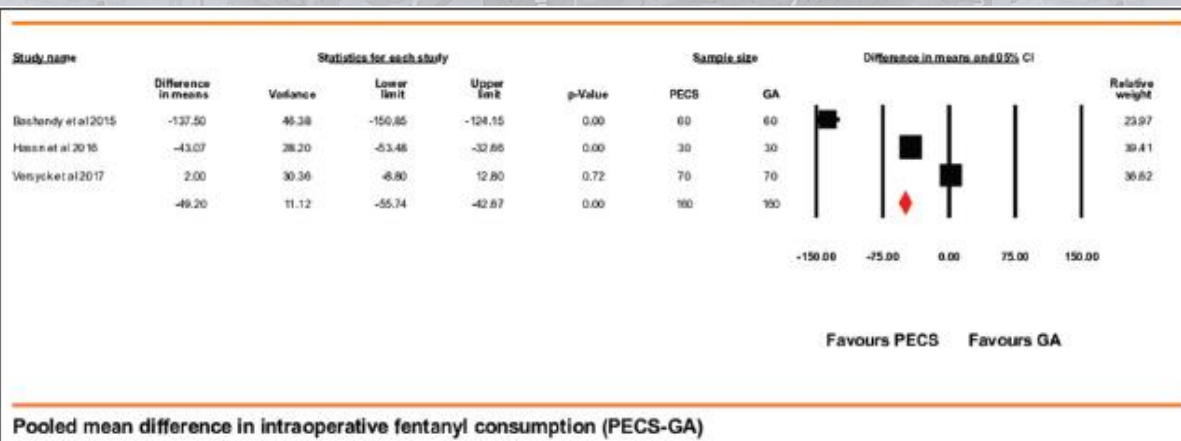
Woodworth et al.... RAPM Oct
2017

relevant studies. Results from our systematic literature search show encouraging and consistent evidence that the Pecs blocks produce effective analgesia, and reduce perioperative opioid consumption as compared to control groups without regional anesthesia, as well as other regional anesthesia techniques. Furthermore, the Pecs blocks provide favorable analgesic results in a wide range of indications including regional anesthesia and pain medicine technique. The absence of block-related complications reported in the literature may suggest that the Pecs blocks are easy to apply and safe for patients.

Opioid-sparing effects of the thoracic interfascial plane blocks: A meta-analysis of randomized controlled trials

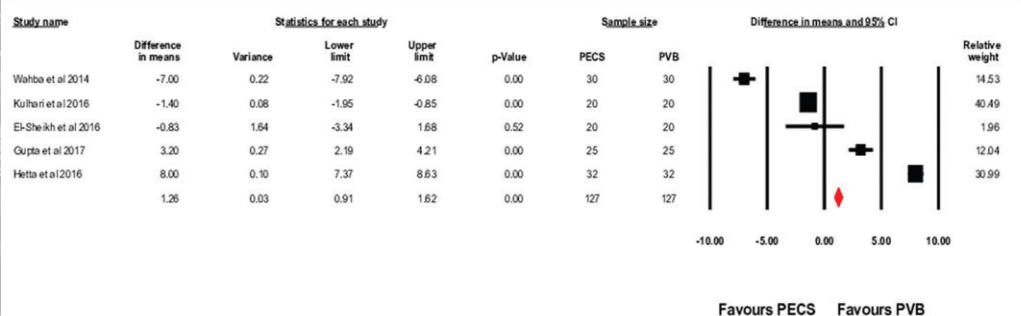


4 studies; 170 patients
lower morphine requirements
first 24 h
morphine sparing effect of 7.66
(6.23–9.10) mg, $P < 0.001$
heterogeneity zero after 'single
study removal sensitivity analysis'



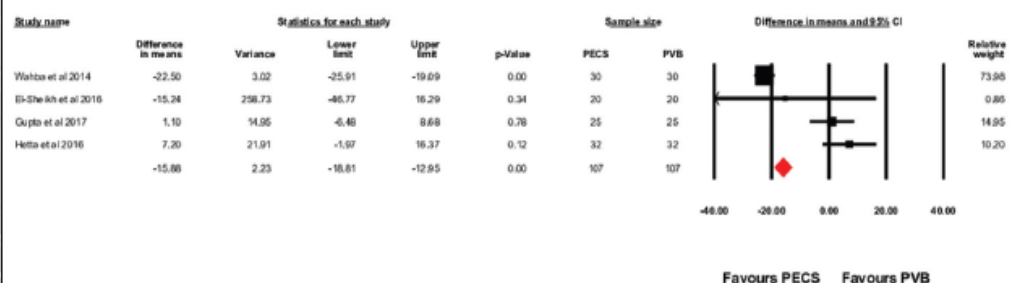
3 studies; 160 patients
lower intraoperative fentanyl
by 49.20 (42.67–55.74) mcg,
 $P < 0.001$
high heterogeneity

Opioid-sparing effects of the thoracic interfascial plane blocks: A meta-analysis of randomized controlled trials



Pooled mean difference in 24 hour morphine consumption (PECS-PVB)

5 studies; 127 patients
Morphine consumption lower with the use of PVB by 1.26 mg (0.91-1.62)
 $P < 0.001$
mean morphine consumption in the PVB group was 11.24, 11.20% less than PECS
high heterogeneity (18% after 'single study removal sensitivity analysis')



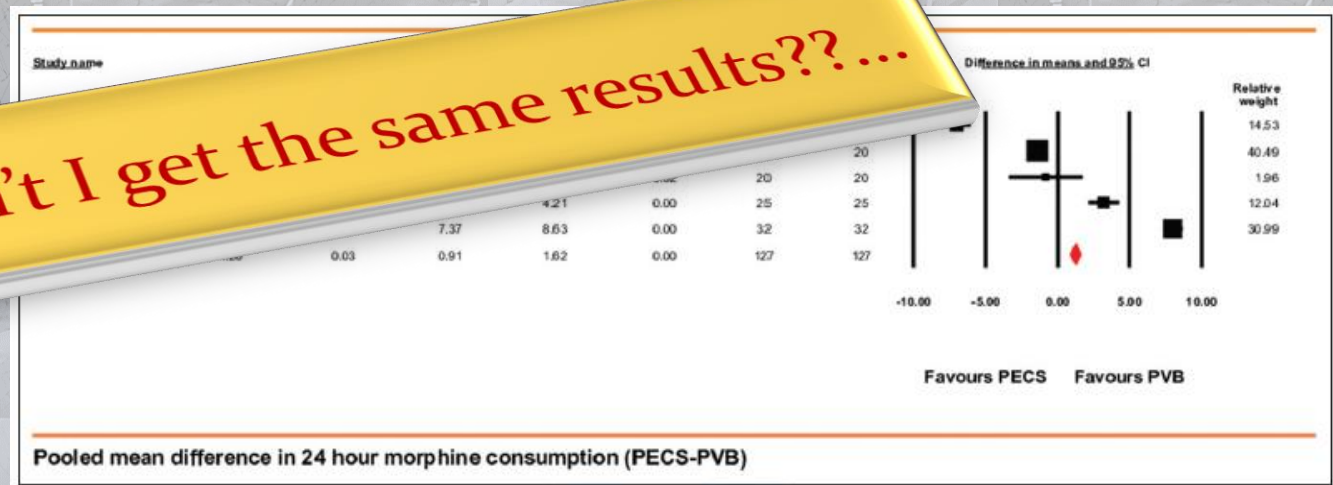
Pooled mean difference in intraoperative fentanyl consumption (PECS-PVB)

4 studies; 107 patients
PECS required smaller dose of fentanyl
PVB required 15.88 (12.95-18.81) mcg more fentanyl than PECS
 $P < 0.001$
high heterogeneity (29.93% after 'single study removal sensitivity analysis')

Can these findings be inferred to “Real world” as ‘best practice’?.....

....The answer may not be as clear cut....

...Why don't I get the same results??...



Evidence for PECS II efficacy...

Pectoral Nerve Blocks for Breast Cancer Surgery: *A Methodological Evaluation*

Accepted for publication: January 20, 2015.

To the Editor:

We read with interest the study by Bashandy and Abbas¹ investigating the effect of pectoral nerve (Pecs) blocks on analgesia following modified radical mastectomy and wish to draw attention to some aspects of the methodology. The authors state that anesthetic management and data collection were performed by personnel blinded to the treatment group. It is clear that both the patient and the primary investigator who performed the blocks were not blinded to the treatment group, but there is no description of how the operating room anesthetist, recovery room staff, and data collectors remained blinded. Indeed, failure to use sham blocks renders confirmation of adequate blinding difficult. In addition, inadequate description of the randomization

Finally, the clinical application of this study is limited by the comparison of Pecs block to no active intervention. Comparison to local anesthetic infiltration of the surgical field would provide more clinically relevant information to evaluate this novel technique against standard practice.

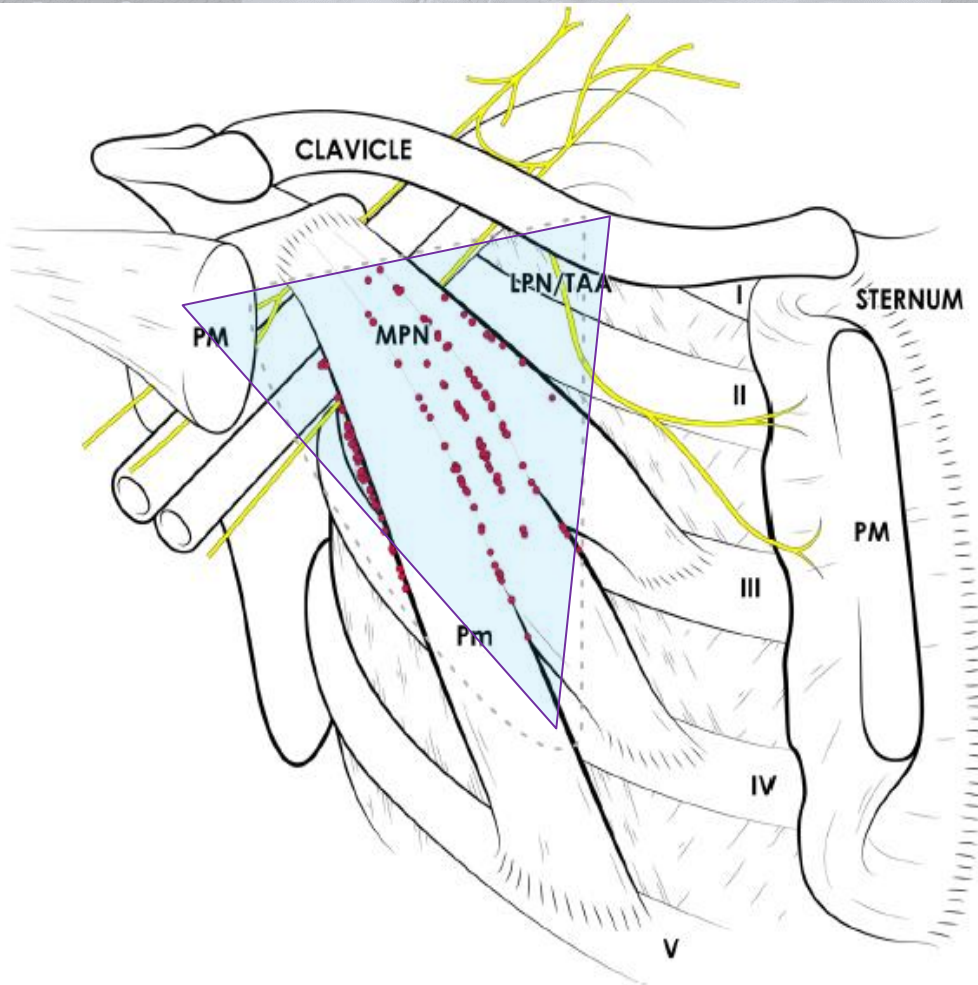
In summary, we welcome the emergence of clinical trials investigating the efficacy of Pecs blocks for breast surgery. We do, however, urge caution with the clinical interpretation of this study because of methodological inadequacies, high risk of bias, and lack of comparison with local anesthetic infiltration alone.

ORIGINAL ARTICLE

(Reg Anesth Pain Med 2018;43: 844-848)

Pectoral Block Failure May Be Due to Incomplete Coverage of Anatomical Targets *A Dissection Study*

Lena F. Carstensen, MD,*† Morten Jenstrup, MD,* Jørgen Lund, MD,‡ and Jørgen Trantum-Jensen, MD§



Conclusions:

The **MPN branches** that innervate the lower part of the pectoralis major muscle are **asymmetrical and variable in location and length**; all located in a triangular area easily defined by sonographic landmarks, lateral to the TAA.

Considerations *when looking at evidence....*

- What works for others may not work in your hands

- Blocks are **operator dependent**

Based on imprinted prior understanding

Determines interpretation

Actual block performance

- **Factors to consider**

Level of expertise

Experience/exposure/training

..May affect clinical outcome..

Best to look at own practice!!!

RESULTS:

PECS group required significantly ***less fentanyl intraoperatively*** ($124.3 \pm 31.2 \mu\text{g}$ vs $151.1 \pm 41.6 \mu\text{g}$)

lower total morphine consumption during the first 24-hour perioperative period (median of 2 [1,4] mg vs 7 [5,11] mg).

lesser resting pain scores for the time period 0-4 hours postoperatively ($p < 0.0001$) ***and on movement*** all time periods.

no complications or adverse effects related to the block and opioids. PONV was comparable.

more satisfaction with the quality of postoperative analgesia ($p = 0.023$).

CONCLUSION:

Compared to a typical conventional analgesic technique, **Pecs II block provided better 24 hours postoperative pain relief** in mastectomy and axillary clearance surgeries with **reduced opioid requirement and better patient satisfaction.**

Results:

ORIGINAL ARTICLE

TITLE: COMPARISON OF ANALGESIC PROFILE: COMBINED SERRATUS PLANE & PECS I BLOCK VERSUS PECS II BLOCK IN PATIENTS UNDERGOING MASTECTOMY AND AXILLARY CLEARANCE

no statistical difference in amount of rescue *fentanyl*, *morphine consumption and pain score* between Group A (SPB + PECS I) and Group B (PECS II).

Group A had *better pain control at 16 hours and 24 hours post-operatively* (P value <0.01 respectively) compared to Group B at 24 hours post-operatively (P value < 0.01) at movement.

Pain control were *achievable faster in Group A from 2 hours* post-operatively whereas Group B after 16 hours post-operatively at movement, but statistically not significant.

Conclusion:

Both combined serratus plane & PECS I block, and PECS II block provides *comparable post-operative analgesia*.