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- Appendix 6: TSA of 24-hour morphine consumption in the mastectomy subgroup, all trials

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Appendix 1: Search strategies

Preliminary searches performed 13 November 2013

Total number of references identified: 16895 references Number of duplicates removed: 3189 references Number of references in final list: 13706 references

Batch name: 131113_J Wetterslev_GABA

Cochrane Central Register of Controlled Trials (CENTRAL)(Issue 10 of 12, 2013) in The Cochrane Library (2411 hits in CENTRAL)

#1 MeSH descriptor: [Amines] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#2 MeSH descriptor: [gamma-Aminobutyric Acid] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#3 MeSH descriptor: [Cyclohexanecarboxylic Acids] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#4 (gaba* or neurontin* or neurotonin* or horizant*)

#5 #1 or #2 or #3 or #4

#6 MeSH descriptor: [Pain] explode all trees

#7 pain*

#8 #6 or #7

#9 #5 and #8

#10 adult* or middle age* or aged

#11 #9 and #10

MEDLINE (Ovid SP)(1946 to November 2013)(7072 hits)

1. exp Amines/ae, tu [Adverse Effects, Therapeutic Use]

2. exp gamma-Aminobutyric Acid/ae, tu [Adverse Effects, Therapeutic Use]

3. exp Cyclohexanecarboxylic Acids/ae, tu [Adverse Effects, Therapeutic Use]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

5. 1 or 2 or 3 or 4

6. exp Pain/

7. pain*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier] 8. 6 or 7

9. 5 and 8

10. limit 9 to (humans and ("all adult (19 plus years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)"))

EMBASE (1974 to November 2013)(3653 hits)

1. amine/ae, dt, th [Adverse Drug Reaction, Drug Therapy, Therapy]

2. 4 aminobutyric acid/ae, dt [Adverse Drug Reaction, Drug Therapy]

3. cyclohexanecarboxylic acid derivative/ae, dt [Adverse Drug Reaction, Drug Therapy]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, subject headings, heading word,

drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] 5. 1 or 2 or 3 or 4

6. exp pain/

7. pain*.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]
8. 6 or 7
9. 5 and 8
10. limit 9 to (human and (adult <18 to 64 years> or aged <65+ years>))

Science Citation Index Expanded (http://apps.webofknowledge.com)(1900 to November 2013)(3759 hits) #3 3,759 #2 AND #1 #2 385,187 TS=(pain*) #1 68,630 TS=(gaba* or neurontin* or neurotonin* or horizant*)

Preliminary searches performed 30 June 2014

Total number of references identified: 16861 references Number of duplicates removed: 3592 references Number of references in final list: 13569 references Number of new references: 789 references

Batch name: 140701_J Wetterslev_GABA

Cochrane Central Register of Controlled Trials (CENTRAL)(Issue 6 of 12, 2014) in The Cochrane Library (2619 hits in CENTRAL)

#1 MeSH descriptor: [Amines] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#2 MeSH descriptor: [gamma-Aminobutyric Acid] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#3 MeSH descriptor: [Cyclohexanecarboxylic Acids] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#4 (gaba* or neurontin* or neurotonin* or horizant*)

#5 #1 or #2 or #3 or #4

#6 MeSH descriptor: [Pain] explode all trees

#7 pain*

#8 #6 or #7

#9 #5 and #8

#10 adult* or middle age* or aged

#11 #9 and #10

MEDLINE (Ovid SP)(1946 to July 2014)(6319 hits)

1. exp Amines/ae, tu [Adverse Effects, Therapeutic Use]

2. exp gamma-Aminobutyric Acid/ae, tu [Adverse Effects, Therapeutic Use]

3. exp Cyclohexanecarboxylic Acids/ae, tu [Adverse Effects, Therapeutic Use]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

5. 1 or 2 or 3 or 4

6. exp Pain/

7. pain*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier] 8. 6 or 7

9.5 and 8

10. limit 9 to (humans and ("all adult (19 plus years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)"))

EMBASE (1974 to July 2014)(3847 hits)

1. amine/ae, dt, th [Adverse Drug Reaction, Drug Therapy, Therapy]

2. 4 aminobutyric acid/ae, dt [Adverse Drug Reaction, Drug Therapy]

3. cyclohexanecarboxylic acid derivative/ae, dt [Adverse Drug Reaction, Drug Therapy]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

5. 1 or 2 or 3 or 4

6. exp pain/

7. pain*.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

8.6 or 7

9. 5 and 8

10. limit 9 to (human and (adult <18 to 64 years> or aged <65+ years>))

Science Citation Index Expanded (http://apps.webofknowledge.com)(1900 to July 2014)(4076 hits) #3 4,076 #2 AND #1 #2 417,945 TS=(pain*) #1 72,059 TS=(gaba* or neurontin* or neurotonin* or horizant*)

Preliminary searches performed 14 November 2014

Total number of references identified: 17315 references Number of duplicates removed: 4105 references Number of references in final list: 13210 references Number of new references: 462 references

Batch name: 141114_J Wetterslev_GABA NEW

Cochrane Central Register of Controlled Trials (CENTRAL)(Issue 11 of 12, 2014) (2645 hits) #1 MeSH descriptor: [Amines] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU] #2 MeSH descriptor: [gamma-Aminobutyric Acid] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU] #3 MeSH descriptor: [Cyclohexanecarboxylic Acids] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU] #3 MeSH descriptor: [Cyclohexanecarboxylic Acids] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU] #4 (gaba* or neurontin* or neurotonin* or horizant*) #5 #1 or #2 or #3 or #4 #6 MeSH descriptor: [Pain] explode all trees #7 pain* #8 #6 or #7 #9 #5 and #8 #10 adult* or middle age* or aged

#11 #9 and #10

MEDLINE (Ovid SP)(1946 to November 2014)(6549 hits)

1. exp Amines/ae, tu [Adverse Effects, Therapeutic Use]

2. exp gamma-Aminobutyric Acid/ae, tu [Adverse Effects, Therapeutic Use]

3. exp Cyclohexanecarboxylic Acids/ae, tu [Adverse Effects, Therapeutic Use]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

5. 1 or 2 or 3 or 4

6. exp Pain/

7. pain*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier] 8. 6 or 7

9. 5 and 8

10. limit 9 to (humans and ("all adult (19 plus years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)"))

EMBASE (1974 to November 2014)(3962 hits)

1. amine/ae, dt, th [Adverse Drug Reaction, Drug Therapy, Therapy]

2. 4 aminobutyric acid/ae, dt [Adverse Drug Reaction, Drug Therapy]

3. cyclohexanecarboxylic acid derivative/ae, dt [Adverse Drug Reaction, Drug Therapy]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, subject headings, heading word,

drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

5. 1 or 2 or 3 or 4

6. exp pain/

7. pain*.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

8.6 or 7

9. 5 and 8

10. limit 9 to (human and (adult <18 to 64 years> or aged <65+ years>))

Science Citation Index Expanded (1900 to November 2014)(4159 hits)

#3 4,159 #2 AND #1 #2 417,588 TS=(pain*) #1 72,305 TS=(gaba* or neurontin* or neurotonin* or horizant*)

Preliminary searches performed 9 April 2015

Total number of references identified: 17466 references Number of duplicates removed: 4042 references Number of references in final list: 13424 references Number of new references: 126 references

Batch name: 150409_J Wetterslev_GABA

Cochrane Central Register of Controlled Trials (CENTRAL) (Issue 3 of 12, 2015) (2629 hits) #1 MeSH descriptor: [Amines] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU] #2 MeSH descriptor: [gamma-Aminobutyric Acid] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU] #3 MeSH descriptor: [Cyclohexanecarboxylic Acids] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU] #4 (gaba* or neurontin* or neurotonin* or horizant*) #5 #1 or #2 or #3 or #4 #6 MeSH descriptor: [Pain] explode all trees #7 pain* #8 #6 or #7 #9 #5 and #8 #10 adult* or middle age* or aged #11 #9 and #10

MEDLINE (Ovid SP)(1946 to April 2015) (6432 hits)

1. exp Amines/ae, tu [Adverse Effects, Therapeutic Use]

2. exp gamma-Aminobutyric Acid/ae, tu [Adverse Effects, Therapeutic Use]

3. exp Cyclohexanecarboxylic Acids/ae, tu [Adverse Effects, Therapeutic Use]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

5. 1 or 2 or 3 or 4

6. exp Pain/

7. pain*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

8.6 or 7

9. 5 and 8

10. limit 9 to (humans and ("all adult (19 plus years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)"))

EMBASE (1974 to April 2015) (4081 hits)

1. amine/ae, dt, th [Adverse Drug Reaction, Drug Therapy, Therapy]

2. 4 aminobutyric acid/ae, dt [Adverse Drug Reaction, Drug Therapy]

3. cyclohexanecarboxylic acid derivative/ae, dt [Adverse Drug Reaction, Drug Therapy]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, subject headings, heading word,

drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword] 5. 1 or 2 or 3 or 4

6. exp pain/

7. pain*.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

8. 6 or 7

9.5 and 8

10. limit 9 to (human and (adult <18 to 64 years> or aged <65+ years>))

Science Citation Index Expanded (1900 to April 2015) (4324 hits)

#3 4,324 #2 AND #1 #2 430,421 TS=(pain*) #1 73,791 TS=(gaba* or neurontin* or neurotonin* or horizant*)

Preliminary searches performed 23rd September 2015

Total number of references identified: 18200 references Number of duplicates removed: 4184 references Number of references in final list: 14016 references Number of new references: 1188 references

Batch name: 150915_J Wetterslev_GABA

Cochrane Central Register of Controlled Trials (CENTRAL) (Issue 8 of 12, 2015) (2798 hits)

#1 MeSH descriptor: [Amines] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#2 MeSH descriptor: [gamma-Aminobutyric Acid] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#3 MeSH descriptor: [Cyclohexanecarboxylic Acids] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#4 (gaba* or neurontin* or neurotonin* or horizant*)

#5 #1 or #2 or #3 or #4

- #6 MeSH descriptor: [Pain] explode all trees
- #7 pain*
- #8 #6 or #7
- #9 #5 and #8
- #10 adult* or middle age* or aged
- #11 #9 and #10

MEDLINE (Ovid SP) (1946 to September 2015) (6621 hits)

1. exp Amines/ae, tu [Adverse Effects, Therapeutic Use]

2. exp gamma-Aminobutyric Acid/ae, tu [Adverse Effects, Therapeutic Use]

3. exp Cyclohexanecarboxylic Acids/ae, tu [Adverse Effects, Therapeutic Use]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

5. 1 or 2 or 3 or 4

6. exp Pain/

7. pain*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier] 8. 6 or 7

8. 6 or 7 9. 5 and 8

10. limit 9 to (humans and ("all adult (19 plus years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)"))

EMBASE (1974 to September 2015) (4289 hits)

1. amine/ae, dt, th [Adverse Drug Reaction, Drug Therapy, Therapy]

2. 4 aminobutyric acid/ae, dt [Adverse Drug Reaction, Drug Therapy]

3. cyclohexanecarboxylic acid derivative/ae, dt [Adverse Drug Reaction, Drug Therapy]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, subject headings, heading word,

drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

5. 1 or 2 or 3 or 4

6. exp pain/

7. pain*.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

8. 6 or 7

9.5 and 8

10. limit 9 to (human and (adult <18 to 64 years> or aged <65+ years>))

Science Citation Index Expanded (1900 to September 2015) (4492 hits)

#3 4,492 #2 AND #1

#2 445,898 TS=(pain*)

#1 75,431 TS=(gaba* or neurontin* or neurotonin* or horizant*)

Preliminary searches performed 12th April 2016

Total number of references identified:	references
Number of duplicates removed:	references
Number of references in final list:	references
Number of new references:	references

Batch name: 160412_J Wetterslev_GABA

Cochrane Central Register of Controlled Trials (CENTRAL) (Issue 4 of 12, 2015) (2993 hits)

#1 MeSH descriptor: [Amines] explode all trees and with qualifiers: [Adverse effects - AE, Therementies use _____]

Therapeutic use - TU]

#2 MeSH descriptor: [gamma-Aminobutyric Acid] explode all trees and with qualifiers: [Adverse effects - AE, Therapeutic use - TU]

#3 MeSH descriptor: [Cyclohexanecarboxylic Acids] explode all trees and with qualifiers:

- [Adverse effects AE, Therapeutic use TU]
- #4 (gaba* or neurontin* or neurotonin* or horizant*)
- #5 #1 or #2 or #3 or #4
- #6 MeSH descriptor: [Pain] explode all trees
- #7 pain*
- #8 #6 or #7
- #9 #5 and #8
- #10 adult* or middle age* or aged
- #11 #9 and #10

MEDLINE (Ovid SP) (1946 to April 2016) (6625 hits)

1. exp Amines/ae, tu [Adverse Effects, Therapeutic Use]

2. exp gamma-Aminobutyric Acid/ae, tu [Adverse Effects, Therapeutic Use]

3. exp Cyclohexanecarboxylic Acids/ae, tu [Adverse Effects, Therapeutic Use]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

5. 1 or 2 or 3 or 4

6. exp Pain/

7. pain*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier] 8. 6 or 7

9. 5 and 8

10. limit 9 to (humans and ("all adult (19 plus years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over)"))

EMBASE (1974 to April 2016) (4474 hits)

1. amine/ae, dt, th [Adverse Drug Reaction, Drug Therapy, Therapy]

2. 4 aminobutyric acid/ae, dt [Adverse Drug Reaction, Drug Therapy]

3. cyclohexanecarboxylic acid derivative/ae, dt [Adverse Drug Reaction, Drug Therapy]

4. (gaba* or neurontin* or neurotonin* or horizant*).mp. [mp=title, abstract, subject headings, heading word,

drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

5. 1 or 2 or 3 or 4

6. exp pain/

7. pain*.mp. [mp=title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword]

8.6 or 7

9.5 and 8

10. limit 9 to (human and (adult <18 to 64 years> or aged <65+ years>))

Science Citation Index Expanded (1900 to April 2016) (4717 hits)

#3 #2 AND #1

#2 TS=(pain*)

#1 TS=(gaba* or neurontin* or neurotonin* or horizant*)

Google Scholar search

After the 1st search, 13th November 2013 Gabapentin AND Postoperative pain Gabapentin AND Acute pain management Gabapentin AND Perioperative pain management

After the 2nd search, 30th June 2014 Gabapentin AND Postoperative pain Gabapentin AND Acute pain management Gabapentin AND Perioperative pain management

Limits: titles from 1st November 2013 and on

After the 3rd search, 14th November 2014 Gabapentin AND Postoperative pain Gabapentin AND Acute pain management Gabapentin AND Perioperative pain management

Limits: titles from 1st June 2014 and on

After the 4th search, 9th April 2015 Gabapentin AND Postoperative pain Gabapentin AND Acute pain management Gabapentin AND Perioperative pain management

Limits: titles from 1st November 2014 and on

After the 5th search, 23rd September 2015 Gabapentin AND Postoperative pain Gabapentin AND Acute pain management Gabapentin AND Perioperative pain management

Limits: titles from 1st April 2015 and on

<u>After the 6th search, 12th April 2016</u> Gabapentin AND Postoperative pain Gabapentin AND Acute pain management Gabapentin AND Perioperative pain management

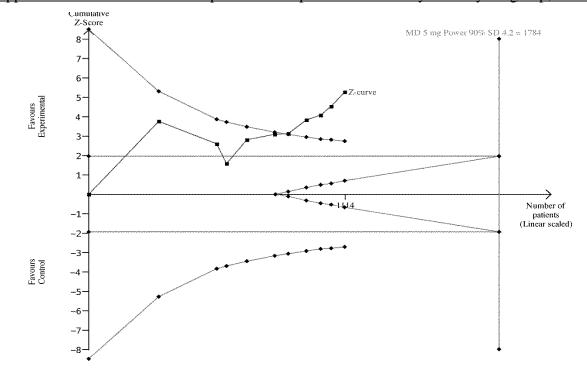
Limits: titles from 1st September 2015 and on

Appendix 2: Opioid conversion table

Opioid	Administration	Opioid: Intravenous morphine
1 mg Fentanyl	i.v.	100 mg morphine
1 mg Hydromorphone	i.v.	5 mg morphine
1 mg Morphine oral	oral	0.33 mg morphine
1 mg Nalbuphine	i.v.	1 mg morphine
1 mg Pethidine/Meperidine	i.v.	0.13 mg morphine
1 mg Propoxyphene	i.v.	5 mg morphine
1 mg Tramadol oral	oral	0.07 mg morphine

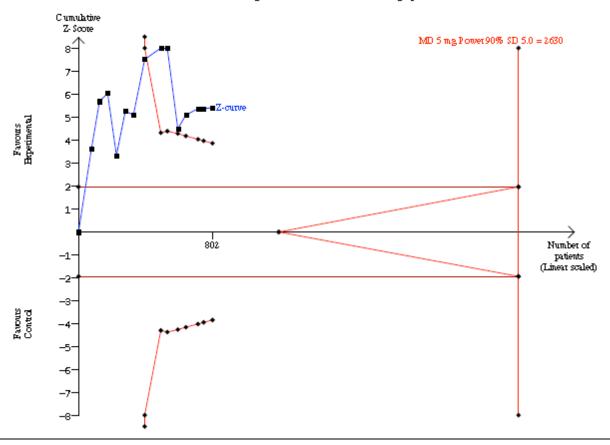
Appendix 3: Forest plot of 24-hour morphine consumption from all trials estimates

itudy or Subgroup Me		mentai SD (mg)	Total		ntroi SD [mg]	Total	Weight	Mean Difference IV, Random, 95% CI [mg]	Mean Difference IV, Random, 95% Ci [mg]
.1.1 Cholecystectomy									
lekawi 2014	0	2.2	30	7.5	0.7	32	2.6%	-7.50 [-8.32, -6.68]	v
loseini 2015	65.11	11.81	22	78.41	13.3	22	1.7%	-13.30 [-20.73, -5.87]	
(hademi 2009	2.83	1.29	44	3.51	1.51	43	2.6%	-0.68 [-1.27, -0.09]	
vialeh 2013	2.5	2.6	40	2.7	2.7	40	2.5%	-0.20 [-1.36, 0.96]	4
/lishra 2016	8.1	1	30	11.9	1.4	30	2.6%	-3.80 [-4.42, -3.18]	<
^p anday 2004b	40.42	31.26	153	53.03	27.48	153	1.8%	-12.61 [-19.21, -6.01]	
Panday 2006	39.19	26.31	125	67.66	25.27	125	1.9%	-28.47 [-34.87, -22.07]	
Srivastava 2010	25,39	4.48	60	37.58	8.35	60	2.4%	-12.19 [-14.59, -9.79]	
Sval 2010	40.2	35,2	30	46,7	35.8	30	0,6%	-6.50 [-24.47, 11.47]	<u> </u>
Takmaz 2007	5.47	3.43	30	6.25	3.44	15	2.5%	-0.78 [-2.91, 1.35]	4
Subtotal (95% CI)	0.11	0.10	564	0.20		550	21.1%	-7.25 [-9.94, -4.55]	•
leterogeneity: Tau ² = 14.3	l0; Chi² = 3	37.70, df	= 9 (P	< 0.00001); l²	= 97%			v , v	
est for overall effect: Z = 5	5.27 (P < 0	.00001)							
1.1.2 Hysterectomy									
Badawy 2014	11.5	2.3	19	13	2.9	19	2.5%	-1.50 [-3.16, 0.16]	
Dierking 2003	43	23.7	3 9	63	25.9	32	1.1%	-20.00 [-31.66, -8.34]	
Durmus 2007	40	10	25	66	10	25	2.0%	-26.00 [-31.54, -20.46]	
Fassoulakl 2005	20.3	7.9	25	25.7	11.2	28	2.1%	-5.40 [-10.58, -0.22]	
Fassoulaki 2006	22	2.9	27	35	4.8	24	2.5%	-13.00 [-15.21, -10.79]	~
Frouzanfard 2013	1.2	0.29	2 5	5.2	2.8	25	2.5%	-4.00 [-5.10, -2.90]	~
Shafari 2009	15.78	1.15	33	26.94	2.28	33	2.6%	-11.16 [-12.03, -10.29]	e
3hai 2011	5.44	1.56	30	4.28	1.87	30	2.6%	1.16 [0.29, 2.03]	r -
Gilron 2004	56.78	32.41	23	82.11	48.2	24	0.4%	-25.33 [-48.72, -1.94]	
loseph 2014	38.65	18.04	25	44,29	16.02	25	1.4%	-5.64 [-15.10, 3.82]	
Khan 2013	13.21	4.71	34	24.31	9.28	35	2.3%	-11.10 [-14.56, -7.64]	
Sekhavet 2009	40.1	14.5	49	52.7	21.1	49	1.7%	-12.60 [-19.77, -5.43]	
Sen 2009a	31	12	20	48	17	20	1.4%	-17.00 [-26.12, -7.88]	
Furan 2003a	27.04	14.44	20	40	8.36	20	1.4%	-14.92 [-21.46, -8.38]	
Subtotal (95% CI)	21.04	1-1-1-1	399	41.00	0.00	394	28.9%	-10.53 [-14.38, -6.69]	•
leterogeneity: Tau ² = 43.1				< 0.00001); I	² = 98%				
Test for overall effect: $Z = 5$	<i></i> (P 5 0								
1.1.3 Mastectomy Amr 2009	13.5	0.5	50	22	2.1	50	2.6%	-8.50 [-9.10, -7.90]	×
Sharti 2012	2.1	2.2	20	4.9	3.4	20	2.5%	-2.80 [-4.57, -1.03]	~
Joha 2010	39.9	33	30	42.7	36.1	29	0.6%	-2.80 [-20.47, 14.87]	
Fassoulaki 2002	23.8	5	25	23.2	5.8	25	2.4%	0.60 [-2.40, 3.60]	4-
rassoulari 2002 Kim 2004	23.8 35.8	20.8	20	33.5					
								2 30 17 10 16 70	
					26,1	20	0.9%	2.30 [-12.19, 16.79]	
Vietry 2008	16.1	7.7	67	29.2	28,1 9.6	34	2.3%	-13.10 [-16.82, -9.38]	-
Velry 2008 Subtotal (95% Ci)	16.1	7.7	67 213	29.2	9.6				
	16.1 9; Chi² = 7	7.7 5.74, df =	67 213	29.2	9.6	34	2.3%	-13.10 [-16.82, -9.38]	•
Vetry 2008 Subtatat (95% CI) Heterogeneity: Tau ² = 20.3 Fest for overall effect: Z = 2 I.1.4 Orthopasdic surgen	16.1 19; Chi² = 7 2.35 (P = 0 ¥	7.7 5.74, df = .02)	67 213 5 (P <	29.2 0.00001); l ² =	9.6 93%	34 178	2.3% 11.2%	-13,10 [-16.82, -9.38] -5.19 [-8.52, -0.88]	•
Vetry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 20.3 Fest for overall effect: Z = 2 1.1.4 Orthopaadic surgery Clarke 2009a	16.1 19; Chi [#] = 7 2.35 (P = 0 y 33.2	7.7 5.74, df = .02) 20.73	67 213 5 (P < 29	29.2 0.00001); l² = 63.8	9.6 93% 36.5	34 178 7	2.3% 11.2% 0.3%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53]	
Vetry 2008 Subtotat (95% CI) Heterogeneity: Tau ^a = 20.3 Fest for overall effect: Z = 2 I.1.4 Orthopaedic surgery Clarke 2009b	16.1 19; Chi ² = 7, 2.35 (P = 0 33.2 33.1	7.7 5.74, df = .02) 20.73 4	67 213 5 (P < 29 76	29.2 0.00001); l² = 63.8 35	9.6 93% 36.5 4	34 178 7 39	2.3% 11.2% 0.3% 2.5%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36]	
Vetry 2008 Subtedat (95% CI) -leterogeneity: Tau ^s = 20.3 Test for overall effect: Z = 2 I.1.4 Orthopsactic surgery Clarke 2009s Clarke 2009b Clarke 2014	16.1 19; Chi ² = 7 2.35 (P = 0 33.2 33.1 37	7.7 5.74, df = .02) 20.73 4 1.5	67 213 5 (P < 29 76 95	29.2 0.00001); l ² = 63.8 35 48	9.6 93% 36.5 4 1.33	34 178 7 39 84	2.3% 11.2% 0.3% 2.5% 2.6%	-13,10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59]	
Vetry 2008 Subticat (95% CI) Heterogeneity: Tau ^a = 20.3 Fest for overall effect: Z = 2 I.1.4 Orthopaedic surgery Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2014 Junn 2015	16.1 9; Chi² = 7 2.35 (P = 0 ¥ 33.2 33.1 37 42.8	7.7 5.74, df = .02) 20.73 4 1.5 38.4	67 213 5 (P < 29 76 95 186	29.2 0.00001); ² = 63.8 35 48 50.5	9.6 93% 36.5 4 1.33 41.4	34 178 7 39 84 99	2.3% 11.2% 0.3% 2.5% 2.6% 1.3%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-11.55, 2.15]	
Vetry 2008 Subtedat (95% CI) -leterogeneity: Tau ^s = 20.3 Test for overall effect: Z = 2 I.1.4 Orthopsactic surgery Clarke 2009s Clarke 2009b Clarke 2014	16.1 19; Chi ² = 7 2.35 (P = 0 33.2 33.1 37	7.7 5.74, df = .02) 20.73 4 1.5	67 213 5 (P < 29 76 95	29.2 0.00001); l ² = 63.8 35 48	9.6 93% 36.5 4 1.33	34 178 7 39 84	2.3% 11.2% 0.3% 2.5% 2.6%	-13,10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59]	
Vetry 2008 Subtotat (95% CI) Heterogeneity: Tau ^s = 20.3 Fest for overall effect: Z = 2 I.1.4 Orthopaadic surgery Clarke 2009a Clarke 2009b Clarke 2009b Clarke 2014 Junn 2015 Paul 2013 Faul 2015	16.1 9; Chi² = 7 2.35 (P = 0 ¥ 33.2 33.1 37 42.8	7.7 5.74, df = .02) 20.73 4 1.5 38.4	67 213 5 (P < 29 76 95 186 52 48	29.2 0.00001); ² = 63.8 35 48 50.5	9.6 93% 36.5 4 1.33 41.4	34 178 7 39 84 99 49 54	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.6% 1.9%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.17 [-7.03, 9.37] -5.40 [-11.44, 0.64]	
Vetry 2008 Subtatat (95% CI) Heterogeneity: Tau ² = 20.3 Fest for overall effect: Z = 2 (.1.4 Orthopæedic surgery Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2014 Junn 2015 Paul 2015 Bubtotal (95% CI)	16.1 9; Chi ² = 7 2.35 (P = 0 33.2 33.1 37 42.8 27.94 19.7	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39	67 213 5 (P < 29 76 95 186 52 48 486	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1	9.6 93% 36.5 4 1.33 41.4 18.96 14.5	34 178 7 39 84 99 49	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.6%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.86] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-71.55, 2.15] 1.17 [-7.03, 9.37]	
Vetry 2008 Subtotat (95% CI) Heterogeneity: Tau ^s = 20.3 Fest for overall effect: Z = 2 I.1.4 Orthopaadic surgery Clarke 2009a Clarke 2009b Clarke 2009b Clarke 2014 Junn 2015 Paul 2013 Faul 2015	16.1 9; Chi ^a = 7; 2.35 (P = 0 3 33.2 33.1 37 42.8 27.94 19.7 10; Chi ^z = 1;	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df	67 213 5 (P < 29 76 95 186 52 48 486	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1	9.6 93% 36.5 4 1.33 41.4 18.96 14.5	34 178 7 39 84 99 49 54	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.6% 1.9%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.17 [-7.03, 9.37] -5.40 [-11.44, 0.64]	
Vetry 2008 Subtatat (95% CI) Heterogeneity: Tau ^a = 20.3 Test for overall effect: Z = 2 Li.1.4 Orthopaadic surgery Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2014 Junn 2015 Paul 2013 Paul 2015 Bubtotsi (95% CI) Heterogeneity: Tau ^a = 38.9	16.1 9; Chi ^a = 7; 2.35 (P = 0 3 33.2 33.1 37 42.8 27.94 19.7 10; Chi ^z = 1;	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df	67 213 5 (P < 29 76 95 186 52 48 486	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1	9.6 93% 36.5 4 1.33 41.4 18.96 14.5	34 178 7 39 84 99 49 54	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.6% 1.9%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.17 [-7.03, 9.37] -5.40 [-11.44, 0.64]	
Vetry 2008 Subtatat (95%, CI) Heterogeneity: Tau ^a = 20.3 Fest for overall effect: Z = 2 I.1.4 Orthopasdic surgery Clarke 2009b Clarke	16.1 19; Chi ² = 7, 2.35 (P = 0 y 33.2 33.1 37 42.8 27.94 19.7 10; Chi ² = 1; 2.02 (P = 0	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df .04)	67 213 5 (P < 29 76 95 186 52 48 486 = 5 (P	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1 < 0.00001); ²	9.6 93% 36.5 4 1.33 41.4 18.96 14.5 = 96%	34 178 7 39 84 99 49 54 332	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.6% 1.9% 1.9%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.17 [-7.03, 9.37] -5.40 [-11.44, 0.64] -8.11 [-12.88, -0.18]	
Vetry 2008 Subteat (95% CI) Heterogeneity: Tau ^a = 20.3 Fest for overall effect: Z = 2 Li.1.4 Orthopaadic surgen Clarke 2009b Clarke 2009b Clarke 2014 Junn 2015 Paul 2015 Paul 2015 Bubteats (95% CI) Heterogeneity: Tau ^a = 38.9 Fest for overall effect: Z = 2 Li.1.5 Spinal Surgery Erter 2010	16.1 19: Chi ² = 7. 2.35 (P = 0 3.3.2 3.3.1 37 42.8 27.94 19.7 10: Chi ² = 1: 2.02 (P = 0 3.31	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df .04) 0.98	67 213 5 (P < 29 76 95 186 52 48 486 = 5 (P 39	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1 < 0.00001); ² 3.56	9.6 93% 36.5 4 1.33 41.4 18.6 14.5 = 96% 0.64	34 178 7 39 84 99 54 332 20	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.9% 10.2%	-13.10 [-16.82, -9.38] -5.19 [-8.82, -0.88] -5.19 [-8.52, -0.88] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-71.55, 2.15] 1.17 [-7.03, 9.37] -5.40 [-11.44, 0.64] -8.11 [-12.85, -0.18]	
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Vetry 2008 Subtratar (95% CI) Heterogeneity: Tau ^a = 20.3 Fest for overall effect: Z = 2 L1.4.4 Orthopaadic surgery Clarke 2009b Darke 2000b Darke 2000b Darke 2000b Darke 2000b Darke 20	16.1 19: Chi ² = 7. 2.35 (P = 0 3.3.2 3.3.1 37 42.8 27.94 19.7 10: Chi ² = 1: 2.02 (P = 0 3.31 20.8 39.18	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df .04) 0.98 5.72 22.31	67 213 5 (P < 29 76 95 186 52 48 486 52 48 486 52 48 486 52 48 50 76 95 186 52 48 486 52 48 50 80	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1 < 0.00001); ² 3.56 31.5 52.65	9.6 93% 36.5 4 1.33 41.4 18.96 14.5 = 96% 0.64 9.6 21.27	34 178 7 39 84 99 49 54 332 20 25 20	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.9% 10.2% 2.6% 2.3% 1.3%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.17 [-7.03, 9.37] -5.40 [-11.44, 0.64] -8.11 [-12.85, -0.18] -0.25 [-0.67, 0.17] -10.70 [-14.57, -6.83] -13.47 [-24.00, -2.94]	
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Vetry 2008 Subtatat (95% CI) Heterogeneity: Tau ^a = 20.3 Fest for overall effect: Z = 2 L1.4. Orthopaedic surgery Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2016 Paul 2010 Panday 2004c Furan 2003b Vahedi 2011	16.1 19: Chi ² = 7. 2.35 (P = 0 3.32 3.31 3.7 4.2.8 27.94 19.7 10: Chi ² = 1: 2.02 (P = 0 3.31 20.8 39.18 90.85 16.3 18.61	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df .04) 0.98 5.72 22.31 34.1 8.9 9.03	67 213 5 5 (P < 29 76 95 186 52 48 485 52 48 485 52 48 485 52 186 52 39 150 28 30 25 36	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1 < 0.00001); ² < 0.00001); ² < 0.00001); ² 48 31.5 52.65 92.49 42.8 42.8 21.53	9.6 93% 36.5 4 1.33 41.4 18.96 14.5 = 96% 0.64 9.6 21.27 41.77 10.9 11.3	34 178 7 39 84 99 54 332 20 25 20 25 20 28 25 20 28 25 20 28 25 20 28 25 20	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.9% 19.2% 2.6% 2.3% 1.3% 0.5% 2.0% 2.1%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -30.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.17 [-7.03, 9.37] -5.40 [-11.44, 0.64] -8.11 [-12.85, -0.18] -0.25 [-0.67, 0.17] -10.70 [-14.57, -6.83] -13.47 [-24.00, -2.94] -1.64 [-21.61, 18.33] -26.50 [-32.02, -20.98] -2.92 [-7.50, 1.66]	
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Vetry 2008 Subtotat (95% CI) Heterogeneity: Tau ² = 20.3 Fest for overall effect: Z = 2 Li.1.4 Orthopaedic surgery Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2014 Junn 2015 Paul 2015 Paul 2015 Subtotal (95% CI) Heterogeneity: Tau ² = 38.9 Fest for overall effect: Z = 2 L:1.5 Spinal Surgery Erten 2010 Panday 2004a Panday 2004a Panday 2004b Ururan 2003b Vahedi 2011	16.1 19: Chi ² = 7. 2.35 (P = 0 3.32 3.31 3.7 4.2.8 27.94 19.7 19.7 10: Chi ² = 1: 2.02 (P = 0 3.31 20.8 39.18 90.85 16.3 18.61	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df .04) 0.98 5.72 22.31 34.1 8.9 9.03	67 213 5 5 (P < 29 76 52 48 486 52 48 486 52 48 486 52 39 150 80 28 25 36 388 30	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1 < 0.00001); ² < 0.00001); ² < 0.00001); ² 48 31.5 52.65 92.49 42.8 42.8 21.53	9.6 93% 36.5 4 1.33 41.4 18.96 14.5 = 96% 0.64 9.6 21.27 41.77 10.9 11.3	34 178 7 39 84 99 99 49 54 332 20 25 20 25 20 28 25 40 330	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.6% 1.3% 10.2% 2.6% 2.3% 1.3% 0.5% 2.1% 2.1%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -3.060 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-11.75, 2.15] 1.17 [-7.03, 9.37] -5.40 [-11.44, 0.64] -6.11 [-12.95, -0.18] -0.25 [-0.67, 0.17] -10.70 [-14.57, -6.83] -13.47 [-24.00, -2.94] -1.64 [-21.81, 18.33] -26.50 [-32.02, -20.96] -2.92 [-7.50, 1.66] -18.20 [-19.61, -16.79] -7.86 [-12.70, -3.02]	
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Vetry 2008 Subtratia (95% CI) Heterogeneity: Tau ^a = 20.3 Fest for overall effect: Z = 2 L1.4.4 Orthopaadic surgery Clarke 2009a Slarke 2009b Slarke 2009b Slarke 2009b Slarke 2009b Slarke 2014 Lint 2013 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2015 Paul 2016 Paul 2010 Paul 2010 Paul 2010 Paul 2010 Paul 2010 Paul 2010 Paul 2011 Subtrati (95% CI) Heterogeneity: Tau ² = 135, Fest for overall effect: Z = 2 L1.6 Thoracic surgery Grosen 2014 Paul 2011 Subtrati (95% CI) Heterogeneity: Tau ² = 16.3	16.1 19: Chi ² = 7. 2.35 (P = 0 y 33.2 33.1 37 42.8 27.94 19.7	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df .04) 0.98 5.72 22.31 34.1 8.9 9.03 4.4 9.64 679.10, c .01) 21.62 2.5 8.3 8.5 2.6 6 0.9 5.38	67 213 55 (P < 29 76 52 186 52 48 48 48 48 48 48 48 48 48 48	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1 < 0.00001); ² 3.56 31.5 52.65 92.49 42.8 21.53 30.1 37.33 ² < 0.00001); ² 17.92 2.65 44 15.1 31.5 4 14.94	9.6 93% 36.5 4 1.33 41.4 18.96 14.5 = 96% 0.64 9.6 21.27 41.77 10.9 11.3 0.6 9.5 3 = 99% 23.55 3.2 11 20 2.78 1.5 7.25	34 178 7 39 99 49 49 49 49 49 49 49 49 49 49 49 49	2.3% 11.2% 0.3% 2.5% 2.6% 2.5% 1.3% 1.6% 1.3% 1.3% 2.6% 2.1% 2.5% 2.1% 15.4% 1.5% 2.5% 2.5% 2.5% 2.5% 2.5% 2.5%	-13,10 [-16.82, -9.38] -5.19 [-8.52, -0.86] -3.0.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.77 [-7.03, 9.37] -5.40 [-11.44, 0.64] -6.11 [-12.95, -0.18] -0.25 [-0.67, 0.17] -10.70 [-14.57, -6.83] -13.47 [-24.00, -2.94] -1.64 [-21.61, 18.33] -26.50 [-32.02, -20.98] -2.92 [-7.50, 1.66] -18.20 [-19.61, -16.79] -7.86 [-12.70, -3.02] -18.55 [-18.04, -2.05] -6.72 [-15.41, 1.97] -0.29 [-1.85, 1.27] -18.10 [-23.01, -13.19] -9.10 [-16.88, -1.32] -7.60 [-9.09, -6.11] -1.50 [-2.13, -0.87] -5.04 [-9.00, -1.08]	
Vetry 2008 Subtrati (95% CI) Heterogeneity: Tau ² = 20.3 Fest for overall effect: Z = 2 1.4.4 Orthopasdic surgery Clarke 2009a Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2004 Jaule 2013 Paul 2015 Subtrati (95% CI) Heterogeneity: Tau ² = 38.9 Fest for overall effect: Z = 2 4.1.5 Spinal Surgery Erten 2010 Chan 2010 Panday 2004c Cluran 2003b Vahedi 2011 Subtrati (95% CI) Heterogeneity: Tau ² = 135. Fest for overall effect: Z = 2 4.1.6 Thoracic surgery Smosen 2014 Hoterogeneity: Tau ² = 16.3 Fest for overall effect: Z = 3 Subtrati (95% CI) Heterogeneity: Tau ² = 16.3 Fest for overall effect: Z = 3	16.1 19: Chi ² = 7. 2.35 (P = 0 y 33.2 33.1 37 42.8 27.94 19.7	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df .04) 0.98 5.72 22.31 34.1 8.9 9.03 4.4 9.64 679.10, c .01) 21.62 2.5 8.3 8.5 2.6 6 0.9 5.38	67 213 5 5 (P < 29 78 528 186 528 48 48 48 48 48 48 52 36 39 150 80 28 36 38 38 36 36 38 36 36 52 29 30 52 29 54 54 54 54 54 54 54 54 54 54	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1 < 0.00001); ² 3.56 31.5 52.65 92.49 42.8 21.53 30.1 37.33 ² < 0.00001); ² 17.92 2.65 44 15.1 31.5 4 14.94	9.6 93% 36.5 4 1.33 41.4 18.96 14.5 = 96% 0.64 9.6 21.27 41.77 10.9 11.3 0.6 9.5 3 = 99% 23.55 3.2 11 20 2.78 1.5 7.25	34 178 7 39 99 49 99 49 49 52 20 28 25 20 28 25 20 28 332 20 28 332 20 28 52 228 31 300 228 52 228 31 300 228 52 228 31 300 228 52 228 31 300 228 228 52 228 228 31 300 228 228 228 228 228 228 228 228 228 2	2.3% 11.2% 0.3% 2.5% 2.6% 1.3% 1.6% 1.3% 1.2% 2.6% 2.1% 2.5% 2.1% 1.5% 2.5% 2.1% 1.5% 2.5% 2.1% 1.5% 2.6% 2.2%	-13.10 [-16.82, -9.38] -5.19 [-8.52, -0.88] -3.0.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.77 [-7.03, 9.37] -5.40 [-11.44, 0.64] -6.11 [-12.95, -0.18] -0.25 [-0.67, 0.17] -10.70 [-14.57, -6.83] -13.47 [-24.00, -2.94] -1.84 [-21.61, 18.33] -26.50 [-32.02, -20.98] -2.92 [-7.50, 1.66] -18.20 [-19.61, -16.79] -7.86 [-12.70, 3.02] -18.55 [-18.84, -2.98] -6.72 [-15.41, 1.97] -0.29 [-1.85, 1.27] -18.10 [-23.01, -13.19] -9.10 [-16.88, -1.32] -7.50 [-9.09, -6.11] -1.50 [-2.13, -0.87] -5.27 [-9.67, -2.88]	
Vetry 2008 Subticat (95% CI) Heterogeneity: Tau ² = 20.3 Fest for overall effect: Z = 2 1.4.4 Orthopasdic surgery Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2009b Clarke 2014 Lunn 2015 Paul 2016 Dasight 2011 Subticat (85% CI) Heterogeneity: Tau ² = 135. Fest for overall effect: Z = 2 1.4.5 Thoracic surgery Grosen 2014 Hout 2007 Kosucu 2013 Venda 2010 Drman 2006 Soltanzadeh 2011 Loka 2011	16.1 19: $Ch^{\mu} = 7$. 2.35 (P = 0 3.3.1 3.7 42.8 27.94 19.7 19	7.7 5.74, df = .02) 20.73 4 1.5 38.4 22.99 16.39 36.90, df .04) 0.98 5.72 22.31 34.1 8.9 9.03 4.4 9.64 679.10, c .01) 21.62 2.5 8.3 8.5 2.6 6.09 5.38 0.9 5.38	67 213 5 (P < 29 76 528 48 48 48 48 48 48 48 48 48 4	29.2 0.00001); ² = 63.8 35 48 50.5 26.77 25.1 < 0.00001); ² 3.56 31.5 52.65 92.49 42.8 21.53 30.1 37.33 ² < 0.00001); ² 17.92 2.65 44 15.1 31.5 31.5 	9.6 93% 36.5 4 1.33 41.4 18.96 14.5 = 96% 0.64 9.6 21.27 41.77 10.9 911.3 0.6 9.5 3 = 99% 23.55 3.2 11 20 2.78 1.5 7.25 = 94%	34 178 7 39 99 49 99 49 49 52 20 28 25 20 28 25 20 28 332 20 28 332 20 28 52 228 31 300 228 52 228 31 300 228 52 228 31 300 228 52 228 31 300 228 228 52 228 228 31 300 228 228 228 228 228 228 228 228 228 2	2.3% 11.2% 0.3% 2.5% 2.6% 2.5% 1.3% 1.6% 1.3% 1.3% 2.6% 2.1% 2.5% 2.1% 15.4% 1.5% 2.5% 2.5% 2.5% 2.5% 2.5% 2.5%	-13,10 [-16.82, -9.38] -5.19 [-8.52, -0.86] -3.0.60 [-58.67, -2.53] -1.90 [-3.44, -0.36] -11.00 [-11.41, -10.59] -7.70 [-17.55, 2.15] 1.77 [-7.03, 9.37] -5.40 [-11.44, 0.64] -6.11 [-12.95, -0.18] -0.25 [-0.67, 0.17] -10.70 [-14.57, -6.83] -13.47 [-24.00, -2.94] -1.64 [-21.61, 18.33] -26.50 [-32.02, -20.98] -2.92 [-7.50, 1.66] -18.20 [-19.61, -16.79] -7.86 [-12.70, -3.02] -18.55 [-18.04, -2.05] -6.72 [-15.41, 1.97] -0.29 [-1.85, 1.27] -18.10 [-23.01, -13.19] -9.10 [-16.88, -1.32] -7.60 [-9.09, -6.11] -1.50 [-2.13, -0.87] -5.04 [-9.00, -1.08]	



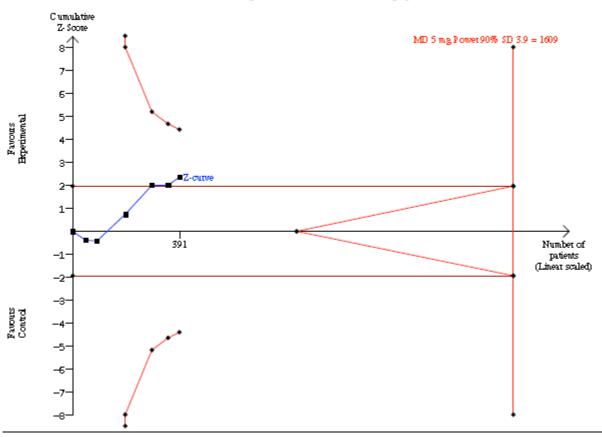
Appendix 4: TSA of 24-hour morphine consumption in the cholecystectomy subgroup, all trials

Appendix 5: TSA of 24-hour morphine consumption in the hysterectomy subgroup, all trials



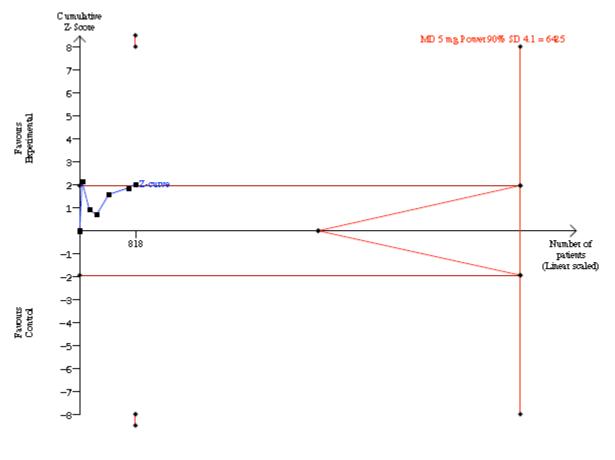
MD 5 mg Power 90% SD 5.0 is a Two-sided graph

Appendix 6: TSA of 24-hour morphine consumption in the mastectomy subgroup, all trials

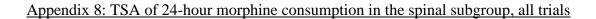


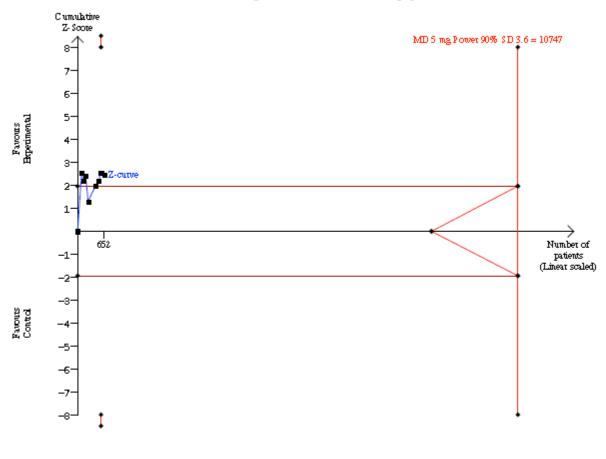
MD 5 mg Power 90% SD 3.9 is a Two-sided graph

Appendix 7: TSA of 24-hour morphine consumption in the orthopedic arthroplasty subgroup, all trials



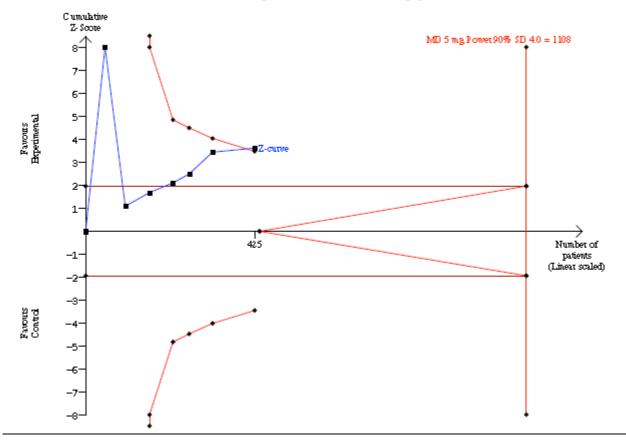
MD 5 mg Power90% SD 4.1 is a Two-sided graph





MD 5 mg Power90% SD 3.6 is a Two-sided graph

Appendix 9: TSA of 24-hour morphine consumption in the thoracic surgery subgroup, all trials

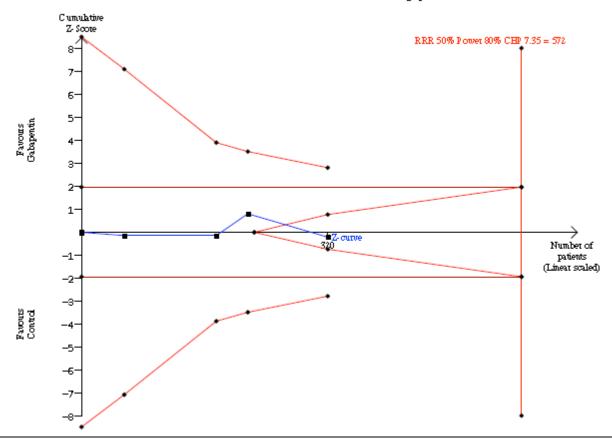


MD 5 mg Power90% SD 4.0 is a Two-sided graph

Appendix 10: Forest plot of SAEs from all trials

	Gabape		Contr			Risk Ratio	Risk Ratio
Study or Subgroup	Events	Total	Events	Total	Weight	M-H, Fixed, 95% CI	M-H, Fixed, 95% Cl
1.14.1 Cholecystecton							
Srivastava 2010	0	60	0	60		Not estimable	
Subtotal (95% CI)		60		60		Not estimable	
Total events	0		0				
Heterogeneity: Not appl							
Test for overall effect: N	lot applica	IDIE					
1.14.2 Hysterectomy							
Ajori 2011	0	69	0	69		Not estimable	
Dierking 2003	0	39	0	32		Not estimable	
Fassoulaki 2006	0	27	0	24		Not estimable	
Gilron 2004	1	20	2	22	6.9%	0.55 [0.05, 5.61]	
Khan 2013	0	34	0	35		Not estimable	
Subtotal (95% Cl)		189		182	6.9%	0.55 [0.05, 5.61]	
Total events	1		2				
Heterogeneity: Not appl	licable						
Test for overall effect: Z	: = 0.50 (F	9 = 0.61)				
1.14.3 Mastectomy							
Dirks 2002	0	31	0	34		Not estimable	
Fassoulaki 2002	0	25	0	25		Not estimable	
Subtotal (95% CI)	Ū	56	5	59		Not estimable	
Total events	0	••	0	~~			
Heterogeneity: Not appl							
Test for overall effect: N		ble					
1.14.4 Orthopaedic su							
Lunn 2015	6	183	1	91	4.9%	2.98 [0.36, 24.41]	
Paul 2013	0	52	0	49	* ***	Not estimable	
Subtotal (95% CI)	_	235		140	4.9%	2.98 [0.36, 24.41]	
Total events	6		1				
Heterogeneity: Not appl			、				
Test for overall effect: Z	. = 1.02 (P	r = 0.31)				
1.14.5 Spinal surgery							
Vahedi 2011	0	36	0	40		Not estimable	
Subtotal (95% CI)		36		40		Not estimable	
Total events	0		0				
Heterogeneity: Not appl	licable						
Test for overall effect: N	lot applica	able					
1.14.6 Thoracic surger	ns						
Grosen 2014	'y 13	52	8	52	29.1%	1.63 [0.74, 3.59]	<u>↓</u>
Hout 2007	13	52 28	0	52 28	29.1% 1.8%	3.00 [0.13, 70.64]	
Kinney 2011	4	20 57	5	63	17.3%	0.88 [0.25, 3.13]	
Ucak 2011	4	20	11	20	40.0%	0.64 [0.31, 1.30]	— **
Subtotal (95% CI)	'	157	11	163	40.0% 88.2%	1.06 [0.66, 1.71]	
Total events	25	- • •	24				Ť
Heterogeneity: Chi ² = 3		(P = 0		16%			
Test for overall effect: Z		•					
T	-				400 001	4 40 20 W4 4 PP	
Total (95% CI)		733	-	ଚ୍ଚଣ୍ଡ	100.0%	1.12 [0.71, 1.77]	—
	32		27				
Total events Heterogeneity: Chi² = 4		(D C	401 12	<u>~~/</u>			

Appendix 11: TSA of SAEs in the thoracic surgery subgroup, all trials



RRR 50% Power80% CHP 7.35 is a Two-sided graph

Appendix 12: Forest plot of VAS 6 hours at rest, all trials

		entin		Con				Mean Difference	Mean Difference
	an [VAS] S	SD [VAS]	Total	Mean [VAS] 5	SD [VAS]	Total	Weight	IV, Random, 95% CI [VAS	I IV, Random, 95% CI [VAS]
1.1 Cholecystectomy									
loseini 2015	16.4	10.2	22	30.9	10.1	22	2.8%	-14.50 [-20.50, -8.50]	wardings.
Aishra 2016	30.7	4.4	30	31	2.1	30	3.0%	-0.30 [-2.04, 1.44]	1
Srivastava 2010	23	3.17	60	49	3.33	60	3.0%	-26.00 [-27.16, -24.84]	*
Subtotal (95% Cl)			112			112	8.7%	-13.60 [-33.36, 6.17]	
Heterogeneity: Tau ² = 301.6 Fest for overall effect: Z = 1.			2 (P <	0.00001); l ² = 10	ю%				
2.1.2 Hysterectomy									
Ajori 2011	40	30	69	63	28	69	2.5%	-23.00 [-32.68, -13.32]	
Badawy 2014	40	5	19	45	5	19	2.9%	-5.00 [-8.18, -1.82]	
Behdad 2012	38	9.6	30	66.2	13.7	31	2.8%	-28.20 [-34.12, -22.28]	
Dierking 2003	14.12	15.23	40	21.53	18.59	40	2.7%	-7.41 [-14.86, 0.04]	
Durmus 2007	45	51	25	52	61	25	0.9%	-7.00 [-38.17, 24.17]	
Fassoulaki 2005	17	28	25	20	31	28	1.9%	-3.00 [-18.88, 12.88]	
Fassoulaki 2006	25.7	16.1	27	26.8	19.6	24	2.4%	-1.10 [-11.02, 8.82]	<u> </u>
Frouzanfard 2013	35.6	15	25	65.6	18	25	2.5%	-30.00 [-39.18, -20.82]	
Ghafari 2009	42.5	3.5	33	58.1	4	33	3.0%	-15.60 [-17.41, -13.79]	-
Gilron 2004	29	4	23	39	3	24	3.0%	-10.00 [-12.03, -7.97]	
Khan 2013	36.17	13,4	34	52	10.51	35	2.8%	-15.83 [-21.52, -10.14]	
Ray 2015	56.16	14.24	30	77	12.9	30	2.7%	-20.84 [-27.72, -13.96]	
Sekhavet 2009	37.9	20.8	49	76.6	22.4	49	2.6%	-38.70 [-47.26, -30.14]	
Sen 2009a	28	24	20	41	47	20	1.4%	-13.00 [-36.13, 10.13]	
Turan 2003a	18	16	25	42	10	25	2.7%	-24.00 [-31.40, -16.60]	
Verma 2008	23	14	25	32	16	25	2.6%	-9.00 [-17.33, -0.67]	
Subtotal (95% CI)	20	1-4	499	04.	.0	502	39.2%	-16.43 [-20.62, -12.24]	•
Heterogeneity: Tau ² = 52.07	,			0.00001); l² = 89	9%	-		. ,	
Test for overall effect: Z = 7.	.69 (P < 0.00	0001)							
2.1.3 Mastectomy									
Dirks 2002	14	18	31	18	15	34	2.6%	-4.00 [-12.10, 4.10]	-+
Doha 2010	18	17	30	33	11	29	2.7%	-15.00 [-22.28, -7.72]	<u> </u>
Fassoulaki 2002	7	20	25	9	19	25	2.4%	-2.00 [-12.81, 8.81]	
Gosai 2015	36	5	30	52	8	30	2.9%	-16.00 [-19.38, -12.62]	
Grover 2009	10	8.15	27	10	8.15	23	2.9%	0.00 [-4.53, 4.53]	
Grover 2009 Kim 2004	10 27	8,15 22.2	27 21	10 29	8.15 17.6	23 20	2.9% 2.2%	0.00 [-4.53, 4.53] -2.00 [-14.23, 10.23]	
Kim 2004	27	22.2	21	29	17.6	20	2.2%	-2.00 [-14.23, 10.23]	
Kim 2004 Metry 2008	27 12.52 '; Chi² = 38.8	22.2 9.5 39, df = 6 (21 67 231	29 24.1	17.6 13	20 34	2.2% 2.8%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65]	-
Kim 2004 Wetry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery	27 12.52 ; Chi ² = 38.6 58 (P = 0.01	22.2 9.5 39, df = 6 (21 67 231 (P < 0.(29 24.1	17.6 13	20 34 195	2.2% 2.8%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87]	
Kim 2004 Metry 2008 Subtotal (95% Cl) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% Cl)	27 12.52 '; Chi² = 38.8 58 (P = 0.01	22.2 9.5 39, df = 6 (21 67 231	29 24.1	17.6 13	20 34	2.2% 2.8%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65]	
Kim 2004 Metry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% CI) Heterogeneity: Not applicabl	27 12.52 '; Chi ² = 38.6 58 (P = 0.0'	22.2 9.5 39, df = 6 (21 67 231 (P < 0.(29 24.1	17.6 13	20 34 195	2.2% 2.8%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87]	
Kim 2004 Metry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% CI) Heterogeneity: Not applicabl Test for overall effect: Not ap 2.1.5 Spinal surgery	27 12.52 ; Chi ² = 38.6 58 (P = 0.0 ie pplicable	22.2 9.5 39, df = 6 10)	21 67 231 (P < 0.0	29 24.1 00001); I ² = 85%	17.6 13	20 34 195 0	2.2% 2.8% 18.5%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87] Not estimable	
Kim 2004 Metry 2008 Subtotal (95% Cl) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (85% Cl) Heterogeneity: Not applicabl Test for overall effect: Not applicable 2.1.5 Spinal surgery Erten 2010	27 12.52 ; Chi ² = 38.6 58 (P = 0.0 lie pplicable 25.89	22.2 9.5 39, df = 6 10) 7.11	21 67 231 (P < 0.0 0 39	29 24.1 00001); I² = 85% 30.5	17.6 13 8.8	20 34 195 0	2.2% 2.8% 18.5% 2.9%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87] Not estimable -4.61 [-9.07, -0.15]	
Kim 2004 Metry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% CI) Heterogeneity: Not applicabl Test for overall effect: Not ap 2.1.5 Spinal surgery Erten 2010 Khan 2010	27 12.52 ; Chi ² = 38.6 58 (P = 0.0 ie pplicable 25.89 44.4	22.2 9.5 39, df = 6 10) 7.11 14.55	21 67 231 (P < 0.0 0 39 150	29 24.1 00001); I ² = 85% 30.5 68	17.6 13 8.8 11	20 34 195 0 20 25	2.2% 2.8% 18.5% 2.9% 2.8%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87] Not estimable -4.61 [-9.07, -0.15] -23.60 [-28.50, -18.70]	
Kim 2004 Metry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% CI) Heterogeneity: Not applicabl Test for overall effect: Not ap 2.1.5 Spinal surgery Erten 2010 Khan 2010 Panday 2004a	27 12.52 ; Chi ² = 38.6 58 (P = 0.0 ie pplicable 25.89 44.4 36.5	22.2 9.5 39, df = 6 10) 7.11 14.55 12.97	21 67 231 (P < 0.0 9 39 150 80	29 24.1 00001); I ² = 85% 30.5 68 61.5	17.6 13 8.8 11 13	20 34 195 0 20 25 20	2.2% 2.8% 18.5% 2.9% 2.8% 2.7%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87] Not estimable -4.61 [-9.07, -0.15] -23.60 [-28.50, -18.70] -25.00 [-31.37, -18.63]	
Kim 2004 Metry 2008 Subtotal (95% Cl) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% Cl) Heterogeneity: Not applicabl Test for overall effect: Not applicabl Test for overall effect: Not applicable 2.1.5 Spinal surgery Erten 2010 Khan 2010 Panday 2004a Radhakrishnan 2005	27 12.52 ; $Chi^2 = 38.6$; $Chi^2 = 36.6$; $Chi^2 = 36$	22.2 9.5 39, df = 6 10) 7.11 14.55 12.97 12.5	21 67 231 (P < 0.0 9 39 150 80 30	29 24.1 00001); I ² = 85% 30.5 68 61.5 10	17.6 13 8.8 11 13 12.5	20 34 195 0 20 25 20 30	2.2% 2.8% 18.5% 2.9% 2.8% 2.7% 2.7%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87] Not estimable -4.61 [-9.07, -0.15] -23.60 [-28.50, -18.70] -25.00 [-31.37, -18.63] 0.00 [-63.3, 6.33]	
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Kim 2004 Metry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% CI) Heterogeneity: Not applicabl Test for overall effect: Not ap 2.1.5 Spinal surgery Erten 2010 Khan 2010 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 100.3 Test for overall effect: Z = 2. 2.1.6 Thoracic surgery Grosen 2014 Hout 2007 Kinney 2011 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29.37	27 12.52 ; Ch ² = 38.6 58 (P = 0.0' le pplicable 25.89 44.4 36.5 10 13 61.1 24 26; Ch ² = 72 54 (P = 0.0' 6.84 0 27 29 29 29 29 29 35 29.9 ; Ch ² = 16.6	22.2 9.5 39, df = 6 10) 7.11 14.55 12.97 12.57 15 20.9 6.7 (.64, df = 6 1) 12.97 5.93 25.2 12 31 45.59 2 50, df = 6	21 67 234 (P < 0.0 0 39 150 80 30 39 36 (P < 0 30 39 30 39 57 29 30 252 23 57 29 30 225 20 236	29 24.1 00001); ² = 85% 30.5 68 61.5 10 24 56.8 33.3 .00001); ² = 929 13.95 0 28 42 30 61 50	17.6 13 8.8 11 13 12.5 18 24.4 10.9 % 17.94 3.7 26.2 21 48 45.69	20 34 195 0 20 20 20 20 30 25 20 30 25 52 28 868 31 30 25 52 28 28 28 28 28 28 28 28 28 28 28 28 28	2.2% 2.8% 18.5% 2.8% 2.7% 2.7% 2.7% 2.5% 2.4% 2.9% 19.0% 2.8% 2.5% 2.6% 1.2%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87] Not estimable -4.61 [-9.07, -0.15] -23.60 [-28.50, -18.70] -25.00 [-31.37, -18.63] 0.00 [-30.38, -4.72] -3.00 [-3.88, -4.72] -10.17 [-18.02, -2.32] -7.11 [-13.13, -1.09] 0.00 [-2.78, 2.78] -1.00 [-10.03, 8.03] -13.00 [-21.59, -4.41] -10.00 [-30.45, 10.45] -26.00 [-51.30, -0.70]	
Kim 2004 Metry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% CI) Heterogeneity: Not applicabl Test for overall effect: Not applicable Test for overall effect: Not applicable Test for overall effect: Not applicable Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 100.3 Test for overall effect: Z = 2. 2.1.6 Thoracic surgery Grosen 2014 Hout 2007 Kinney 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 20.37 Test for overall effect: Z = 2.	27 12.52 ; Ch ² = 38.6 58 (P = 0.0' le pplicable 25.89 44.4 36.5 10 13 61.1 24 26; Ch ² = 72 54 (P = 0.0' 6.84 0 27 29 29 29 29 29 35 29.9 ; Ch ² = 16.6	22.2 9.5 39, df = 6 10) 7.11 14.55 12.97 12.57 15 20.9 6.7 (.64, df = 6 1) 12.97 5.93 25.2 12 31 45.59 2 50, df = 6	21 67 234 (P < 0.0 39 150 30 30 30 30 52 23 36 57 29 30 25 23 30 25 23 30 25 23 30 25 23 30 25 20 23 6 (P < 0.0 23 57 29 29 20 10 20 57 20 11 20 20 10 20 20 20 20 20 20 20 20 20 20 20 20 20	29 24.1 00001); ² = 85% 30.5 68 61.5 10 24 56.8 33.3 .00001); ² = 929 13.95 0 28 42 30 61 50	17.6 13 8.8 11 13 12.5 18 24.4 10.9 % 17.94 3.7 26.2 21 48 45.69	20 34 195 20 25 20 25 20 25 40 30 398 52 28 68 31 30 255 20 254	2.2% 2.8% 18.5% 2.8% 2.7% 2.5% 2.4% 2.9% 2.9% 2.9% 2.9% 2.5% 2.6% 1.5% 1.2% 1.2% 1.4.6%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87] Not estimable -4.61 [-9.07, -0.15] -23.60 [-28.50, -18.70] -25.00 [-31.37, -18.63] 0.00 [-23.50, -18.70] -25.01 [-31.37, -18.63] 0.00 [-6.33, 6.33] -11.00 [-20.18, -1.82] 4.30 [-5.89, 14.49] -9.30 [-5.89, 14.49] 0.00 [-27.8, 2.78] -10.17 [-18.02, -2.32] -7.11 [-13.13, -1.09] 0.00 [-27.8, 2.78] -1.00 [-10.03, 8.03] -13.00 [-21.59, -4.41] -10.00 [-30.45, 10.45] -26.00 [-51.30, -0.70] -20.10 [-48.60, 8.40] -6.63 [-12.42, -0.84]	
Kim 2004 Metry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 49.77 Test for overall effect: Z = 2. 2.1.4 Orthopaedic surgery Subtotal (95% CI) Heterogeneity: Not applicabl Test for overall effect: Not ap 2.1.5 Spinal surgery Erten 2010 Khan 2010 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 100.3 Test for overall effect: Z = 2. 2.1.6 Thoracic surgery Grosen 2014 Hout 2007 Kinney 2011 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29.37	27 12.52 ; Ch ² = 38.6 58 (P = 0.0' le pplicable 25.89 44.4 36.5 10 13 61.1 24 26; Ch ² = 72 54 (P = 0.0' 6.84 0 27 29 20 35 29.9 ; Ch ² = 16.5 24 (P = 0.02)	22.2 9.5 39, df = 6 10) 7.11 14.55 12.97 12.5 20.9 6.7 .64, df = 6 1) 12.97 5.93 25.2 12 31 45.59 2 50, df = 6 2)	21 67 231 ($P < 0.0$ 39 150 80 390 25 36 30 390	29 24.1 00001); I ² = 85% 30.5 68 61.5 10 24 56.8 33.3 00001); I ² = 929 13.95 0 28 42 30 61 50 01); I ² = 64%	17.6 13 8.8 11 13 12.5 18 24.4 10.9 % 17.94 3.7 26.2 21 48 45.69 65	20 34 195 20 25 20 25 20 25 40 30 398 52 28 68 31 30 255 20 254	2.2% 2.8% 18.5% 2.9% 2.8% 2.7% 2.5% 2.4% 2.9% 19.0% 2.8% 2.9% 2.6% 1.5% 1.5% 1.1%	-2.00 [-14.23, 10.23] -11.58 [-16.51, -6.65] -7.80 [-13.73, -1.87] Not estimable -4.61 [-9.07, -0.15] -23.60 [-28.50, -18.70] -25.00 [-31.37, -18.63] 0.00 [-6.33, 6.33] -11.00 [-20.18, -1.82] 4.30 [-5.89, 14.49] -9.30 [-13.88, 4.72] -10.17 [-18.02, -2.32] -7.11 [-13.13, -1.09] 0.00 [-2.78, 2.78] -1.00 [-10.03, 8.03] -1.300 [-21.59, -4.41] -10.00 [-30.45, 10.45] -26.00 [-51.30, -0.70]	

Appendix 13: Forest plot of VAS 6 hours at mobilization, all trials

		pentin			ntrol			Mean Difference	Mean Difference
	Aean [VAS]	SD [VAS]	Total	Mean [VAS]	SD [VAS]	Total	Weight	IV, Random, 95% CI [VAS]	IV, Random, 95% CI [VAS]
2.2.1 Cholecystectomy									
Srivastava 2010 Subtotal (95% Ci)	59	3.33	60 60	70.5	3.5	60 60	22.5% 22.5%	-11.50 [-12.72, -10.28] -11.50 [-12.72, -10.28]	¥
Heterogeneity: Not applica	able								
Test for overall effect: Z =	18.44 (P < 0.0	00001)							
2.2.2 Hysterectomy									
Dierking 2003	42.53	25.9	40	51.09	28.27	40	5.1%	-8.56 [-20.44, 3.32]	
Durmus 2007	67	77	25	76	83	25	0.5%	-9.00 [-53.38, 35.38]	
Fassoulaki 2005	40	67	25	53	78	28	0.6%	-13.00 [-52.04, 26.04]	
Fassoulaki 2006	47.8	19.7	27	45.1	24.6	24	4.8%	2.70 [-9.63, 15.03]	
Sen 2009a	32	34	20	56	54	20	1.1%	-24.00 [-51.97, 3.97]	
Furan 2003a Subtotal (95% CI)	31.2	17	25 162	43	12	25 162	8.7% 20.7%	-11.80 [-19.96, -3.64] -8.47 [-14.18, -2.76]	•
-leterogeneity: Tau ² = 0.3	$6 \cdot Chi^2 = 5.03$	df = 5 (P	= 0.41	· i² = 1%					•
Test for overall effect: Z =									
2.2.3 Mastectomy									
Dirks 2002	19	21	31	31	23	34	6.0%	-12.00 [-22.70, -1.30]	
Fassoulaki 2002	21	35	25	29	52	25	1.4%	-8.00 [-32.57, 16.57]	
Grover 2009	30	14.81	27	30	7,41	23	11.5%	0.00 [-6.35, 6.35]	
Kim 2004	42	25.2	21	37	15.8	20	4.5%	5.00 [-7.81, 17.81]	
Vietry 2008	20.52	14,48	67	31.3	15	34	11.9%	-10.78 [-16.90, -4.66]	
Subtotal (95% CI)			171	0110	10	136	35.4%	-5.20 [-12.04, 1.65]	•
Test for overall effect: Z =			P = 0.04	1); I² = 59%					
Test for overall effect: Z = 2.2.4 Orthopaedic surge	1.49 (P = 0.14			1); I² = 59%		0		Not ostimable	
Test for overall effect: Z = 2.2.4 Orthopaedic surge Subtotal (95% CI)	1.49 (P = 0.14		P = 0.04	4); I² = 59%		0		Not estimable	
Test for overall effect: Z = 2.2.4 Orthopaedic surge	: 1.49 (P = 0.14 ry able			4); l² = 59%		0		Not estimable	
Test for overall effect: Z = 2.2.4 Orthopaedic surger Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery	: 1.49 (P = 0.14 able t applicable	4}	0						
Test for overall effect: Z = 2.2.4 Orthopaedic surges Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005	: 1.49 (P = 0.14 ry able		0 30	4); I² = 59% 30	20	30	7.7%	-10.00 [-18.95, -1.05]	
Test for overall effect: Z = 2.2.4 Orthopaedic surge Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI)	1.49 (P = 0.14 able t applicable 20	4}	0		20		7.7% 7.7%		
Test for overall effect: Z = 2.2.4 Orthopaedic surges Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005	1.49 (P = 0.14 rry able t applicable 20 able	4) 15	0 30		20	30		-10.00 [-18.95, -1.05]	•
Test for overall effect: Z = 2.2.4 Orthopsedic surges Subtotal (95% CI) Heterogeneity: Not applic Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica	1.49 (P = 0.14 rry able t applicable 20 able	4) 15	0 30		20	30		-10.00 [-18.95, -1.05]	•
Test for overall effect: Z = 2.2.4 Orthopæedic surges Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Z = 2.2.6 Thoracic surgery	1.49 (P = 0.14 rry able t applicable 20 able	4) 15	0 30		20 19.28	30		-10.00 [-18.95, -1.05]	•
Test for overall effect: Z = 2.2.4 Orthopsedic surges Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Z = 2.2.6 Thoracic surgery Grosen 2014	1.49 (P = 0.14 ry able t applicable 20 able : 2.19 (P = 0.03	4) 15 3)	0 30 30	30		30 30	7.7%	-10.00 [-18.95, -1.05] -10.00 [-18.95, -1.05]	
Fest for overall effect: Z = 2.2.4 Orthopsedic surges subtotal (95% CI) Heterogeneity: Not applica Fest for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica Fest for overall effect: Z = 2.2.6 Thoracic surgery Grosen 2014 Menda 2010	1.49 (P = 0.14 ry able t applicable 20 able : 2.19 (P = 0.03 12.42	4) 15 3) 18.55	0 30 30	30 21.29	19.28	30 30 52	7.7% 9.9%	-10.00 [-18.95, -1.05] -10.00 [-18.95, -1.05] -8.87 [-16.14, -1.60]	
Fest for overall effect: Z = 4.2.4 Orthopæedic surges Subtotal (95% CI) Heterogeneity: Not applice Fest for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applice Fest for overall effect: Z = 2.2.6 Thoracic surgery Grosen 2014 Menda 2010 Dmran 2006	1.49 (P = 0.14 ry able tapplicable 20 able 2.19 (P = 0.03 12.42 43.5	4) 15 3) 18.55 57	0 30 30 52 30	30 21.29 65	19.28 78	30 30 52 30	7.7% 9.9% 0.7%	-10.00 [-18.95, -1.05] -10.00 [-18.95, -1.05] -8.87 [-16.14, -1.60] -21.50 [-56.07, 13.07]	
Test for overall effect: Z = 2.2.4 Orthopsedic surges Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Z = 2.2.6 Thoracic surgery Grosen 2014 Venda 2010 Dmran 2006 Loak 2011	149 (P = 0.14 ry able 20 able 2.19 (P = 0.03 12.42 43.5 60	4) 15 3) 18.55 57 35.16	0 30 30 52 30 25	30 21.29 65 80	19.28 78 35.16	30 30 52 30 25	7.7% 9.9% 0.7% 2.2%	-10.00 [-18.95, -1.05] -10.00 [-18.95, -1.05] -8.87 [-16.14, -1.60] -21.50 [-56.07, 13.07] -20.00 [-39.49, -0.51]	
Test for overall effect: Z = 2.2.4 Orthopaedic surges Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Z =	 1.49 (P = 0.14) able 20 able 2.19 (P = 0.03) 12.42 43.5 60 39 0; Chi² = 1.60, 	4) 15 3) 18.55 57 35.16 20 , df = 3 (P	0 30 30 52 30 25 20 127	30 21.29 65 80 55	19.28 78 35.16	30 30 52 30 25 20	7.7% 9.9% 0.7% 2.2% 0.9%	-10.00 [-18.95, -1.05] -10.00 [-18.95, -1.05] -8.87 [-16.14, -1.60] -21.50 [-56.07, 13.07] -20.00 [-39.49, -0.51] -16.00 [-47.06, 15.06]	
Test for overall effect: Z = 2.2.4 Orthopsedic surges Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Z = 2.2.6 Thoracic surgery Grosen 2014 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 0.01 Test for overall effect: Z =	 1.49 (P = 0.14) able 20 able 2.19 (P = 0.03) 12.42 43.5 60 39 0; Chi² = 1.60, 	4) 15 3) 18.55 57 35.16 20 , df = 3 (P	0 30 30 52 30 25 20 127	30 21.29 65 80 55	19.28 78 35.16	30 30 52 30 25 20 127	7.7% 9.9% 0.7% 2.2% 0.9%	-10.00 [-18.95, -1.05] -10.00 [-18.95, -1.05] -8.87 [-16.14, -1.60] -21.50 [-56.07, 13.07] -20.00 [-39.49, -0.5] -16.00 [-47.06, 15.06] -10.89 [-17.42, -4.35]	
Test for overall effect: Z = 2.2.4. Orthopædic surget Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Z = 2.2.6 Thoracic surgery Grosen 2014 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 0.01 Test for overall effect: Z = Total (95% CI)	 1.49 (P = 0.14) able 20 able 20 able 2.19 (P = 0.03) 12.42 43.5 60 39 39 10; Chi² = 1.60, 3.27 (P = 0.00) 	4) 15 3) 18.55 57 35.16 20 . df = 3 (P D1)	0 30 30 25 20 127 = 0.66j 550	30 21.29 65 80 55 ; I ² = 0%	19.28 78 35.16	30 30 52 30 25 20 127	9.9% 0.7% 2.2% 0.9% 13.8%	-10.00 [-18.95, -1.05] -10.00 [-18.95, -1.05] -8.87 [-16.14, -1.60] -21.50 [-56.07, 13.07] -20.00 [-39.49, -0.51] -16.00 [-47.06, 15.06]	
Test for overall effect: Z = 2.2.4 Orthopsedic surges Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Not 2.2.5 Spinal surgery Radhakrishnan 2005 Subtotal (95% CI) Heterogeneity: Not applica Test for overall effect: Z = 2.2.6 Thoracic surgery Grosen 2014 Wenda 2010 Omran 2006 Joak 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 0.01 Test for overall effect: Z =	 1.49 (P = 0.14) able 20 able 20 able 2.19 (P = 0.03) 12.42 43.5 60 39 0): Chi² = 1.60, 3.27 (P = 0.04) 22; Chi² = 25.4 	4) 15 3) 18.55 57 35.16 20 0, df = 3 (P 01) 60, df = 16	0 30 30 25 20 127 = 0.66j 550	30 21.29 65 80 55 ; I ² = 0%	19.28 78 35.16	30 30 52 30 25 20 127	9.9% 0.7% 2.2% 0.9% 13.8%	-10.00 [-18.95, -1.05] -10.00 [-18.95, -1.05] -8.87 [-16.14, -1.60] -21.50 [-56.07, 13.07] -20.00 [-39.49, -0.5] -16.00 [-47.06, 15.06] -10.89 [-17.42, -4.35]	← ← ← ← ← ← ← ←

Appendix 14: Forest plot of VAS 24 hours at rest, all trials

Study or Subgroup Me		entin In Masi	Total *	Cont Lean IVASI S		Tatal	Walate	Mean Difference	Mean Difference
	au IAV2] 2	w VAS	I OTAL N	eequ [vAS] S	o [vAS]	1 oral	weight	IV, Random, 95% CI [VAS]	IV, Random, 95% Ci [VAS]
.3.1 Cholecystectomy				-					
Bekawi 2014	9.7	5.6	30	6	6.2	32	3.7%	3.70 [0.76, 6.64]	
vishra 2016	20.1	3.4	30	26	4.1	30	3.9%	-5.90 [-7.81, -3.99]	*
Srivastava 2010	21	3.25	60	28	3.33	60	4.0%	-7.00 [-8.18, -5.82]	*
Subtotal (95% CI)			120			122	11.6%	-3.24 [-8.37, 1.88]	•
Heterogeneity: Tau ² = 19.3 Test for overall effect: Z = 1			(P < 0.00	001); I ² = 95%					
2.3.2 Hysterectomy	,								
Ajori 2011	2	8	69	9	13	69	3.6%	-7.00 [-10.60, -3.40]	
Badawy 2014	20	2.5	19	25	2.5	19	3.9%	-5.00 [-6.59, -3.41]	
Behdad 2012	25.3	5	30	42.7	14.2	31	3.3%	-17.40 [-22.71, -12.09]	- I
Dierking 2003	13.64	19.19	40	15.21	18.93	40	2.6%	-1.57 [-9.92, 6.78]	
Durmus 2007	27	40	25	39	49	25	0.7%	-12.00 [-36.79, 12.79]	
Fassoulaki 2005	16	27	25	7	14	28	1.9%	9.00 [-2.79, 20.79]	<u>+</u>
Frouzanfard 2013	5.6	5.8	25	17.2	12.7	25	3.2%	-11.60 [-17.07, -6.13]	
Ghafari 2009	18,1	3	33	34.8	4	33	3.9%	-16.70 [-18.41, -14.99]	-
Gilron 2004	13.82	12.5	23	23.63	16.52	24	2.6%	-9.81 [-18.16, -1.46]	
Khan 2013	8.52	7.43	34	24.28	11.18	35	3.4%	-15.76 [-20.23, -11.29]	~_~
Ray 2015	37	12.56	30	54.66	15.5	30	2.8%	-17.66 [-24.80, -10.52]	
Sekhavet 2009	40.1	14.5	49	52.7	21.1	49	2.8%	-12.60 [-19.77, -5.43]	
Sen 2009a	2	5	20	16	28	20	1.8%	-14.00 [-26.47, -1.53]	
Turan 2003a	5	7	25	16	12	25	3.2%	-11.00 [-16.45, -5.55]	
Verma 2008	12	13	25	21	12	25	2.9%	-9.00 [-15.94, -2.06]	
Subtotal (95% CI)			472			478	42.5%	-10.54 [-14.18, -6.89]	•
Heterogeneity; Tau ² = 38.1 Test for overall effect: Z = 5			4 (P < 0.	00001); l² = 89	%				
2.3.3 Mastectomy									
•		10	25	7	**	25	2.99/	100 1 00 1 00 2	weight
Fassoulaki 2002	4	12	25		14		2.8%	-3.00 [-10.23, 4.23]	1
Kim 2004	23	19	21	20	10.3	20	2.3%	3.00 [-6.30, 12.30]	1
Metry 2008 Subtotal (95% CI) Heterogeneity: Tau ² = 0.00	18.49	14.94	67 113	23	13	34 79	3.2% 8.3%	-4.51 [-10.16, 1.14] -2.64 [-6.66, 1.37]	•
Test for overall effect: Z = 1	1.29 (P = 0.20))							
2.3.4 Orthopaedic surger									nu bere de la constante de la c
Clarke 2009a	36.53	25.97	29	51	21.8	7	1.0%	-14.47 [-33.18, 4.24]	
Clarke 2009b	13	3.97	76	14	4	39	3.9%	-1.00 [-2.54, 0.54]	1
Paul 2015	24.5	16.1	48	23.6	20.8	54	2.8%	0.90 [-6.28, 8.08]	
Subtotal (95% Ci)			153			100	7.8%	-1.04 [-3.73, 1.66]	•
Heterogeneity: Tau ² = 1.59 Test for overall effect: Z = (= 0.32); I	² = 11%					
2.3.5 Spinal surgery									i ar war waar ber
	9.22	8.04	30	12	97	20	3 3%	-3 78 [
2.3.5 Spinal surgery Erten 2010 Leung 2006	9.22	8.04	39	13 50	9.7	20	3.3%	-3.78 [-8.72, 1.16]	
Erten 2010 Leung 2006	60	20	9	50	20	12	1.2%	10.00 [-7.29, 27.29]	
Erten 2010 Leung 2006 Panday 2004a	60 25.73	20 15.07	9 80	50 45	20 14	12 20	1.2% 2.9%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b	60 25.73 7	20 15.07 8	9 80 25	50 45 11	20 14 14	12 20 25	1.2% 2.9% 3.0%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011	60 25.73 7 25.8	20 15.07 8 19.5	9 80 25 36	50 45 11 34	20 14 14 27.2	12 20 25 40	1.2% 2.9% 3.0% 2.1%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011 Özgencil 2011	60 25.73 7	20 15.07 8	9 80 25 36 30	50 45 11	20 14 14	12 20 25 40 30	1.2% 2.9% 3.0% 2.1% 3.7%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011 Özgencil 2011 Subtotal (95% CI)	60 25.73 7 25.8 11	20 15.07 8 19.5 4.8	9 80 25 36 30 219	50 45 11 34 15	20 14 14 27.2	12 20 25 40	1.2% 2.9% 3.0% 2.1%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011 Özgencil 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29.1	60 25.73 7 25.8 11 1; Chi ² = 19.8	20 15.07 8 19.5 4.8 84, df = 5 (9 80 25 36 30 219	50 45 11 34 15	20 14 14 27.2	12 20 25 40 30	1.2% 2.9% 3.0% 2.1% 3.7%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75]	
Erlen 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011 Özgencil 2011 Subkotal (95% Cl) Heterogeneity: Tau ² = 29.1 Test for overall effect: Z = 2 2.3.6 Thoracic surgery	60 25.73 7 25.8 11 1; Chi² = 19.8 2.29 (P ≠ 0.0)	20 15.07 8 19.5 4.8 84, df = 5 (2)	9 80 25 36 30 219 (P = 0.00	50 45 11 34 15 1); I ² = 75%	20 14 14 27.2 7.7	12 20 25 40 30 147	1.2% 2.9% 3.0% 2.1% 3.7% 16.2%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89]	
Erten 2010 eung 2006 Panday 2004a Uran 2003b Vahedi 2011 Szegencil 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29.1 Fest for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014	60 25.73 7 25.8 11 1; Chi ² = 19.8 2.29 (P = 0.02 6.58	20 15.07 8 19.5 4.8 84, df = 5 (2) 13.61	9 80 25 36 30 219 (P = 0.00	50 45 11 34 15 1); I ² = 75% 12.43	20 14 14 27.2 7.7	12 20 25 40 30 147	1.2% 2.9% 3.0% 2.1% 3.7% 16.2%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89]	
Erten 2010 eung 2006 Panday 2004a Uran 2003b Vahedi 2011 Szegencil 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29.1 Fest for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014	60 25.73 7 25.8 11 1; Chi² = 19.8 2.29 (P ≠ 0.0)	20 15.07 8 19.5 4.8 84, df = 5 (2)	9 80 25 36 30 219 (P = 0.00	50 45 11 34 15 1); I ² = 75%	20 14 14 27.2 7.7	12 20 25 40 30 147	1.2% 2.9% 3.0% 2.1% 3.7% 16.2%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89]	
Erten 2010 eung 2006 Panday 2004a Iruran 2003b Vahedi 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29.1 Fest for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014 Hout 2007	60 25.73 7 25.8 11 1; Chi ² = 19.8 2.29 (P = 0.02 6.58	20 15.07 8 19.5 4.8 84, df = 5 (2) 13.61	9 80 25 36 30 219 (P = 0.00	50 45 11 34 15 1); I ² = 75% 12.43	20 14 14 27.2 7.7	12 20 25 40 30 147	1.2% 2.9% 3.0% 2.1% 3.7% 16.2%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89]	
Erten 2010 eung 2006 anday 2004a Turan 2003b Vahedi 2011 Dispercial 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29.1 Fest for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014 Jout 2007 Kinney 2011	60 25.73 7 25.8 11 1; Chi ² = 19.8 2.29 (P ≠ 0.0) 6.58 5	20 15.07 8 19.5 4.8 84, df = 5 (2) 13.61 59.3	9 80 25 36 30 219 (P = 0.00 52 23	50 45 11 34 15 1); I ² = 75% 12.43 0	20 14 14 27.2 7.7 16.4 14.8	12 20 25 40 30 147 52 28	1.2% 2.9% 3.0% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-19.85, 29.85] -2.00 [-8.52, 4.52]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011 Özgencil 2011 Subkotal (95% CI) Heterogeneity: Tau ² = 29.1 Test for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014 Hout 2007 Kinney 2011 Kosucu 2013	$\begin{array}{c} 60\\ 25.73\\ 7\\ 25.8\\ 11\\ 1; Chi^2 = 19.6\\ 2.29 \ (P = 0.0)\\ 6.58\\ 5\\ 29\\ 13\\ \end{array}$	20 15.07 8 19.5 4.8 84, df = 5 2) 13.61 59.3 18.2 8	9 80 25 36 30 219 (P = 0.00 52 23 57 29	50 45 11 34 15 1); I ² = 75% 12.43 0 31 32	20 14 14 27.2 7.7 16.4 14.8 18.9 11	12 20 25 40 30 147 52 28 68 31	1.2% 2.9% 3.0% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.4%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-19.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16]	
Erten 2010 .eung 2006 Panday 2004a Uran 2003b Vahedi 2011 Subtotal (95% Cl) Heterogeneity: Tau ² = 29.1 Fest for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014 Hout 2007 Kinney 2011 Kosucu 2013 Menda 2010	60 25.73 7 25.8 11 1; Chi ² = 19.6 2.29 (P = 0.02 6.58 5 29 13 23	20 15.07 8 19.5 4.8 84, df = 5 2) 13.61 59.3 18.2 8 35	9 80 25 36 30 219 (P = 0.00 52 23 57 29 30	50 45 11 34 15 1); i ² = 75% 12.43 0 31 32 38	20 14 14 27.2 7.7 16.4 14.8 18.9 11 60	12 20 25 40 30 147 52 28 68 31 30	1.2% 2.9% 3.0% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.4% 0.7%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-19.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16] -15.00 [-39.86, 9.86]	
Erten 2010 .eung 2006 2anday 2004a Turan 2003b Vahedi 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29,1 Fest for overall effect: Z = 2 2,3,6 Thoracic surgery Grosen 2014 Tout 2007 Kinney 2011 Kosucu 2013 Wenda 2010 Dmran 2006	60 25.73 7 25.8 11 1; Chi ² = 19.6 2.29 (P = 0.02 6.58 5 29 13 23 32	20 15.07 8 19.5 4.8 84, df = 5 2) 13.61 59.3 18.2 8 35 38.66	9 80 25 36 219 (P = 0.00 52 23 57 29 30 25	50 45 11 34 15 1); I ² = 75% 12.43 0 31 32 38 54	20 14 14 27.2 7.7 16.4 14.8 18.9 11 60 38.66	12 20 25 40 30 147 52 28 68 31 30 25	1.2% 2.9% 3.0% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.4% 0.7% 0.8%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-19.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16] -15.00 [-39.86, 9.86] -22.00 [-43.43, -0.57]	
Erten 2010 .eung 2006 Panday 2004a Ururan 2003b Vahedi 2011 Subkotal (95% CI) Heterogeneity: Tau ² = 29.1 Fest for overall effect: Z = 2 2.3.6 Thoracic surgery Brosen 2014 Hout 2007 Kinney 2011 Kosucu 2013 Venda 2010 Dmran 2006 Rapchuk 2010	$\begin{array}{c} 60\\ 25.73\\ 7\\ 25.8\\ 11\\ 1; \ Chi^2=19.6\\ 2.29\ (P=0.02\\ 6.58\\ 5\\ 29\\ 13\\ 23\\ 32\\ 18\\ \end{array}$	20 15.07 8 19.5 4.8 84, df = 5 2) 13.61 59.3 18.2 8 35 38.66 33	9 80 25 36 219 (P = 0.00 52 23 57 29 30 25 27	50 45 11 34 15 1); I ² = 75% 12.43 0 31 32 38 54 21	20 14 14 27.2 7.7 16.4 14.8 18.9 11 60 38.66 34	12 20 25 40 30 147 52 28 68 31 30 25 27	1.2% 2.9% 3.0% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.0% 3.4% 0.7% 0.8% 1.1%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-19.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16] -15.00 [-33.86, 9.86] -2.00 [-43.43, -0.57] -3.00 [-20.87, 14.87]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011 Subtotal (95% Cl) Heterogeneity: Tau ² = 29.1 Test for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014 Holut 2007 Kinney 2011 Kosucu 2013 Menda 2010 Ornran 2006 Rapchuk 2010 Ucak 2011	60 25.73 7 25.8 11 1; Chi ² = 19.6 2.29 (P = 0.02 6.58 5 29 13 23 32	20 15.07 8 19.5 4.8 84, df = 5 2) 13.61 59.3 18.2 8 35 38.66	9 80 25 36 30 219 (P = 0.00 52 23 57 29 30 25 27 20	50 45 11 34 15 1); I ² = 75% 12.43 0 31 32 38 54	20 14 14 27.2 7.7 16.4 14.8 18.9 11 60 38.66	12 20 25 40 30 147 52 28 68 31 30 25 27 20	1.2% 2.9% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.4% 0.7% 0.8% 1.1% 0.9%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-4.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16] -15.00 [-39.86, 9.86] -22.00 [-43.43, -0.57] -3.00 [-20.87, 14.87] -18.00 [-39.04, 3.04]	
Erten 2010 .eung 2006 Panday 2004a Turan 2003b Vahedi 2011 Subtotal (95% Cl) Heterogeneity: Tau ² = 29,1 Test for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014 Hout 2007 Kinney 2011 Kosucu 2013 Menda 2010 Omran 2006 Rapchuk 2010 Loak 2011 Subtotal (95% Cl)	60 25.73 7 25.8 11 1; Ch ² = 19.4 2.29 (P = 0.02 6.58 5 29 13 23 23 32 18 12	20 15.07 8 19.5 4.8 64, df = 5 2) 13.61 59.3 18.2 8 36 38.66 33 0.1	9 80 25 36 30 219 (P = 0.00 52 23 57 29 30 25 27 20 263	50 45 11 34 15 1); I ² = 75% 12.43 0 31 32 38 54 21 30	20 14 14 27.2 7.7 16.4 14.8 18.9 11 60 38.66 34	12 20 25 40 30 147 52 28 68 31 30 25 27	1.2% 2.9% 3.0% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.0% 3.4% 0.7% 0.8% 1.1%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-19.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16] -15.00 [-33.86, 9.86] -2.00 [-43.43, -0.57] -3.00 [-20.87, 14.87]	
Erten 2010 .eung 2006 Panday 2004a Uruan 2003b Vahedi 2011 Dzgencil 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 29.1 Fest for overall effect: Z = 2 2.3.6 Thoracic surgery Brosen 2014 Hout 2007 Kinney 2011 Kosucu 2013 Wenda 2010 Drntan 2006 Rapchuk 2010 Joak 2011 Subtotal (95% CI) Heterogeneity: Tau ² = 60.6	60 25.73 7 25.8 11 1; Chi ^p = 19.4 2.29 (P ≠ 0.02 6.58 5 29 13 23 32 18 12 3; Chi ^p = 24.3	20 15.07 8 19.5 4.8 84, df = 5 2) 13.61 59.3 18.2 8 35 38.66 33 0.1 70, df = 7	9 80 25 36 30 219 (P = 0.00 52 23 57 29 30 25 27 20 263	50 45 11 34 15 1); I ² = 75% 12.43 0 31 32 38 54 21 30	20 14 14 27.2 7.7 16.4 14.8 18.9 11 60 38.66 34	12 20 25 40 30 147 52 28 68 31 30 25 27 20	1.2% 2.9% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.4% 0.7% 0.8% 1.1% 0.9%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-4.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16] -15.00 [-39.86, 9.86] -22.00 [-43.43, -0.57] -3.00 [-20.87, 14.87] -18.00 [-39.04, 3.04]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011 Özgencii 2011 Subtotal (95% Cl) Heterogeneity: Tau ² = 29.1 Test for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014 Hout 2007 Kinney 2011 Kosucu 2013 Menda 2010 Omran 2006 Rapchuk 2010 Ucak 2011 Subtotal (95% Cl) Heterogeneity: Tau ² = 60.6 Test for overall effect: Z = 2	60 25.73 7 25.8 11 1; Chi ^p = 19.4 2.29 (P ≠ 0.02 6.58 5 29 13 23 32 18 12 3; Chi ^p = 24.3	20 15.07 8 19.5 4.8 84, df = 5 2) 13.61 59.3 18.2 38.66 33 0.1 70, df = 7 10)	9 80 25 36 30 219 (P = 0.00 52 23 57 29 30 25 27 20 263 (P = 0.00	50 45 11 34 15 1); I ² = 75% 12.43 0 31 32 38 54 21 30	20 14 14 27.2 7.7 16.4 14.8 18.9 11 60 38.66 34	12 20 25 40 147 52 28 68 31 30 25 27 20 281	1.2% 2.9% 3.0% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.4% 0.7% 0.8% 1.1% 0.9% 13.6%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, .32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-19.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16] -15.00 [-39.86, 9.86] -22.00 [-43.43, -0.57] -3.00 [-20.87, 14.87] -18.00 [-39.04, 3.04] -9.74 [-17.12, -2.36]	
Erten 2010 Leung 2006 Panday 2004a Turan 2003b Vahedi 2011 Özgencil 2011 Subtotal (95% Cl) Heterogeneity: Tau ² = 29.1 Test for overall effect: Z = 2 2.3.6 Thoracic surgery Grosen 2014 Hout 2007 Kinney 2011 Kosucu 2013 Menda 2010 Drntan 2006 Rapchuk 2010 Leak 2011 Subtotal (95% Cl) Heterogeneity: Tau ² = 60.6	$\begin{array}{c} 60\\ 25.73\\ 7\\ 25.8\\ 11\\ 1; Chi^{2}=19.4\\ 2.29 \ (P=0.02\\ 6.58\\ 5\\ 29\\ 13\\ 23\\ 32\\ 18\\ 12\\ 3; Chi^{2}=24.3\\ .59 \ (P=0.02\\ 12\\ .59 \ (P=0.02\\ .59 \ (P=0.02\\ 12\\ .59 \ (P=0.02\\ 12$	20 15.07 8 19.5 4.8 64, df = 5 2) 13.61 59.3 18.2 8 35 38.66 33 .0.1 70, df = 7 10)	9 80 25 36 30 219 (P = 0.00 52 23 57 29 30 25 27 20 263 (P = 0.00 1340	50 45 11 34 15 1); I ² = 75% 12.43 0 31 32 38 54 21 30 09); I ² = 72%	20 14 14 27.2 7.7 16.4 14.8 18.9 11 60 38.66 34 48	12 20 25 40 147 52 28 68 31 30 25 27 20 281	1.2% 2.9% 2.1% 3.7% 16.2% 3.1% 0.7% 3.0% 3.4% 0.7% 0.8% 1.1% 0.9%	10.00 [-7.29, 27.29] -19.27 [-26.24, -12.30] -4.00 [-10.32, 2.32] -8.20 [-18.77, 2.37] -4.00 [-7.25, -0.75] -6.22 [-11.55, -0.89] -5.85 [-11.64, -0.06] 5.00 [-19.85, 29.85] -2.00 [-8.52, 4.52] -19.00 [-23.84, -14.16] -15.00 [-39.86, 9.86] -22.00 [-43.43, -0.57] -3.00 [-20.87, 14.87] -18.00 [-39.04, 3.04]	

Test for subgroup differences: Chi² = 20.30, df = 5 (P = 0.001), l² = 75.4\%

Appendix 15: Forest plot of VAS 24 hours at mobilization, all trials

		pentin			strol _			Mean Difference	Mean Difference
	in [VAB]	SD [VAS]	Total N	ean [VA5]	SD [VAS]	Total	Weight	IV, Random, 95% CI [VA8]	IV, Raridom, 95% CI [VAS]
2.8.1 Cholecystectomy		1.1.1					1.112		
Srivaslava 2010 Subtotal (95% Cl)	30	2.5	60 60	46	2.5	60 60	8.5%	-16.00 [-16.89, -15.11] -16.00 [-16.89, -15.11]	1
Heterogeneity: Not applicabl	le l								
Test for overall effect: Z = 35	5.05 (P < 0	00001							
2.8.2 Hysterectomy									
Dierking 2003	37.46	27.03	40	34.12	20.96	-40	7.5%	3.36 [-7.24, 13.96]	
Durmus 2007	51	68	25	68	79	- 25	2.7%	-17.00 [-57.86, 23.86]	
Fassoulaki 2005	-41	- 69	25	40.5	68	28	3.1%	0.50 [-36.46, 37.46]	· · · · · · · · · · · · · · · · · · ·
Sen 2009e	9	· . 4	20	- 29	30	20	7.0%	-20.00 [-33.266.74]	
Turan 2003a	15.4	7	25	16	. 7	25	18.4%	-0.60 [-4.48, 3.28]	· · · · · · · · · · · · · · · · · · ·
Subtotal (95% CI)			135			138	28.6%	-4.54 [-13.54, 4.46]	
Heterogeneity: Tau ² = 47.96 Test for overall effect: Z = 0.			P = 0.06);	ls = 20%					
	· . · · .								
2.8.3 Mastectomy	4.20	1.1	12.2	1.11			1000		2000 C 2000 C 2000
Fassoulaki 2002	20	81	-25	.31	54	25	4.8%	-11.00 [-35.41, 13.41]	
Kim 2004	46	26.8	21	34	15	20	6.9%	12.00 [-1.44, 25.44]	
Motry 2008	23.99	12.46	-67	35	11	- 34	8.3%	-11.01 [-15.76, -6.26]	
Subtotal (95% CI)			113			79	20.0%	-3.08 [-19.80, 13.63]	
Heterogeneity: Tau ² = 164.1 Test for overall effect: Z = 0.			2 (P = 0.0	07); P = 80%					
2.8.4 Orthopaedic surgery									
Clarke 20006	36	3.97	76	29		39	8.5%	7.00 (5.48, 8.54)	-
Paul 2015	94.9	29.8	- 48	94.4	30.8	54	7.2%		
Subtotal (95% CI)	. 94.9	29.8	124	94.4	30.8	93	15.8%	0.50 [-11.27, 12.27] 6.48 [3.01, 9.94]	· •
Heterogeneity: Tau ² = 2.78:	Chille 1 1			1 = 4 964		177			· ·
Test for overall effect: Z = 3.			- 0.20), 1	- 1074					
2.8.5 Spinal surgery									
Subtotal (95% CI)			0			. 6		Not estimable	
Helerogeneity: Not applicabl Test for overall effect. Not ap									
2.8.6 Thoracic surgery									
Grosen 2014	23.13	25.71	52	23.03	20.99	52	7.7%	0.10[-8.92.9.12]	
Hout 2007	30	74.1	23	15	59.3	26	3.0%	15.00 [-22.41, 52.41]	2
Menda 2010	51	61	30	64	63	30	3.8%	-3.00 [-34.38, 28.38]	
Omman 2006	54	38.55	25	75	38.66	25	5.4%	-22.00 [-43.43, -0.57]	
Rapohuk 2010	45	65	27	45	63	27	3.4%	0.00 [-34.14, 34.14]	· · · · · · · · · · · · · · · · · · ·
Haponuk 2010 Ucak 2011	45	25	20	51	66	20	3.0%	-14.00 [-44.90, 16.93]	· · · ·
Bubtotal (95% CI)	. 47	- 40	177	- 91	- 60	182	27.1%	-14.00 [-44.93, 10.93] -2.96 [-10.40, 4.47]	· · · · · · · · · · · · · · · · · · ·
Heterogeneity: Tau ^x = 0.00;	CHERK & P	E (# + 5 /P		1 ± 1954 - 1		1000		Construction and a second second (· ·] ·
Test for overall effect Z = 0.			- 0.45(1)	- 078					
Total (95% CI)			603			552	100.0%	-4.34 [-12.47, 3.78]	
Heterogeneity: Tau ² = 201.1	0: ChF = F	92.97. 41 -	16 (P < 0	000011 12 =	98%			i sa kata na sa	
Test for overall effect Z = 1.								-100	-50 0 50
								6	avours Gabapantin Favours Control -

Appendix 16: Forest plot nausea, all trials

	Gabapei		Contr			Risk Ratio	Risk Ratio
	Events	10181	Events	I otai	Weight	M-H, Fixed, 95% C	M-H, Fixed, 95% Cl
2.5.1 Cholecystectomy		~~			0 00/		
Fakmaz 2007 Subtotal (95% CI)	9	30 30	9	15 15	3.5% 3.5%	0.50 [0.25, 0.99] 0.50 [0.25, 0.99]	
	•	20	~	10	0.076	0.00 [0.80, 0.95]	
Total events	9		9				
Heterogeneity: Not appli Test for overall effect: Z		- 0.05)					
Test for Overall eneol. 2.	~ 1.90 (m	~ 0.05)					
2.5.2 Hysterectomy							
Ajori 2011	8	69	19	69	5.6%	0.42 [0.20, 0.90]	
Behdad 2012	5	30	5	31	1.4%	1.03 [0.33, 3.21]	
Dierking 2003	12	39	11	32	3.5%	0.90 [0.46, 1.75]	
-	7					• • •	
Durmus 2007 Fassoulaki 2006		25	9	25	2.6%	0.78 [0.34, 1.76]	
Fassoulaki 2006 Ghafari 2009	1	27	5	24	1.6%	0.18 [0.02, 1.42]	-
	5	33	7	33	2.1%	0.71 [0.25, 2.02]	
Gilron 2004	4	20	12	22	3.4%	0.37 [0.14, 0.95]	
Sekhavet 2009	32	49	37	49	10.9%	0.86 [0.67, 1.12]	
Sen 2009a	9	20	8	20	2.3%	1.13 [0.55, 2.32]	
Turan 2003a	5	25	7	25	2.1%	0.71 [0.26, 1.95]	
Turan 2006	6	25	2	25	0.6%	3.00 [0.67, 13.46]	
Verma 2008	5	25	4	25	1.2%	1.25 [0.38, 4.12]	
Subtotal (95% CI)		387		380	37.2%	0.77 [0.63, 0.95]	▼
Total events	99		126				
Heterogeneity: Chi ² = 12			∪.31); l² =	- 14%			
Test for overall effect: Z	= 2.43 (P	= 0.01)					
9 6 9 35mata							
2.5.3 Mastectomy	_						
Doha 2010	2	30	4	29	1.2%	0.48 [0.10, 2.44]	······
Grover 2009	12	15	6	21	1.5%	2.80 [1.36, 5.76]	
Kim 2004	8	21	8	20	2.4%	0.95 [0.44, 2.05]	
Subtotal (95% CI)		66		70	5.1%	1.38 [0.85, 2.23]	
Total events	22		18				
Heterogeneity: Chi ² = 6.2)4); l² = 6	8%			
Test for overall effect: Z	= 1.30 (P	= 0.19)					
2.5.4 Orthopaedic surg							
Clarke 2009b	24	76	14	38	5.5%	0.86 [0.50, 1.46]	
Clarke 2014	26	88	26	77	8.1%	0.88 [0.56, 1.37]	
Paul 2013	33	52	40	49	12.1%	0.78 [0.61, 0.99]	-*-
Paul 2015	0	0	0	0		Not estimable	
Subtotal (95% CI)		216		164	25.7%	0.83 [0.66, 1.03]	•
Total events	83		80				
Heterogeneity: Chi ² = 0.3			86); i² = 0	%			
Test for overall effect: Z	= 1.73 (P	= 0.08)					
2.5.5 Spinal surgery							
Erten 2010		39				hist satisfies also	
	0		0	20		Not estimable	
Khan 2010	12	150	0 2	20 25	1.0%	1.00 [0.24, 4.20]	
					1.0% 0.1%		,
Khan 2010	12	150	2	25		1.00 [0.24, 4.20]	
Khan 2010 Khurana 2013	12 2	150 30	2 0	25 30	0.1%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95]	,,,,,,
Khan 2010 Khurana 2013 Panday 2004a	12 2 4	150 30 80	2 0 1	25 30 20	0.1% 0.5%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c	12 2 4 5	150 30 80 28	2 0 1 4	25 30 20 28	0.1% 0.5% 1.2%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011	12 2 4 5 6	150 30 80 28 30 25 30	2 0 1 4 6	25 30 20 28 30 25 30	0.1% 0.5% 1.2% 1.8%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b	12 2 4 5 6 5	150 30 80 28 30 25	2 0 1 4 6 7	25 30 20 28 30 25	0.1% 0.5% 1.2% 1.8% 2.1%	1.00 [0.24, 4.20] 5.00 [0.26, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011	12 2 4 5 6 5	150 30 80 28 30 25 30	2 0 1 4 6 7	25 30 20 28 30 25 30	0.1% 0.5% 1.2% 1.8% 2.1% 2.1%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI)	12 2 4 5 6 5 8 42	150 30 28 30 25 30 412	2 0 1 4 6 7 7 27	25 30 20 28 30 25 30 208	0.1% 0.5% 1.2% 1.8% 2.1% 2.1%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencii 2011 Subtotai (95% Cl) Total events	12 2 4 5 6 5 8 42 75, df = 6	150 30 28 30 25 30 412 (P = 0.9	2 0 1 4 6 7 7 27	25 30 20 28 30 25 30 208	0.1% 0.5% 1.2% 1.8% 2.1% 2.1%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 1.1 Test for overall effect: Z	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P	150 30 28 30 25 30 412 (P = 0.9	2 0 1 4 6 7 7 27	25 30 20 28 30 25 30 208	0.1% 0.5% 1.2% 1.8% 2.1% 2.1%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Ch ² = 1.7	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P	150 30 28 30 25 30 412 (P = 0.9	2 0 1 4 6 7 7 27	25 30 20 28 30 25 30 208	0.1% 0.5% 1.2% 1.8% 2.1% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 1.1 Test for overall effect: Z	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P	150 30 28 30 25 30 412 (P = 0.9	2 0 1 4 6 7 7 27	25 30 20 28 30 25 30 208	0.1% 0.5% 1.2% 1.8% 2.1% 2.1%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 1. ² Test for overall effect: Z 2.5.6 Thoracic surgery	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P	150 30 80 28 30 412 (P = 0.9 = 0.78)	2 0 1 4 6 7 7 7 27 27 94); I ^z = 0	25 30 20 28 30 25 30 208	0.1% 0.5% 1.2% 1.8% 2.1% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.26, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencii 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 1.1 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25	150 30 80 28 30 412 (P = 0.9 = 0.78) 52	2 0 1 4 6 7 7 27 27 94); I ² = 0 37	25 30 20 28 30 25 30 208	0.1% 0.5% 1.2% 1.8% 2.1% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.26, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 1.1 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25 2	150 30 80 28 30 25 30 412 (P = 0.9 = 0.78) 52 29	2 0 1 4 6 7 7 27 27 94); I ² = 0 37 4	25 30 20 28 30 208 % 52 31	0.1% 0.5% 1.2% 1.8% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 846] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 1.7 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25 2 9	150 30 80 28 30 25 30 412 (P = 0.9 = 0.78) 52 29 30	2 0 1 4 6 7 7 27 27 94); I ^z = 0 37 4 18	25 30 20 28 30 25 30 208 % 52 31 30	0.1% 0.5% 1.2% 1.8% 2.1% 8.7% 10.9% 1.1% 5.3%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 1.7 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006	12 2 4 5 6 5 8 42 75, df = 6 5 8 75, df = 6 2 25 2 9 5	150 30 80 28 30 412 (P = 0.9 52 29 30 50	2 0 1 4 6 7 7 27 27 94); I ² = 0 37 4 18 7	25 30 20 28 30 25 30 208 % 52 31 30 50	0.1% 0.5% 1.2% 1.8% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.26, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93] 0.71 [0.24, 2.10]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 1.7 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI)	12 2 4 5 6 5 8 42 75, df = 6 5 8 75, df = 6 2 25 2 9 5	150 30 80 28 30 25 30 412 (P = 0.9 = 0.78) 52 29 30 50 20	2 0 1 4 6 7 7 27 27 94); I ² = 0 37 4 18 7	25 30 28 30 25 30 208 % 52 31 30 50 20	0.1% 0.5% 1.2% 2.1% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93] 0.71 [0.24, 2.10] 2.00 [0.41, 9.71]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 1.: Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Jurcak 2011 Subtotal (95% CI) Total events	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25 2 9 5 4 4 5	150 30 80 28 30 412 (P = 0.5 29 30 50 20 181	2 0 1 4 6 7 7 27 27 94); I ² = 0 37 4 18 7 2 88 7 2 68	25 30 20 28 30 208 % 52 31 30 50 50 20 183	0.1% 0.5% 1.2% 2.1% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93] 0.71 [0.24, 2.10] 2.00 [0.41, 9.71]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 1.7 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 2.7	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25 2 9 5 4 45 77, df = 4	150 30 80 28 30 412 (P = 0.5 29 30 50 20 181 (P = 0.6	2 0 1 4 6 7 7 27 27 94); I ² = 0 37 4 18 7 2 8 80); I ² = 0	25 30 20 28 30 208 % 52 31 30 50 50 20 183	0.1% 0.5% 1.2% 2.1% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93] 0.71 [0.24, 2.10] 2.00 [0.41, 9.71]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 1.: Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Jurcak 2011 Subtotal (95% CI) Total events	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25 2 9 5 4 45 77, df = 4	150 30 80 28 30 412 (P = 0.5 29 30 50 20 181 (P = 0.6	2 0 1 4 6 7 7 27 27 94); I ² = 0 37 4 18 7 2 8 80); I ² = 0	25 30 20 28 30 208 % 52 31 30 50 50 20 183	0.1% 0.5% 1.2% 2.1% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93] 0.71 [0.24, 2.10] 2.00 [0.41, 9.71]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 1.7 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% Cl) Total events Heterogeneity: Chi ² = 2.7	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25 2 9 5 4 45 77, df = 4	150 30 80 28 30 412 (P = 0.5 29 30 50 20 181 (P = 0.6	2 0 1 4 6 7 7 27 27 94); I ² = 0 37 4 18 7 2 8 80); I ² = 0	25 30 20 28 30 25 30 208 % %	0.1% 0.5% 1.2% 2.1% 2.1% 8.7%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93] 0.71 [0.24, 2.10] 2.00 [0.41, 9.71]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 1.1 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2.1 Test for overall effect: Z Total (95% CI)	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25 2 9 5 4 45 77, df = 4 = 2.83 (P	150 30 80 25 30 412 (P = 0.5 29 30 52 29 30 20 181 (P = 0.6 = 0.005	$2 \\ 0 \\ 1 \\ 4 \\ 6 \\ 7 \\ 7 \\ 27 \\ 27 \\ 4 \\ 18 \\ 7 \\ 2 \\ 68 \\ 60); ^{2} = 0$	25 30 20 28 30 25 30 208 %	0.1% 0.5% 1.2% 2.1% 2.1% 8.7% 10.9% 1.1% 5.3% 2.1% 0.6% 0.9%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93] 0.71 [0.24, 2.10] 2.00 [0.41, 9.71] 0.66 [0.50, 0.88]	
Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 1.7 Test for overall effect: Z 2.5.6 Thoracic surgery Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2.7 Test for overall effect: Z	12 2 4 5 6 5 8 42 75, df = 6 = 0.28 (P 25 2 9 5 4 45 77, df = 4 = 2.83 (P 300	150 30 80 22 30 25 30 412 (P = 0.6 52 29 30 50 20 181 (P = 0.05 1292	2 0 1 4 6 7 7 27 94); I ² = 0 37 4 18 7 2 68 60); I ² = 0 ;) 328	25 30 20 28 30 25 30 208 % 52 31 30 50 208 % 4020	0.1% 0.5% 1.2% 2.1% 2.1% 8.7% 10.9% 1.1% 5.3% 2.1% 0.6% 0.9%	1.00 [0.24, 4.20] 5.00 [0.25, 99.95] 1.00 [0.12, 8.46] 1.25 [0.37, 4.17] 1.00 [0.36, 2.75] 0.71 [0.26, 1.95] 1.14 [0.47, 2.75] 1.07 [0.68, 1.68] 0.68 [0.49, 0.94] 0.53 [0.11, 2.70] 0.50 [0.27, 0.93] 0.71 [0.24, 2.10] 2.00 [0.41, 9.71] 0.66 [0.50, 0.88]	

Appendix 17: Forest plot vomiting, all trials

Study or Subgroup	Gabapei		Contr		*** * * * *	Risk Ratio	Risk Ratio
		Total	Events	Total	Weight	M-H, Fixed, 95% C	M-H, Fixed, 95% Cl
2.6.1 Cholecystectom	ıy						
Takmaz 2007	7	30	7	15	4.3%	0.50 [0.21, 1.16]	
Subtotal (95% CI)		30		15	4.3%	0.50 [0.21, 1.16]	
Total events	7		7				
Heterogeneity: Not app	licable						
Test for overall effect:		= 0.11)				
	`						
2.6.2 Hysterectomy							
Ajori 2011	5	69	16	69	7.4%	0.31 [0.12, 0.81]	
Behdad 2012	5	30	7	31	3.2%	0.74 [0.26, 2.07]	
	18	39	15				
Dierking 2003				32	7.6%	0.98 [0.60, 1.62]	
Durmus 2007	3	25	6	25	2.8%	0.50 [0.14, 1.78]	
Ghafari 2009	4	33	9	33	4.2%	0.44 [0.15, 1.30]	
Sekhavet 2009	18	49	19	49	8.8%	0.95 [0.57, 1.58]	
Sen 2009a	8	20	8	20	3.7%	1.00 [0.47, 2.14]	
Turan 2003a	6	25	9	25	4.2%	0.67 [0.28, 1.59]	
Turan 2006	12	25	18	25	8.3%	0.67 [0.41, 1.07]	
Verma 2008	3	25	4	25	1.9%	0.75 [0.19, 3.01]	
Subtotal (95% CI)		340		334	52.0%	0.71 [0.57, 0.90]	♦
Total events	82		111				•
Heterogeneity: Chi ² = 7		/¤ ~ ∩		0/_			
Test for overall effect: 2	•	2		/0			
reation overall enect?	c 2.04 (P	- 0.003	.,				
2.6.3 Mastectomy							
<i>F</i>	-				4 004	0.07 10.02 1	
Bharti 2012	6	40	9	40	4.2%	0.67 [0.26, 1.70]	
Doha 2010	3	30	5	29	2.4%	0.58 [0.15, 2.21]	
Grover 2009	7	25	7	21	3.5%	0.84 [0.35, 2.01]	
Kim 2004	4	21	2	20	0.9%	1.90 [0.39, 9.28]	
Metry 2008	2	77	1	34	0.6%	0.88 [0.08, 9.41]	
Subtotal (95% CI)		193		144	11.6%	0.81 [0.48, 1.37]	◆
Total events	22		24				
Heterogeneity: Chi ² = 1		$(\mathbf{P} = 0)$		0/2			
				/0			
Test for overall effect: 2	<i>c ~ 0.17</i> (i	- 0.44					
	,	- 0.44,	1				
2.6.4 Orthopaedic su	rgery						
2.6.4 Orthopaedic su Clarke 2009b	,	76	7	38	4.3%	0.64 [0.26, 1.59]	
2.6.4 Orthopaedic su	rgery 9		7	38 38	4.3% 4.3%	0.64 [0.26, 1.59] 0.64 [0.26, 1.59]	
2.6.4 Orthopaedic su Clarke 2009b	rgery	76					
2.6.4 Orthopaedic su Clarke 2009b Subtotal (95% CI)	rgery 9 9	76	7				
2.6.4 Orthopaedic su Clarke 2009b Subtotal (95% CI) Total events	rgery 9 9 plicable	76 76	7 7				-
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app	rgery 9 9 plicable	76 76	7 7				
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app	rgery 9 9 plicable	76 76	7 7				
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect; ;	rgery 9 9 plicable	76 76	7 7	38		0.64 [0.26, 1.59]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010	rgery 9 9 blicable Z = 0.95 (P 8	76 76 = 0.34)	7 7	38 25	4.3% 0.8%	0.64 [0.26, 1.59]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013	rgery 9 plicable Z = 0.95 (P 8 1	76 76 = 0.34) 150 30	7 7 1 2	38 25 30	4.3% 0.8% 0.9%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a	rgery 9 9 0licable Z = 0.95 (P 8 1 7	76 76 = 0.34) 150 30 80	7 7 1 2 2	38 25 30 20	4.3% 0.8% 0.9% 1.5%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004c	rgery 9 9 0licable Z = 0.95 (P 8 1 7 3	76 76 = 0.34) 150 30 80 28	7 7 1 2 2 4	38 25 30 20 28	4.3% 0.8% 0.9% 1.5% 1.9%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 6.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005	rgery 9 5 5 5 5 5 7 8 1 7 3 2	76 76 = 0.34) 150 30 80 28 30	7 7 1 2 2 4 3	38 25 30 20 28 30	4.3% 0.8% 0.9% 1.5% 1.9% 1.4%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b	rgery 9 olicable Z = 0.95 (P 8 1 7 3 2 1	76 76 = 0.34) 150 30 80 28 30 25	7 7 1 2 2 4 3 6	38 25 30 20 28 30 25	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.8%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011	rgery 9 5 5 5 5 5 7 5 7 3 2	76 76 = 0.34) 150 30 80 28 30 25 50	7 7 1 2 2 4 3	38 25 30 20 28 30 25 50	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.8% 2.3%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI)	rgery 9 9 olicable Z = 0.95 (P 8 1 7 3 2 1 3	76 76 = 0.34) 150 30 80 28 30 25	7 7 1 2 2 4 3 6 5	38 25 30 20 28 30 25	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.8%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011	rgery 9 olicable Z = 0.95 (P 8 1 7 3 2 1	76 76 = 0.34) 150 30 80 28 30 25 50	7 7 1 2 2 4 3 6	38 25 30 20 28 30 25 50	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.8% 2.3%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI)	rgery 9 9 2 = 0.95 (P 8 1 7 3 2 1 3 2 1 3 2 5	76 76 = 0.34) 150 30 80 28 30 25 50 393	7 7 1 2 2 4 3 6 5 23	38 25 30 20 28 30 25 50 208	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.8% 2.3%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events	rgery 9 9 2 = 0.95 (P 2 = 0.95 (P 8 1 7 3 2 1 3 2 1 3 2 5 2.47, df = 6	76 76 = 0.34) 150 30 28 30 25 50 393 (P = 0.1	7 7 1 2 2 2 4 3 6 5 23 87); I ² = 0	38 25 30 20 28 30 25 50 208	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.8% 2.3%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38]	
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2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2	rgery 9 9 5licable Z = 0.95 (P 8 1 7 3 2 1 3 2 2 5 2.47, df = 6 Z = 1.60 (P	76 76 = 0.34) 150 30 28 30 25 50 393 (P = 0.1	7 7 1 2 2 2 4 3 6 5 23 87); I ² = 0	38 25 30 20 28 30 25 50 208	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.8% 2.3%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 7 Test for overall effect: 7	rgery 9 9 2 = 0.95 (P 8 1 7 3 2 1 3 2 2 5 2.47, df = 6 Z = 1.60 (P y	76 76 150 30 80 25 50 393 (P = 0.: 1)	7 7 1 2 2 4 3 6 5 2 3 87); I ² = 0	38 25 30 20 28 30 25 50 208 %	4.3% 0.8% 0.9% 1.5% 1.9% 2.8% 2.3% 11.5%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 Test for overall effect: 7 2.6.6 Thoracic surger Grosen 2014	rgery 9 9 2 = 0.95 (P 8 1 7 3 2 1 3 2 2 5 2.47, df = 6 Z = 1.60 (P y 23	76 76 150 30 80 25 50 393 (P = 0.11) 52	7 7 1 2 2 4 3 6 5 23 87); i ² = 0 22	38 25 30 20 28 30 25 50 208 %	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 Test for overall effect: 7 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013	rgery 9 9 0licable Z = 0.95 (P 8 1 7 3 2 2 5 2.47, df = 6 Z = 1.60 (P y 2 3 7	76 76 150 30 28 30 25 52 393 (P = 0.11) 52 29	7 7 1 2 2 4 3 6 5 2 3 87); I ² = 0 9 22 4	38 25 30 20 208 30 25 50 208 %	4.3% 0.8% 0.9% 1.5% 1.9% 2.8% 2.3% 11.5%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotai (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotai (95% CI) Total events Heterogeneity: Chi ² = 2 Test for overall effect: 7 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010	rgery 9 9 5licable Z = 0.95 (P 8 1 7 3 2 2 1 3 2 5 2.47, df = 6 Z = 1.60 (P y 2 3 7 0	76 76 150 30 28 30 25 50 393 (P = 0.11) 52 29 30	7 7 1 2 2 4 3 6 5 2 3 87); i ² = 0 22 22 4 0	38 25 30 20 28 30 25 50 208 % 50 208 %	4.3% 0.8% 0.9% 1.5% 1.4% 2.8% 2.3% 11.5%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 6.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 Test for overall effect: 7 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006	rgery 9 9 2 = 0.95 (P 8 1 7 3 2 2 5 2.47, df = 6 2 = 1.60 (P y 2 3 7 0 1	76 76 150 30 80 25 50 393 (P = 0.11) 52 29 30 50	7 7 2 2 4 3 6 5 23 87); I ² = 0 9 22 4 0 7	38 25 30 20 28 30 25 50 208 % 52 31 30 50	4.3% 0.8% 0.9% 1.5% 1.4% 2.8% 2.3% 11.5%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: .7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = .2 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011	rgery 9 9 5licable Z = 0.95 (P 8 1 7 3 2 2 1 3 2 5 2.47, df = 6 Z = 1.60 (P y 2 3 7 0	76 76 150 30 80 25 50 393 (P = 0.1 1) 52 29 30 50 20	7 7 1 2 2 4 3 6 5 2 3 87); i ² = 0 22 22 4 0	38 25 30 20 28 30 25 50 208 % 50 208 %	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: .7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2004b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI)	rgery 9 9 0licable Z = 0.95 (P 8 1 7 3 2 2 5 2.47, df = 6 Z = 1.60 (P y 2 3 7 0 1 4	76 76 150 30 80 25 50 393 (P = 0.11) 52 29 30 50	7 7 1 2 2 4 3 6 5 2 3 87); i ² = 0 2 2 2 4 0 7 2	38 25 30 20 28 30 25 50 208 % 52 31 30 50	4.3% 0.8% 0.9% 1.5% 1.4% 2.8% 2.3% 11.5%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: .7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = .2 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011	rgery 9 9 2 = 0.95 (P 8 1 7 3 2 2 5 2.47, df = 6 2 = 1.60 (P y 2 3 7 0 1	76 76 150 30 80 25 50 393 (P = 0.1 1) 52 29 30 50 20	7 7 1 2 2 4 3 6 5 23 87); I ² = 0 9 22 4 0 7	38 25 30 20 28 30 25 50 208 % 50 208 %	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: .7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2004b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 Cest for overall effect: .7 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI)	rgery 9 9 olicable Z = 0.95 (P 8 1 7 3 2 25 2.47, df = 6 Z = 1.60 (P y 23 7 0 1 4 3 5	76 76 150 30 28 30 25 50 393 (P = 0.11) 52 29 30 50 20 181	7 7 7 1 2 2 4 3 6 5 2 3 87); i ² = 0 7 2 2 2 4 0 7 2 35	38 25 30 20 208 30 25 50 208 % 50 208 % 52 31 30 50 200 183	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 C.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 5	rgery 9 9 5licable Z = 0.95 (P 8 1 7 3 2 2 5 2.47, df = 6 Z = 1.60 (P y 2 3 7 0 1 4 3 5,5.37, df = 3	76 76 76 150 30 80 25 50 393 (P = 0.11) 52 29 30 50 20 181 (P = 0.	7 7 1 2 2 4 3 6 5 2 3 87); i ² = 0 2 2 2 4 0 7 2 2 5 15); i ² = 4	38 25 30 20 208 30 25 50 208 % 50 208 % 52 31 30 50 200 183	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 Cest for overall effect: 7 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI)	rgery 9 9 5licable Z = 0.95 (P 8 1 7 3 2 2 5 2.47, df = 6 Z = 1.60 (P y 2 3 7 0 1 4 3 5,5.37, df = 3	76 76 76 150 30 80 25 50 393 (P = 0.11) 52 29 30 50 20 181 (P = 0.	7 7 1 2 2 4 3 6 5 2 3 87); i ² = 0 2 2 2 4 0 7 2 2 5 15); i ² = 4	38 25 30 20 208 30 25 50 208 % 50 208 % 52 31 30 50 200 183	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: . 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = . 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = . 5 Test for overall effect: .	rgery 9 9 5licable Z = 0.95 (P 8 1 7 3 2 2 5 2.47, df = 6 Z = 1.60 (P y 2 3 7 0 1 4 3 5,5.37, df = 3	76 76 76 150 30 80 25 50 393 (P = 0.11) 52 29 30 50 20 181 (P = 0.	7 7 1 2 2 4 3 6 5 2 3 87); i ² = 0 2 2 2 4 0 7 2 2 5 15); i ² = 4	38 25 30 20 8 30 25 50 208 % 52 31 30 52 31 30 52 8 4%	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9% 16.1%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71] 1.01 [0.69, 1.49]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: .7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 4 Test for overall effect: .7	rgery 9 9 2 = 0.95 (P 8 1 7 3 2 2,47, df = 6 Z = 1.60 (P y 2 3 7 0 1 4 3 5.37, df = 3 Z = 0.05 (P	76 76 76 150 30 80 28 30 25 50 393 (P = 0.11) 52 29 30 50 20 181 (P = 0.96)	7 7 7 1 2 2 4 3 6 5 2 3 87); i ² = 0 0 22 4 0 7 2 2 5 15); i ² = 4	38 25 30 20 8 30 25 50 208 % 52 31 30 52 31 30 52 8 4%	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: 7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Radhakrishnan 2005 Turan 2003b Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 4 Test for overall effect: 7 Total events	rgery 9 9 olicable Z = 0.95 (P 8 1 7 3 2 25 2.47, df = 6 Z = 1.60 (P y 23 7 0 1 4 35 5.37, df = 3 Z = 0.05 (P	76 76 76 150 30 80 28 30 25 50 393 (P = 0.11) 52 29 30 50 20 181 (P = 0.96) 1213	7 7 7 1 2 2 4 3 6 5 2 3 87); $i^2 = 0$ 2 2 2 4 0 7 2 2 35 15); $i^2 = 4$ 207	38 25 30 20 208 30 25 50 208 % 50 208 % 50 208 % 4% 52 31 30 50 208 4%	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9% 16.1%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71] 1.01 [0.69, 1.49]	
2.6.4 Orthopaedic sur Clarke 2009b Subtotal (95% CI) Total events Heterogeneity: Not app Test for overall effect: .7 2.6.5 Spinal surgery Khan 2010 Khurana 2013 Panday 2004a Panday 2004a Panday 2004a Panday 2004a Panday 2004a Panday 2004c Radhakrishnan 2005 Turan 2005 Cigencil 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 2 2.6.6 Thoracic surger Grosen 2014 Kosucu 2013 Menda 2010 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Chi ² = 5 Test for overall effect: .7	rgery 9 9 9 9 9 2 = 0.95 (P 8 1 7 3 2 1 3 2 2 5 2.47, df = 6 Z = 1.60 (P y 23 7 0 1 4 35 5.37, df = 3 Z = 0.05 (P 180 21 4 10 10 10 10 10 10 10 10 10 10	76 76 76 150 30 80 25 50 393 (P = 0.11) 52 29 30 50 20 181 (P = 0.96) 1213 27 (P =	7 7 7 1 2 2 4 3 6 5 23 87); I ² = 0 22 4 0 7 2 2 15); I ² = 4 0 7 2 207 0.77); I ² = 4	38 25 30 20 208 30 25 50 208 % 50 208 % 50 208 % 4% 52 31 30 50 208 4%	4.3% 0.8% 0.9% 1.5% 1.9% 1.4% 2.3% 11.5% 10.2% 1.8% 3.2% 0.9% 16.1%	0.64 [0.26, 1.59] 1.33 [0.17, 10.21] 0.50 [0.05, 5.22] 0.88 [0.20, 3.89] 0.75 [0.18, 3.05] 0.67 [0.12, 3.71] 0.17 [0.02, 1.29] 0.60 [0.15, 2.38] 0.61 [0.33, 1.12] 1.05 [0.67, 1.62] 1.87 [0.61, 5.73] Not estimable 0.14 [0.02, 1.12] 2.00 [0.41, 9.71] 1.01 [0.69, 1.49]	

Appendix 18: Forest plot sedation, all trials

Study or Subgroup	Gabape		Contr		Maniman	Risk Ratio	Risk Ratio
~~~~~	Events	Total	Events	1 Otai	Weight	M-H, Random, 95% C	M-H, Random, 95% Cl
2.12.1 Cholecystector							
Vishra 2016	12	30	4	30	4.4%	3.00 [1.09, 8.25]	tereneral second second second
Veogi 2012	1	30	0	30	0.7%	3.00 [0.13, 70.83]	
Panday 2004b	52	153	5	153	5.1%	10.40 [4.27, 25.32]	
Panday 2006	4	125	2	125	2.2%	2.00 [0.37, 10.72]	
Srivastava 2010	14	60	8	60	5.7%	1.75 [0.79, 3.86]	
Takmaz 2007	5	30	1	15	1.6%	2.50 [0.32, 19.53]	
Subtotal (95% CI)		428		413	19.8%	3.28 [1.55, 6.94]	
Total events	88		20				_
Heterogeneity: Tau ² = Test for overall effect: 2	0.39; Chi² =		df = 5 (P	= 0.07	'); l² = 50%	)	
2.12.2 Hysterectomy							
Ajori 2011	0	69	0	69		Not estimable	
Ghafari 2009	2	33	3	33	2.1%	0.67 [0.12, 3.73]	······
Ghai 2011	10	30	12	30	6.5%	0.83 [0.43, 1.63]	
Ray 2015	0	30	0	30	0.076	Not estimable	
•					C 00/		
Rorarius 2004	14	38	12	37	6.8%	1.14 [0.61, 2.12]	
Sekhavet 2009	26	49	22	49	8.4%	1.18 [0.79, 1.78]	
Sen 2009a	3	20	3	20	2.7%	1.00 [0.23, 4.37]	
Turan 2003a	1	25	0	25	0.8%	3.00 [0.13, 70.30]	
Subtotal (95% CI)		294		293	27.3%	1.08 [0.81, 1.45]	₹
Total events	56		52				
Heterogeneity: Tau ² = Test for overall effect: 2			```	= 0.91):	; I² = 0%		
2.12.3 Mastectomy							
Dirks 2002	21	31	22	34	8.8%	1.05 [0.74, 1.48]	<del>-</del>
Kim 2004	5	21	5	20	4.1%	0.95 [0.32, 2.80]	
Subtotal (95% CI)		52		54	12.9%	1.04 [0.75, 1.44]	<b>•</b>
Total events	26		27				
Heterogeneity: Tau ² =		= 0.03, d		= 0.86)	; l² = 0%		
2.12.4 Orthopaedic su	ar 99 an 2						
2.12.4 Orthopaedic su Clarke 2009b Paul 2013 Subtotal (95% Cl)	18 35	76 52 128	7 35	38 49 87	5.7% 9.4% 15.1%	1.29 [0.59, 2.81] 0.94 [0.73, 1.22] 0.97 [0.76, 1.24]	•
Clarke 2009b Paul 2013	18	52		49	9.4%	0.94 [0.73, 1.22]	•
Clarke 2009b Paul 2013 Subtotal (95% Cl)	18 35 53 0.00; Chi ² =	52 128 = 0.66, d	35 42 If = 1 (P =	49 87	9.4% 15.1%	0.94 [0.73, 1.22]	•
Clarke 2009b Paul 2013 Subtotal (95% Cl) Total events Heterogeneity: Tau ² = 1 Test for overall effect: 2 2.12.5 Spinal surgery	18 35 53 0.00; Chi² = Z = 0.23 (P	52 128 = 0.66, d = 0.82)	35 42 If = 1 (P =	49 87 = 0.42)	9.4% 15.1%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24]	•
Clarke 2009b Paul 2013 Subtotal (95% CI) Total events Heterogeneity: Tau ² = Test for overall effect: 2	18 35 53 0.00; Chi ² = Z = 0.23 (P	52 128 = 0.66, d	35 42 If = 1 (P =	49 87	9.4% 15.1%	0.94 [0.73, 1.22]	•
Clarke 2009b Paul 2013 Subtotal (95% Cl) Total events Heterogeneity: Tau ² = 1 Test for overall effect: 2 2.12.5 Spinal surgery	18 35 53 0.00; Chi² = Z = 0.23 (P	52 128 = 0.66, d = 0.82)	35 42 If = 1 (P =	49 87 = 0.42)	9.4% 15.1%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24]	
Clarke 2009b Paul 2013 Subtotal (95% Cl) Total events Heterogeneity: Tau ² = I Test for overall effect: 2 2.12.5 Spinal surgery Erten 2010	18 35 53 0.00; Chi ² = Z = 0.23 (P 0	52 128 = 0.66, d = 0.82) 39	35 42 If = 1 (P = 0	49 87 • 0.42); 20	9.4% 15.1% ; i ² = 0%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable	
Clarke 2009b Paul 2013 Subtotal (95% CI) Total events Heterogeneity: Tau ² = : Test for overall effect: <i>i</i> 2.12.5 Spinal surgery Erten 2010 Khan 2010	18 35 53 0.00; Chi ² : Z = 0.23 (P 0 8	52 128 ≈ 0.66, d = 0.82) 39 125	35 42 If = 1 (P = 0 1	49 87 * 0.42); 20 25	9.4% 15.1% ; i ² = 0% 1.6%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable 1.60 [0.21, 12.23]	
Clarke 2009b Paul 2013 Subtotal (95% Cl) Total events Heterogeneity: Tau ² = : Test for overall effect: 2 2.12.5 Spinal surgery Erten 2010 Khurana 2013 Panday 2004a	18 35 53 0.00; Chi ² = Z = 0.23 (P 0 8 4	52 128 = 0.66, d = 0.82) 39 125 30	35 42 ff ≕ 1 (P = 0 1 0	49 87 * 0.42); 20 25 30	9.4% 15.1% ; i ² = 0% 1.6% 0.9%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable 1.60 [0.21, 12.23] 9.00 [0.51, 160.7] Not estimable	
Clarke 2009b Paul 2013 Subtotai (95% Cl) Total events Heterogeneity: Tau ² = 1 Test for overall effect: 2 2.12.5 Spinal surgery Erten 2010 Khan 2010 Kharan 2013 Panday 2004a Radhakrishnan 2005	18 35 0.00; Chi ² = Z = 0.23 (P 0 8 4 0 1	52 128 ≈ 0.66, d = 0.82) 39 125 30 80 30	35 42 If = 1 (P = 0 1 0 0 1	49 87 • 0.42); 20 25 30 20 30	9.4% 15.1% ; i ² = 0% 1.6% 0.9% 1.0%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26]	
Clarke 2009b Paul 2013 Subtotal (95% Cl) Total events Heterogeneity: Tau ² = I Test for overall effect: <i>i</i> 2.12.5 Spinal surgery Erten 2010 Khan 2010 Khurana 2013 Panday 2004a Radhakrishnan 2005 Turan 2003b	18 35 53 0.00; Chi ² : Z = 0.23 (P 0 8 4 0 1 2	52 128 = 0.66, d = 0.82) 39 125 30 80 30 25	35 42 If = 1 (P = 0 1 0 0 1 1	49 87 × 0.42); 20 25 30 20 30 25	9.4% 15.1% ;   ² = 0% 1.6% 0.9% 1.0% 1.3%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26] 2.00 [0.19, 20.67]	
Clarke 2009b Paul 2013 Subtotal (95% CI) Total events Heterogeneity: Tau ² = - Test for overall effect: 2 2.12.5 Spinal surgery Erten 2010 Khan 2010 Khurana 2013 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011	18 35 53 0.00; Chi ² = 2 = 0.23 (P 0 8 4 0 1 2 16	52 128 = 0.66, d = 0.82) 39 125 30 80 30 25 36	35 42 If = 1 (P = 0 1 0 0 1 1 0 0	49 87 20 25 30 20 30 25 40	9.4% 15.1% ; i ² = 0% 1.6% 0.9% 1.0% 1.3% 0.9%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26] 2.00 [0.19, 20.67] 36.57 [2.27, 588.35]	
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Clarke 2009b Paul 2013 Subtotal (95% Cl) Total events Heterogeneity: Tau ² = 1 Test for overall effect: <i>i</i> 2.12.5 Spinal surgery Erten 2010 Khurana 2010 Khurana 2013 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Özgencil 2011 Özgencil 2011 Subtotal (95% Cl) Total events Heterogeneity: Tau ² = 1 Test for overall effect: <i>i</i> 2.12.6 Thoracic surge Grosen 2014 Kinney 2011 Omran 2006 Ucak 2011	18 35 53 0.00; Chi ² = $0.23$ (P 0 8 4 0 1 2 16 8 39 0.54; Chi ² = $2$ 2 = $1.83$ (P env 10 10 2 2 2 2	52 128 = 0.66, c = 0.82) 39 125 30 80 30 225 36 30 395 = 7.47, c = 0.07) 52 57 59 50 20	35 42 1f = 1 (P = 1) 0 1 1 0 1 1 0 5 8 1f = 5 (P = 1) 7 10 1 1 1 1 1 1 1 1	49 87 = 0.42) 20 25 30 20 30 20 30 20 30 220 = 0.19) 52 63 31 52 63 31 52 020	9.4% 15.1% 1.6% 0.9% 1.0% 1.3% 0.9% 4.5% 10.3% 10.3% 2.5% 10.3% 5.1% 5.6% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] 0.97 [0.76, 1.24] 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26] 2.00 [0.19, 20.67] 36.57 [2.27, 588.35] 1.60 [0.59, 4.33] 2.65 [0.94, 7.52] 1.43 [0.59, 3.47] 1.11 [0.50, 2.46] 2.14 [0.20, 22.34] 2.00 [0.19, 21.36] 2.00 [0.20, 20.33]	
Clarke 2009b Paul 2013 Subtotal (95% CI) Total events Heterogeneity: Tau ² = Test for overall effect: 2 2.12.5 Spinal surgery Erten 2010 Khurana 2013 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Tau ² = Caster 2014 Kinney 2011 Kosucu 2013 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Tau ² = Cotal events	18 35 53 0.00; Chi ² = $0.23$ (P 0 8 4 0 1 2 2 16 8 39 0.54; Chi ² = $1.83$ (P 2 2 2 2 0.00; Chi ² = $0.23$ (P 2 2 2 0 2 2 2 0.00; Chi ² = $0.23$ (P 2 2 2 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0	52 128 = 0.66, c = = 0.82) 125 30 80 30 25 36 30 395 = 7.47, c 39 50 20 208 = 0.62, c = 0.62, c	35 42 4f = 1 (P = 1) 0 1 0 0 1 1 0 5 8 8 16 = 5 (P = 1) 7 10 1 1 1 1 1 1 1 1	49 87 20 25 30 20 30 20 30 220 52 63 31 50 216	9.4% 15.1% 1.6% 0.9% 1.0% 1.0% 1.3% 10.3% 10.3% 5.6% 1.3% 1.3% 1.3% 1.3% 1.3%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] 0.97 [0.76, 1.24] 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26] 2.00 [0.19, 20.67] 36.57 [2.27, 588.35] 1.60 [0.59, 4.33] 2.65 [0.94, 7.52] 1.43 [0.59, 3.47] 1.11 [0.50, 2.46] 2.14 [0.20, 22.34] 2.00 [0.19, 21.36] 2.00 [0.20, 20.33]	
Clarke 2009b Paul 2013 Subtotal (95% CI) Total events Heterogeneity: Tau ² = 1 Test for overall effect: 7 2.12.5 Spinal surgery Erten 2010 Khurana 2013 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Özgencil 2011 Özgencil 2011 Özgencil 2011 Subtotal (95% CI) Total events Heterogeneity: Tau ² = 1 Cast for overall effect: 7 2.12.6 Thoracic surger Grosen 2014 Kinney 2011 Kosucu 2013 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Tau ² = 1 Fest for overall effect: 7	18 35 53 0.00; Chi ² = $0.23$ (P 0 8 4 0 1 2 2 16 8 39 0.54; Chi ² = $1.83$ (P 2 2 2 2 0.00; Chi ² = $0.23$ (P 2 2 2 0 2 2 2 0.00; Chi ² = $0.23$ (P 2 2 2 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0	$52 \\ 128$ = 0.66, c 0.82) $399 \\ 125 \\ 300 \\ 800 \\ 300 \\ 252 \\ 360 \\ 300 \\ 395 \\ = 7.47, c 0.77)$ $522 \\ 577 \\ 229 \\ 500 \\ 208 \\ = 0.62, c 0.29$	35 42 4f = 1 (P = 1) 0 1 0 0 1 1 0 5 8 8 16 = 5 (P = 1) 7 10 1 1 1 1 1 1 1 1	49 87 20 25 30 20 30 25 40 30 220 = 0.19) 52 63 31 50 20 216 = 0.96)	9.4% 15.1% 1.6% 0.9% 1.0% 1.3% 0.9% 4.5% 10.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.4.6% $(1^2 = 0)$	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26] 2.00 [0.19, 20.67] 36.57 [2.27, 588.35] 1.60 [0.59, 4.33] 2.65 [0.94, 7.52] 1.43 [0.59, 3.47] 1.11 [0.50, 2.46] 2.14 [0.20, 22.34] 2.00 [0.19, 21.36] 2.00 [0.20, 20.33] 1.34 [0.78, 2.32]	
Clarke 2009b Paul 2013 Subtotal (95% CI) Total events Heterogeneity: Tau ² = : Test for overall effect: 2 2.12.5 Spinal surgery Erten 2010 Khurana 2013 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Özgencil 2011 Özgencil 2011 Özdel events Heterogeneity: Tau ² = : 2.12.6 Thoracic surge Grosen 2014 Kinney 2011 Kosucu 2013 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Tau ² = : Test for overall effect: 2	18 35 53 0.00; Chi ² = 2 = 0.23 (P 0 8 4 0 1 2 16 8 39 0.54; Chi ² = 1.83 (P 10 2 2 2 26 0.00; Chi ² = 1.07 (P	52 128 = 0.66, c = = 0.82) 125 30 80 30 25 36 30 395 = 7.47, c 39 50 20 208 = 0.62, c = 0.62, c	35 42 1f = 1 (P = 1) 0 1 0 0 1 0 1 0 5 8 10 1 1 1 1 1 1 1 1	49 87 20 25 30 20 30 25 40 30 220 = 0.19) 52 63 31 50 20 216 = 0.96)	9.4% 15.1% 1.6% 0.9% 1.0% 1.0% 1.3% 10.3% 5.6% 1.3% 1.3% 1.3% 1.3% 1.3%	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] 0.97 [0.76, 1.24] 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26] 2.00 [0.19, 20.67] 36.57 [2.27, 588.35] 1.60 [0.59, 4.33] 2.65 [0.94, 7.52] 1.43 [0.59, 3.47] 1.11 [0.50, 2.46] 2.14 [0.20, 22.34] 2.00 [0.19, 21.36] 2.00 [0.20, 20.33]	
Clarke 2009b Paul 2013 Subtotal (95% CI) Total events Heterogeneity: Tau ² = Test for overall effect: 2 2.12.5 Spinal surgery Erten 2010 Khurana 2013 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Özgencil 2011 Özgencil 2011 Özgencil 2011 Otal events Heterogeneity: Tau ² = Test for overall effect: 2 2.12.6 Thoracic surge Grosen 2014 Kinney 2011 Kosucu 2013 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Tau ² = Test for overall effect: 2 Total events	18 35 53 0.00; Chi ² = $0.23$ (P 0 8 4 0 1 2 16 8 39 0.54; Chi ² = $1.83$ (P 10 10 2 2 26 0.00; Chi ² = $1.07$ (P	$52 \\ 128$ = 0.66, c, c = 0.82) 39 125 30 80 30 235 = 7.47, c, c = 0.07) 52 57 20 208 = 0.62, c = 0.29) 1505	35 $42$ $47 = 1 (P = 1)$ $0$ $1$ $0$ $1$ $0$ $1$ $1$ $0$ $5$ $8$ $1 = 5 (P = 1)$ $1$ $1$ $1$ $1$ $1$ $1$ $1$ $1$ $1$ $1$	49 87 20 25 30 20 25 40 30 220 = 0.19) 52 63 31 50 20 216 = 0.96) 1283	9.4% 15.1% ; $ ^2 = 0\%$ 1.6% 0.9% 1.0% 1.3% 0.9% 4.5% 10.3% 5.1% 5.6% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26] 2.00 [0.19, 20.67] 36.57 [2.27, 588.35] 1.60 [0.59, 4.33] 2.65 [0.94, 7.52] 1.43 [0.59, 3.47] 1.11 [0.50, 2.46] 2.14 [0.20, 22.34] 2.00 [0.19, 21.36] 2.00 [0.20, 20.33] 1.34 [0.78, 2.32]	
Clarke 2009b Paul 2013 Subtotal (95% CI) Total events Heterogeneity: Tau ² = : Test for overall effect: 2 2.12.5 Spinal surgery Erten 2010 Khurana 2013 Panday 2004a Radhakrishnan 2005 Turan 2003b Vahedi 2011 Özgencil 2011 Özgencil 2011 Özdel events Heterogeneity: Tau ² = : 2.12.6 Thoracic surge Grosen 2014 Kinney 2011 Kosucu 2013 Omran 2006 Ucak 2011 Subtotal (95% CI) Total events Heterogeneity: Tau ² = : Test for overall effect: 2	18 35 53 0.00; Chi ² = 2 = 0.23 (P 0 8 4 0 1 2 16 8 39 0.54; Chi ² = 1.83 (P ************************************	52 128 = 0.66, c = 0.82) 125 30 80 30 25 36 30 395 = 7.47, c = 0.07) 52 20 20 20 20 20 20 8 = 0.62, c = 0.82) 1505 = 57.56,	35 $42$ $41$ $42$ $51$ $42$ $42$ $42$ $42$ $42$ $42$ $42$ $42$	49 87 20 25 30 20 25 40 30 220 = 0.19) 52 63 31 50 20 216 = 0.96) 1283	9.4% 15.1% ; $ ^2 = 0\%$ 1.6% 0.9% 1.0% 1.3% 0.9% 4.5% 10.3% 5.1% 5.6% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3% 1.3	0.94 [0.73, 1.22] 0.97 [0.76, 1.24] Not estimable 1.60 [0.21, 12.23] 9.00 [0.51, 160.17] Not estimable 1.00 [0.07, 15.26] 2.00 [0.19, 20.67] 36.57 [2.27, 588.35] 1.60 [0.59, 4.33] 2.65 [0.94, 7.52] 1.43 [0.59, 3.47] 1.11 [0.50, 2.46] 2.14 [0.20, 22.34] 2.00 [0.19, 21.36] 2.00 [0.20, 20.33] 1.34 [0.78, 2.32]	

# Appendix 19: Forest plot dizziness, all trials

	Gabaper Events		Conte		Weight	Risk Ratio M-H, Random, 95% C	Risk Ratio M-H, Random, 95% Ci
Study or Subgroup 2.13.1 Cholecystector		1068	cvents	roun	aacadin	M-TI, Randolfi, 35% C	M-n, Rainom, 55% Ci
		20	05	20	44.00/	0.00 (0.40, 0.07)	1949ggan
Bekawi 2014	17	30	25	30	11.8%	0.68 [0.48, 0.97]	
Mishra 2016	3	30	6	30	0.9%	0.50 [0.14, 1.82]	
leogi 2012	1	30	1	30	0.2%	1.00 [0.07, 15.26]	
anday 2004b	0	153	0	153		Not estimable	
Srivastava 2010	5	60	7	60	1.2%	0.71 [0.24, 2.13]	
fakmaz 2007	12	30	7	15	3.0%	0.86 [0.43, 1.72]	
Subtotal (95% CI)		333		318	17.1%	0.70 [0.52, 0.94]	◆
fotal events	38		46				
Heterogeneity: Tau ² = 0 Fest for overall effect: 2				= 0.95)	; I² ≖ 0%		
2.13.2 Hysterectomy	,	,					
	•	~~~		~~~		Mark and an address	
vjori 2011	0	69	0	69		Not estimable	
Sehdad 2012	0	30	0	31		Not estimable	
ierking 2003	23	39	15	32	7.1%	1.26 [0.80, 1.98]	
assoulaki 2005	1	25	0	28	0.1%	3.35 [0.14, 78.60]	*****
Shafari 2009	2	33	2	33	0.4%	1.00 [0.15, 6.68]	
Shai 2011	8	30	1	30	0.4%	8.00 [1.07, 60.09]	
Ray 2015	2	30	2	30	0.4%	1.00 [0.15, 6.64]	
Rorarius 2004	6	38	4	37	1.0%	1.46 [0.45, 4.76]	<del></del>
ekhavet 2009	5	49	7	49	1.3%	0.71 [0.24, 2.10]	
len 2009a	2	20	2	20	0.4%	1.00 [0.16, 6.42]	
uran 2003a	2	25	1	25	0.3%	2.00 [0.19, 20.67]	
uran 2006	6	25	2	25	0.6%		
						3.00 [0.67, 13.46]	
/erma 2008	1	25 438	0	25	0.1%	3.00 [0.13, 70.30]	
Subtotal (95% CI)		~30	±.,	434	12.2%	1.34 [0.95, 1.89]	
otal events	58		36	_			
<pre>leterogeneity: Tau² = C</pre>				P = 0.7!	5); I² = 0%		
est for overall effect: 2	2 = 1.67 (P	= 0.10)					
.13.3 Mastectomy							
zemati 2013	14	50	14	50	3.7%	1.00 [0.53, 1.87]	
Dirks 2002	11	31	14	34	3.8%	0.86 [0.46, 1.60]	
Joha 2010	8	30	2	29	0.7%	3.87 [0.90, 16.70]	÷
Grover 2009	10	25	7	21	2.4%	1.20 [0.55, 2.60]	
(im 2004	8	21	9	20	2.7%	0.85 [0.41, 1.76]	
Subtotal (95% CI)	Ű	157	Ű	154	13.3%	1.03 [0.74, 1.43]	•
otal events	51		46			* * *	
leterogeneity: Tau ² = 0 est for overall effect: 2				= 0.40)	; I² = 0%		
		,					
2.13.4 Orthopaedic su		70			0 70/	4 40 10 57 0 401	
Clarke 2009b	19	76	8	38	2.7%	1.19 [0.57, 2.46]	
Clarke 2014	2	88	12	77	0.7%	0.15 [0.03, 0.63]	
Paul 2013	29	52	28	49	12.4%	0.98 [0.69, 1.37]	
Bubtotał (95% CI)		216		164	15.8%	0.72 [0.32, 1.66]	
fotal events	50		40				
			48				
	0.36; Chi² =		lf = 2 (P	= 0.03)	r; l² = 73%		
est for overall effect: 2	0.36; Chi² =		lf = 2 (P	= 0.03)	r; l² = 73%		
est for overall effect: 2	0.36; Chi² = 2 = 0.76 (P	= 0.45)	lf = 2 (P			4 00 10 10 10 10	
est for overall effect: 2 .13.5 Spinal surgery Than 2010	0.36; Chi² = Z = 0.76 (P 5	= 0.45) 125	lf = 2 (P 1	25	r; I² = 73% 0.3%	1.00 [0.12, 8.20]	
est for overall effect: 2 .13.5 Spinal surgery Chan 2010 eung 2006	0.36; Chi² = 2 = 0.76 (P 5 0	= 0.45) 125 12	lf = 2 (P 1 0	25 9		Not estimable	
est for overall effect: 2 .13.5 Spinal surgery Chan 2010 eung 2006	0.36; Chi² = Z = 0.76 (P 5	= 0.45) 125	lf = 2 (P 1	25			
est for overall effect: 2 .13.5 Spinal surgery (han 2010 .eung 2006 Panday 2004a	0.36; Chi² = 2 = 0.76 (P 5 0	= 0.45) 125 12	lf = 2 (P 1 0	25 9		Not estimable	
est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 Panday 2004a Panday 2004a Panday 2004c	0.36; Chi² = 2 = 0.76 (P 5 0 0	125 12 80	lf = 2 (P 1 0 0	25 9 20	0.3%	Not estimable Not estimable	
est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 'anday 2004a 'anday 2004c uran 2003b	0.36; Chi ² = Z = 0.76 (P 5 0 0 1	125 12 80 28 25	lf = 2 (P 1 0 0	25 9 20 28 25	0.3% 0.1% 1.1%	Not estimable Not estimable 3.00 [0.13, 70.64]	
est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 anday 2004a anday 2004c uran 2003b Jogencii 2011	0.36; Chi² = 2 = 0.76 (P 5 0 1 6	125 12 80 28	lf = 2 (P 1 0 0	25 9 20 28	0.3%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.68] 1.50 [0.61, 3.69]	
est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 'anday 2004a 'anday 2004c 'uran 2003b Jogencii 2011 Subtotal (95% CI)	0.36; Chi ² = 2 = 0.76 (P 5 0 0 1 6 9	125 12 80 28 25 30	If = 2 (P 1 0 0 4 6	25 9 20 28 25 30	0.3% 0.1% 1.1% 1.8%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.68]	
est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 'anday 2004a 'anday 2004c 'uran 2003b 'zgencil 2011 iubtotal (95% CI) 'otal events leterogeneity: Tau ² = C	0.36; Chi ² = Z = 0.76 (P 5 0 0 1 6 9 21 0.00; Chi ² =	125 12 80 28 25 30 300 = 0.33, c	If = 2 (P 1 0 0 4 6 11 1f = 3 (P	25 9 20 28 25 30 137	0.3% 0.1% 1.1% 1.8% 3.4%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.68] 1.50 [0.61, 3.69]	
est for overall effect: 2 .13.5 Spinał surgery (han 2010 eung 2006 Panday 2004a Panday 2004c Turan 2003b Dzgencii 2011 Subtotal (95% CI) Total events leterogeneity: Tau ² = 0 Test for overall effect: 2	0.36; Chi ² = Z = 0.76 (P 5 0 0 1 6 9 21 0.00; Chi ² = Z = 1.19 (P	125 12 80 28 25 30 300 = 0.33, c	If = 2 (P 1 0 0 4 6 11 1f = 3 (P	25 9 20 28 25 30 137	0.3% 0.1% 1.1% 1.8% 3.4%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.68] 1.50 [0.61, 3.69]	
est for overall effect: 2 2.13.5 Spinal surgery (han 2010 .eung 2006 Panday 2004a Panday 2004c Turan 2003b Dzgencil 2011 Subtotal (95% CI) Total events leterogeneity: Tau ² = 0 rest for overall effect: 2 .13.6 Thoracic surgel	0.36; Chi ² = Z = 0.76 (P 5 0 0 1 6 9 21 0.00; Chi ² = Z = 1.19 (P ry	125 12 80 28 25 30 300 = 0.33, c = 0.24)	If = 2 (P 1 0 0 4 6 11 1f = 3 (P	25 9 20 28 25 30 137 = 0.95)	0.3% 0.1% 1.1% 1.8% 3.4% ; I ² = 0%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.68] 1.50 [0.61, 3.69] 1.49 [0.77, 2.86]	
est for overall effect: 2 13.5 Spinal surgery than 2010 eung 2006 anday 2004a 2anday 2004a 2anday 2004c uran 2003b Degencil 2011 subtotal (95% CI) Total events leterogeneity: Tau ² = C rest for overall effect: 2 13.6 Thoracic surger Grosen 2014	0.36; Chi ² = Z = 0.76 (P 5 0 0 1 5 0 0 1 6 9 21 2.00; Chi ² = Z = 1.19 (P Fy 41	125 12 80 28 25 30 300 = 0.33, c = 0.24) 52	If = 2 (P 1 0 0 4 6 11 If = 3 (P 40	25 9 20 28 25 30 137 = 0.95)	0.3% 0.1% 1.1% 1.8% 3.4% ; I ² = 0% 34.7%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.66] 1.50 [0.61, 3.69] 1.49 [0.77, 2.86]	
est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 anday 2004a 2anday 2004a 2anday 2004a 2anday 2004a 2anday 2004a 2anday 2004a 2anday 2004a 2anday 2004 Cil) total events leterogeneity: Tau ² = C est for overall effect: 2 .13.6 Thoracic surge prosen 2014 (inney 2011	0.36; Chi ² = Z = 0.76 (P 5 0 0 1 6 9 21 2.00; Chi ² = Z = 1.19 (P ry 41 9	2 = 0.45) 125 12 80 28 25 300 300 = 0.33, c = 0.24) 52 57	If = 2 (P 1 0 0 4 6 11 1f = 3 (P 40 10	25 9 20 28 25 30 137 = 0.95) 52 63	0.3% 0.1% 1.1% 1.8% 3.4% 4; I ² = 0% 34.7% 2.1%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.66] 1.50 [0.61, 3.69] 1.49 [0.77, 2.86] 1.02 [0.84, 1.26] 0.99 [0.44, 2.27]	
est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 Panday 2004a anday 2004c uran 2003b Dzgencii 2011 jubtotal (95% CI) otal events leterogeneity: Tau ² = 0 rest for overall effect: 2 .13.6 Thoracic surger Grosen 2014 Dinney 2011 Dinnay 2006	0.36; $Chi^2 = 0.76$ (P 5 0 0 1 6 9 21 2.5 2.1 2.1 2.1 2.2 1.19 (P ry 41 9 6	125 12 80 28 25 30 300 = 0.33, c = 0.24) 52 57 50	If = 2 (P 1 0 0 4 6 11 1f = 3 (P 40 10 4	25 9 20 28 25 30 137 = 0.95) 52 63 50	0.3% 0.1% 1.1% 1.8% 3.4% ; I ² = 0% 34.7% 2.1% 1.0%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.68] 1.50 [0.61, 3.69] 1.49 [0.77, 2.86] 1.02 [0.84, 1.26] 0.99 [0.44, 2.27] 1.50 [0.45, 4.99]	
est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 'anday 2004a 'anday 2004c 'uran 2003b Jzgencil 2011 subtotal (95% CI) otal events leterogeneity: Tau ² = C 'est for overall effect: 2 .13.6 Thoracic surgers orsen 2014 Sinney 2011 Dmran 2006 Jcak 2011	0.36; Chi ² = Z = 0.76 (P 5 0 0 1 6 9 21 2.00; Chi ² = Z = 1.19 (P ry 41 9	125 12 80 28 25 30 300 = 0.33, c = 0.24) 52 57 50 20	If = 2 (P 1 0 0 4 6 11 1f = 3 (P 40 10	25 9 20 28 25 30 137 = 0.95) 52 63 50 20	0.3% 0.1% 1.1% 1.8% 3.4% ; I ² = 0% 34.7% 2.1% 1.0% 0.3%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.66] 1.50 [0.61, 3.69] 1.49 [0.77, 2.86] 1.02 [0.84, 1.26] 0.99 [0.44, 2.27] 1.50 [0.45, 4.99] 2.00 [0.20, 20.33]	
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<pre>ideterogeneitly: Tau² = C fest for overall effect: 2 2.13.5 Spinal surgery than 2010 eung 2006 Panday 2004a Panday 2004a Panday 2004c Furan 2003b Dzgencil 2011 Subtotal (95% Cl) fotal events deterogeneitly: Tau² = C fest for overall effect: 2 2.13.6 Thoracic surgel Grosen 2014 Kinney 2011 Subtotal (95% Cl) Fotal events deterogeneitly: Tau² = C fest for overall effect: 2 class for overall effect: 2 fest for for fest fest fest fest fest fest fest fest</pre>	0.36; $Chi^{2} = 0.76$ (P 5 0 1 6 9 21 0.00; $Chi^{2} = 0.76$ 7 7 7 7 9 6 2 5 8 0 0 0 1 6 9 9 21 0.00; $Chi^{2} = 0.76$ (P 7 7 7 7 7 7 7 7 7 7 7 7 7	125 12 80 28 25 30 300 = 0.33, c 52 57 57 50 20 179 = 0.80, c = 0.70)	ff = 2 (P) 1 0 0 0 4 11 1f = 3 (P) 40 10 4 10 4 10 55 ff = 3 (P)	25 9 20 28 25 30 137 == 0.95) 52 63 50 20 185 == 0.85)	0.3% 0.1% 1.1% 1.8% 3.4% 3.4% 1.0% 0.3% 38.1% 5; I ² = 0%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.68] 1.50 [0.61, 3.69] 1.49 [0.77, 2.86] 1.49 [0.77, 2.86] 0.99 [0.44, 2.27] 1.50 [0.45, 4.99] 2.00 [0.20, 20, 33] 1.04 [0.85, 1.26]	
Test for overall effect: 2         2.13.5 Spinal surgery         (han 2010         .eung 2006         2anday 2004a         2anday 2004c         Turan 2003b         Dzgencii 2011         Subtotal (95% CI)         Total events         Heterogeneity: Tau ² = 0         Test for overall effect: 2         2.13.6 Thoracic surger         Grosen 2014         Dinney 2011         Diran 2006         Joak 2011         Subtotal (95% CI)         Total events         Heterogeneity: Tau ² = 0         Total events         Heterogeneity: Tau ² = 10         Total events         Heterogeneity: Tau ² = 2         Test for overall effect: 2         Total (95% CI)         Total events         Heterogeneity: Tau ² = 2         Test for overall effect: 2         Total (95% CI)	0.36; $Chi^{2} = 0.76$ (P 5 0 0 1 6 9 21 2.2 = 1.19 (P ry 41 9 6 2 5 3.00; $Chi^{2} = 2$ 5 3.00; $Chi^{2} = 2$ 5 2.2 = 0.76 (P	125 12 80 28 25 30 300 = 0.33, c = 0.24) 52 57 50 20 179 = 0.80, c	ff = 2 (P + 1) + 1 = 2 (P +	25 9 20 28 25 30 137 == 0.95) 52 63 50 20 185 == 0.85)	0.3% 0.1% 1.1% 1.8% 3.4% 3; l ² = 0% 34.7% 2.1% 1.0% 0.3% 38.1%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.66] 1.50 [0.61, 3.69] 1.49 [0.77, 2.86] 1.02 [0.84, 1.26] 0.99 [0.44, 2.27] 1.50 [0.45, 4.99] 2.00 [0.20, 20.33]	
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est for overall effect: 2 .13.5 Spinal surgery (han 2010 eung 2006 Panday 2004a anday 2004c uran 2003b Dzgencii 2011 uiubtotal (95% CI) fotal events leterogeneity: Tau ² = 0 est for overall effect: 2 .13.6 Thoracic surger Brosen 2014 Dirney 2011 Dirnan 2006 Joak 2011 Bubtotal (95% CI) fotal events leterogeneity: Tau ² = 0 est for overall effect: 2 iotal events leterogeneity: Tau ² = 0 est for overall effect: 2 iotal (95% CI)	0.36; $Chi^{2} = 0.76$ (P 2 = 0.76 (P 5 0 0 1 6 9 21 0.00; $Chi^{2} = 0.76$ 7 7 41 9 6 2 58 0.00; $Chi^{2} = 0.38$ (P 276	= 0.45) 125 12 80 28 25 25 300 300 = 0.33, c 52 57 50 20 179 = 0.80, c = 0.70) 1623	ff = 2 (P) $1 + 1 = 2 (P)$ $0 + 1 = 1 = 1 = 0$ $11 + 1 = 3 (P)$ $40 + 1 = 1 = 1 = 1 = 0$ $11 + 1 = 5 = 5 = 3 (P)$ $11 + 1 = 5 = 3 (P)$ $242 = 242$	25 9 20 28 25 30 137 = 0.95) 52 63 50 20 185 = 0.85) 1392	0.3% 0.1% 1.1% 1.8% 3.4% 1; I ² = 0% 34.7% 0.3% 38.1% 1; I ² = 0% 108.0%	Not estimable Not estimable 3.00 [0.13, 70.64] 1.50 [0.48, 4.68] 1.50 [0.61, 3.69] 1.49 [0.77, 2.86] 1.49 [0.77, 2.86] 0.99 [0.44, 2.27] 1.50 [0.45, 4.99] 2.00 [0.20, 20.33] 1.04 [0.85, 1.26]	