CQ 17-1　PICS の予防に早期リハビリテーションを行うか？

検索データベース

■MEDLINE (PubMed/Ovid)

■CENTRAL

■医学中央雑誌

□その他（　　）

検索式とヒット数

PubMed search strategy（検索日　2019 年　4 月　28 日）

#1	"physical therapy modalities"[mh]	142874
#2	"occupational therapy"[mh]	12549
#3	"early ambulation"[mh]	2687
#4	"mobility"[tiab]	130857
#5	"training"[tiab]	369035
#6	"pregait"[tiab]	3
#7	"pre-gait"[tiab]	7
#8	"ADL"[tiab]	9201
#9	"ambulation"[tiab]	10319
#10	mobiliz*[tiab]	69363
#11	mobilis*[tiab]	8800
#12	exercis*[tiab]	278000
#13	physiotherap*[tiab]	23697
#14	"occupational"[tiab]	120949
#15	walk*[tiab]	107477
#16	“physical therapy”[tiab]	19065
#17	#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16	1113114
#18	(((((“critical illness”[mh]) OR “intensive care units”[mh]) OR “critical care”[mh])) OR (((((“critically ill”[tiab]) OR “critical illness”[tiab]) OR ICU[tiab]) OR “intensive care unit”[tiab]) OR “critical care”[tiab]))	212185
#19	((randomized controlled trial[pt] OR controlled clinical trial[pt] OR randomized[tiab] OR placebo[tiab] OR "clinical trials as topic"[MeSH Terms:noexp] OR randomly[tiab] OR trial[ti] NOT	470047

	("animals"[MeSH Terms] NOT "humans"[MeSH Terms])) AND Randomized Controlled Trial[ptyp])	
#20	#17 AND #18 AND #19	492

CENTRAL search strategy（検索日 2019 年 4 月 24 日）

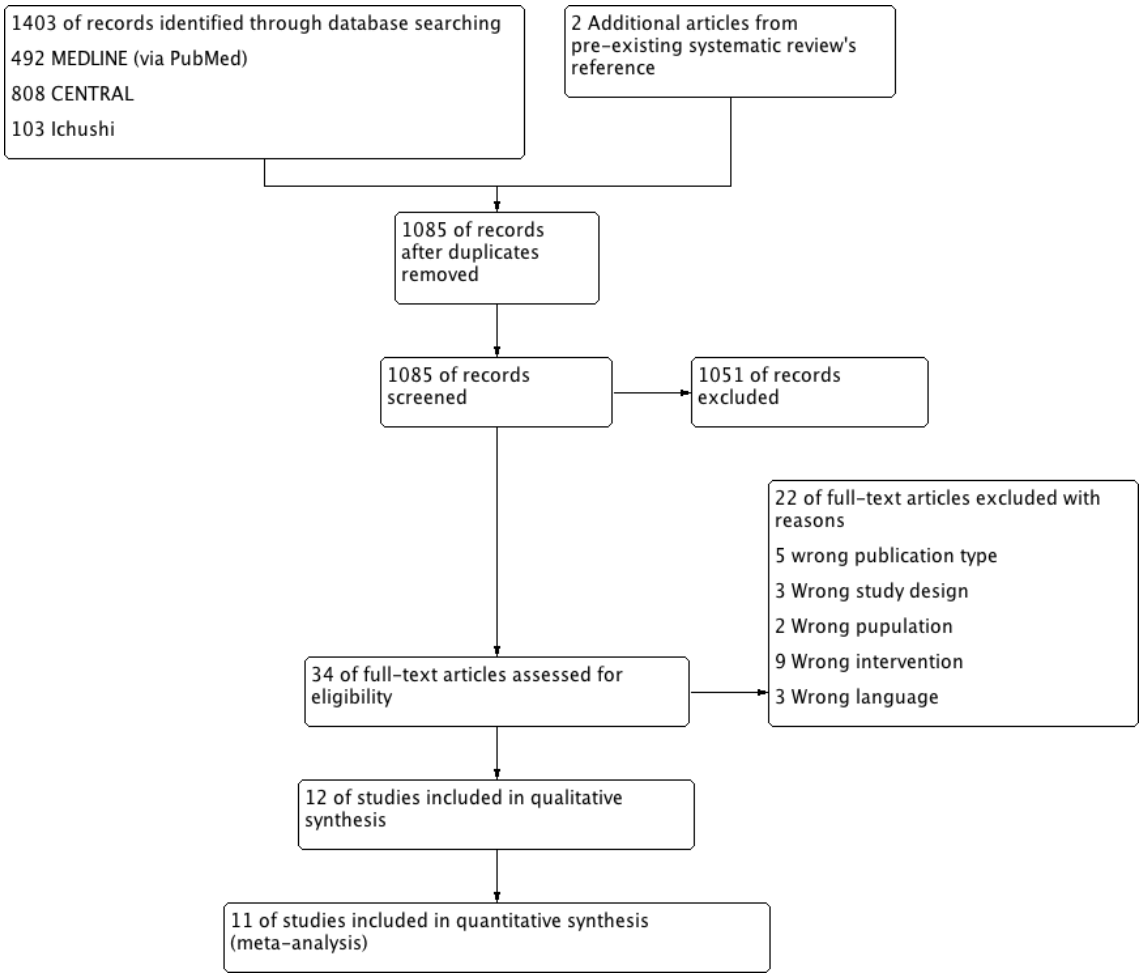
#1	("critical care"):ti,ab,kw (Word variations have been searched)	3571
#2	("critical ill"):ti,ab,kw (Word variations have been searched)	6970
#3	MeSH descriptor: [Intensive Care Units] explode all trees	3260
#4	MeSH descriptor: [Critical Illness] explode all trees	1845
#5	#1 OR #2 OR #3 OR #4	11609
#6	MeSH descriptor: [Physical Therapy Modalities] explode all trees	22370
#7	MeSH descriptor: [Occupational Therapy] explode all trees	685
#8	MeSH descriptor: [Early Ambulation] explode all trees	346
#9	(mobilizat*):ti,ab,kw (Word variations have been searched)	5702
#10	(mobilisat*):ti,ab,kw (Word variations have been searched)	1314
#11	(mobility):ti,ab,kw (Word variations have been searched)	21908
#12	(exercis*):ti,ab,kw (Word variations have been searched)	848585
#13	(pregait):ti,ab,kw (Word variations have been searched)	5
#14	(pre-gait):ti,ab,kw (Word variations have been searched)	4
#15	(walk*):ti,ab,kw (Word variations have been searched)	25070
#16	(physiotherap*):ti,ab,kw (Word variations have been searched)	12961
#17	(ambulation):ti,ab,kw (Word variations have been searched)	4609
#19	(physical therapy": ti,ab,kw (Word variations have been searched)	
#18	#6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18	1502876
#19	#18 AND #5	808

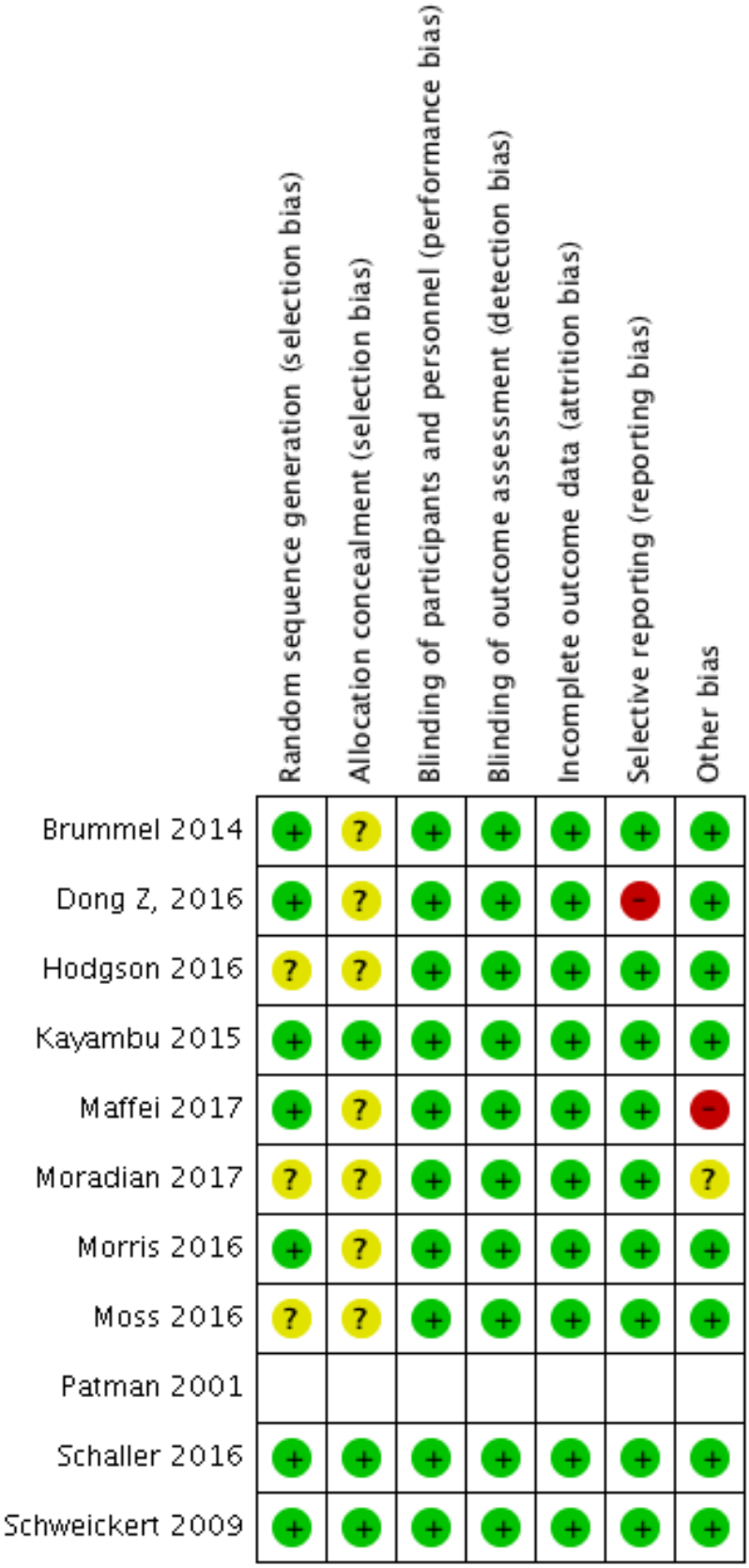
16 review 792 trials

医学中央雑誌 search strategy（検索日 2019 年 4 月 26 日）

#1	危篤/TH or 危篤/TA) and (PT=会議録除く)	150
#2	(クリティカルケア/TH or クリティカルケア/TA) and (PT=会議録除く)	6056
#3	(ICU/TH or ICU/TA) and (PT=会議録除く)	45475
#4	(リハビリテーション/TH or リハビリテーション/TA) and (PT=会議録除く)	173360
#5	(早期離床/TH or 早期離床/TA) and (PT=会議録除く)	3736

#6	(ランダム化比較試験/TH or 準ランダム化比較試験/TH or ランダム化/AL or 無作為化/AL or 比較試験/AL or 臨床試験/AL or プラセボ/AL or 対照/AL or コントロール/AL or 臨床研究/AL) and (PT=会議録除く)	229335
#7	#1 or #2 or #3	50160
#8	#4 or #5	174323
#9	#6 and #7 and #8	103

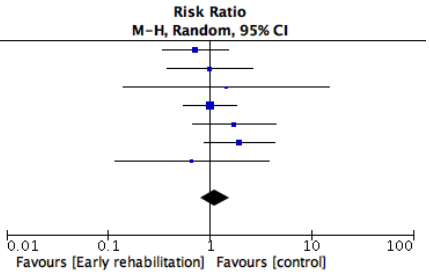

1403 of records identified through database searching
492 MEDLINE (via PubMed)
808 CENTRAL
103 Ichushi
2 Additional articles from pre-existing systematic review's reference
1085 of records after duplicates removed
1085 of records screened
1051 of records excluded
22 of full-text articles excluded with reasons
5 wrong publication type
3 Wrong study design
2 Wrong pupulation
9 Wrong intervention
3 Wrong language
34 of full-text articles assessed for eligibility
12 of studies included in qualitative synthesis
11 of studies included in quantitative synthesis (meta-analysis)


Random sequence generation (selection bias)
Allocation concealment (selection bias)
Blinding of participants and personnel (performance bias)
Blinding of outcome assessment (detection bias)
Incomplete outcome data (attrition bias)
Selective reporting (reporting bias)
Other bias
Brummel 2014
Dong Z, 2016
Hodgson 2016
Kayambu 2015
Maffei 2017
Moradian 2017
Morris 2016
Moss 2016
Patman 2001
Schaller 2016
Schweickert 2009

In-hospital mortality

Study or Subgroup	Early rehabilitation Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI	Year
Schweickert 2009	9	49	14	55	20.6%	0.72 [0.34, 1.52]	2009
Brummel 2014	6	22	6	22	12.3%	1.00 [0.38, 2.62]	2014
Hodgson 2016	2	29	1	21	2.1%	1.45 [0.14, 14.94]	2016
Morris 2016	18	150	18	150	30.4%	1.00 [0.54, 1.85]	2016
Moss 2016	10	59	6	61	12.7%	1.72 [0.67, 4.44]	2016
Schaller 2016	17	104	8	96	18.1%	1.96 [0.89, 4.34]	2016
Dong Z, 2016	2	53	3	53	3.7%	0.67 [0.12, 3.83]	2016
Total (95% CI)		**466**		**458**	**100.0%**	**1.12 [0.80, 1.58]**	
Total events	64		56				

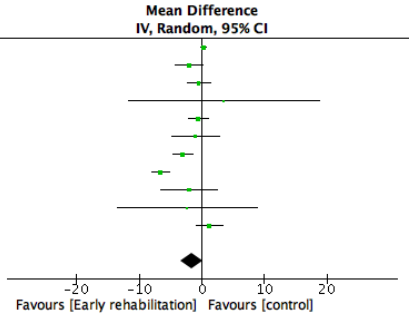
Heterogeneity: Tau² = 0.00; Chi² = 4.64, df = 6 (P = 0.59); I² = 0%
Test for overall effect: Z = 0.68 (P = 0.50)



ICU length of stay

Study or Subgroup	Early rehabilitation Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Random, 95% CI	Year
Patman 2001	1.779	1.766	101	1.529	1.116	109	12.9%	0.25 [-0.15, 0.65]	2001
Schweickert 2009	5.9	6.4	49	7.9	5	55	10.8%	-2.00 [-4.23, 0.23]	2009
Brummel 2014	3.5	3.6	22	4	2.7	22	11.4%	-0.50 [-2.38, 1.38]	2014
Kayambu 2015	12	30.4	26	8.5	24.4	24	1.2%	3.50 [-11.73, 18.73]	2015
Morris 2016	7.5	7.4	150	8	6.7	150	11.8%	-0.50 [-2.10, 1.10]	2016
Moss 2016	15	11.11	59	16	10.4	61	8.1%	-1.00 [-4.85, 2.85]	2016
Schaller 2016	7	5.2	104	10	6.7	96	11.7%	-3.00 [-4.67, -1.33]	2016
Dong Z, 2016	11.7	3.2	53	18.3	4.2	53	12.0%	-6.60 [-8.02, -5.18]	2016
Hodgson 2016	9	8.1	29	11	8.1	21	7.1%	-2.00 [-6.55, 2.55]	2016
Maffei 2017	12	15.7	20	14.3	20	20	2.2%	-2.30 [-13.44, 8.84]	2017
Moradian 2017	9.7	5.9	49	8.5	4.8	49	11.0%	1.20 [-0.93, 3.33]	2017
Total (95% CI)			**662**			**660**	**100.0%**	**-1.54 [-3.33, 0.25]**	

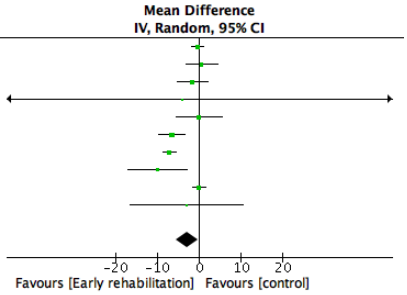
Heterogeneity: Tau² = 6.42; Chi² = 97.45, df = 10 (P < 0.00001); I² = 90%
Test for overall effect: Z = 1.68 (P = 0.09)



Hospital length of stay

Study or Subgroup	Early rehabilitation Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Random, 95% CI	Year
Patman 2001	9.2	4.5	101	9.6	6.7	109	14.7%	-0.40 [-1.93, 1.13]	2001
Schweickert 2009	13.5	11.2	49	12.9	8.1	55	11.7%	0.60 [-3.20, 4.40]	2009
Brummel 2014	7	4.1	22	8.6	7.6	22	12.0%	-1.60 [-5.21, 2.01]	2014
Kayambu 2015	41	110.4	26	45	217.8	24	0.1%	-4.00 [-100.92, 92.92]	2015
Moss 2016	21	11.9	59	21	17.8	61	9.4%	0.00 [-5.40, 5.40]	2016
Schaller 2016	15	11.9	104	21.5	11.11	96	12.6%	-6.50 [-9.69, -3.31]	2016
Dong Z, 2016	22	3.8	53	29.1	4.6	53	14.6%	-7.10 [-8.71, -5.49]	2016
Hodgson 2016	19	11.9	29	29	13.3	21	7.3%	-10.00 [-17.15, -2.85]	2016
Morris 2016	10	8.1	150	10	6.7	150	14.5%	0.00 [-1.68, 1.68]	2016
Maffei 2017	28	18	20	31	25	20	3.1%	-3.00 [-16.50, 10.50]	2017
Total (95% CI)			**613**			**611**	**100.0%**	**-2.86 [-5.51, -0.21]**	

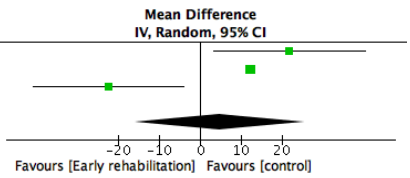
Heterogeneity: Tau² = 11.82; Chi² = 61.00, df = 9 (P < 0.00001); I² = 85%
Test for overall effect: Z = 2.12 (P = 0.03)



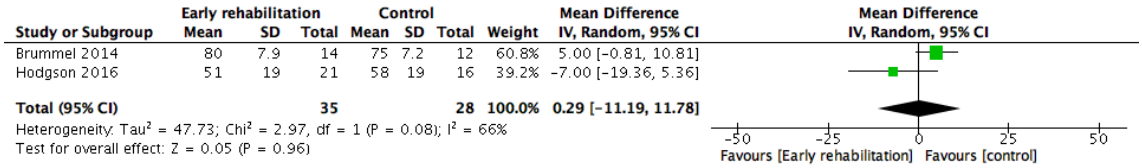
SF-36 at 6 months

Study or Subgroup	Early rehabilitation Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Random, 95% CI	Year
Kayambu 2015	81.8	22.2	11	60	29.4	19	30.1%	21.80 [3.18, 40.42]	2015
Morris 2016	55.9	3	82	43.6	3.1	79	39.7%	12.30 [11.36, 13.24]	2016
Moss 2016	57.5	37	26	80	29.6	24	30.2%	-22.50 [-41.01, -3.99]	2016
Total (95% CI)			**119**			**122**	**100.0%**	**4.65 [-16.13, 25.43]**	

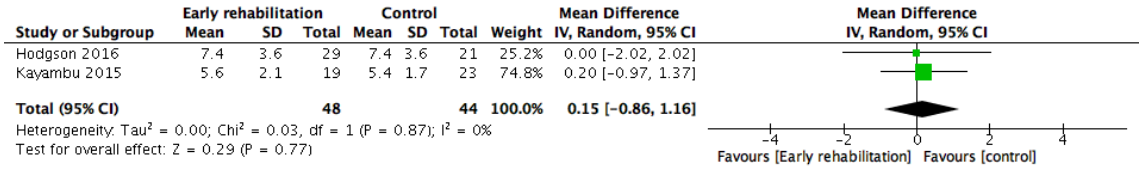
Heterogeneity: Tau² = 282.90; Chi² = 14.56, df = 2 (P = 0.0007); I² = 86%
Test for overall effect: Z = 0.44 (P = 0.66)



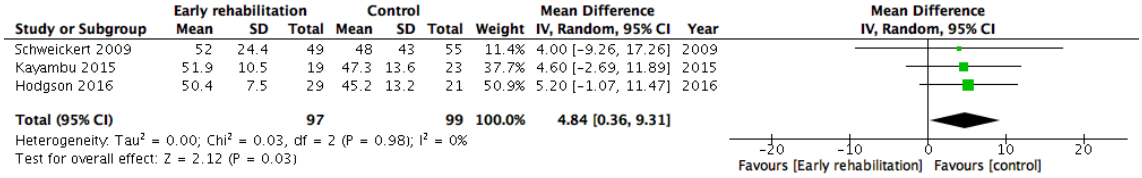
EQ-5D-VAS



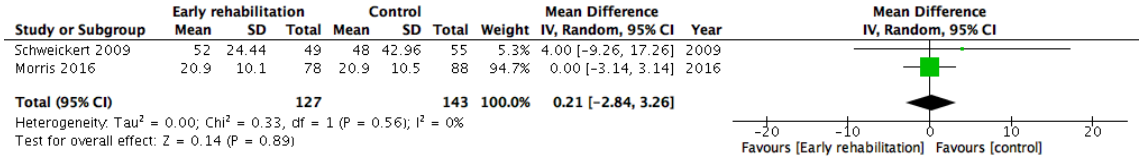
PFIT at ICU discharge



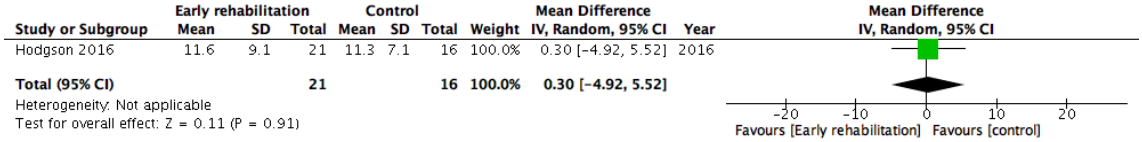
MRC score in during hospital stay



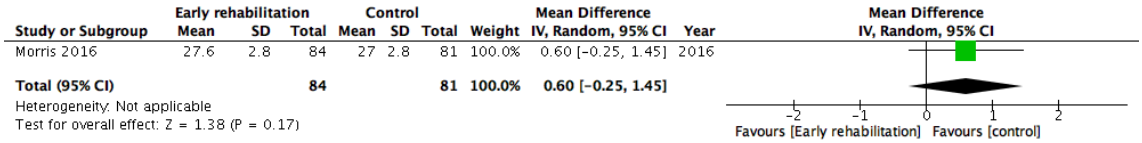
Handgrip strength at hospital discharge



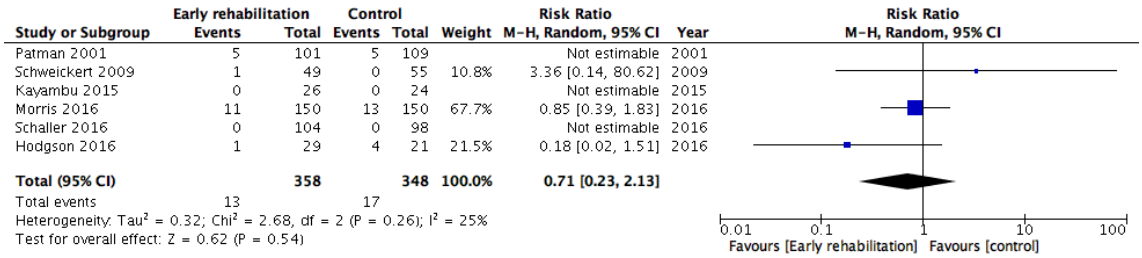
HADS at 6 months



MMSE at 6 months

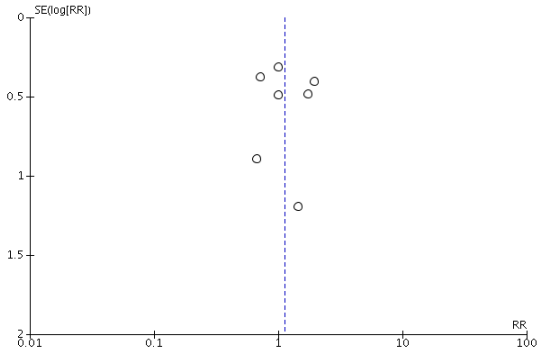


Any adverse events

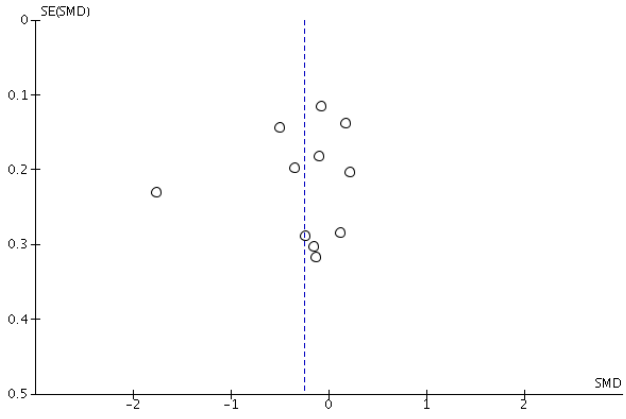


Funnel plot

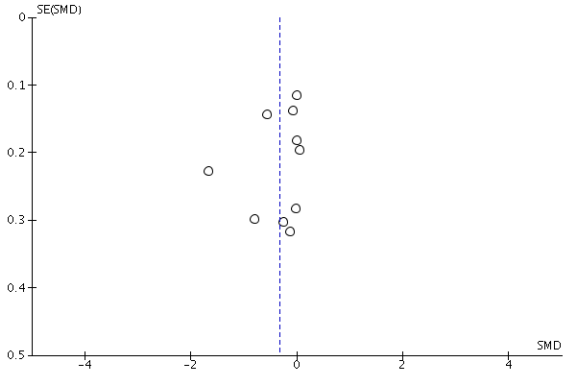
In-hospital mortality



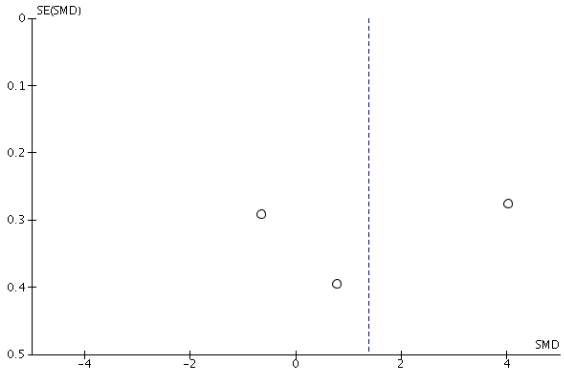
ICU length of stay



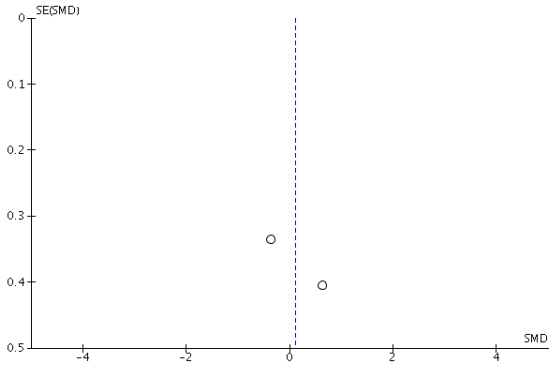
Hospital length of stay



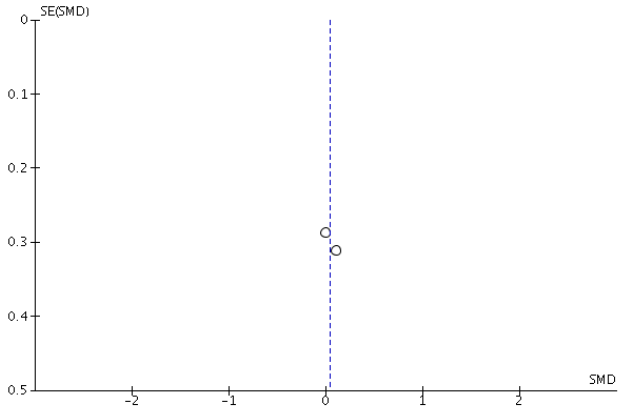
SF-36 at 6 months



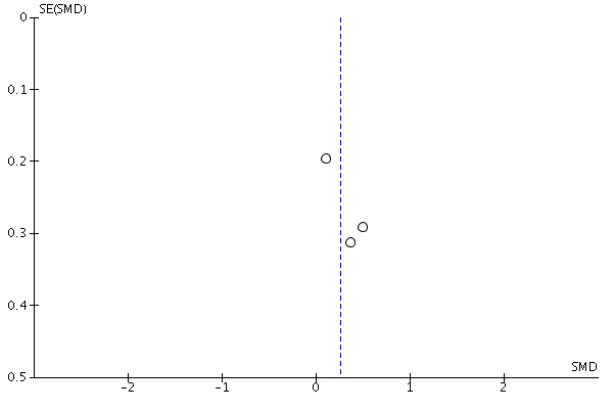
EQ-5D-VAS



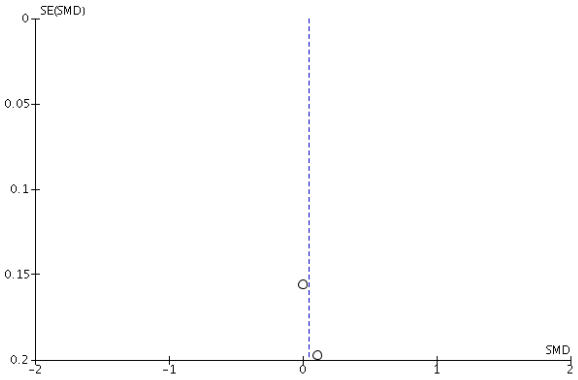
PFIT at ICU discharge



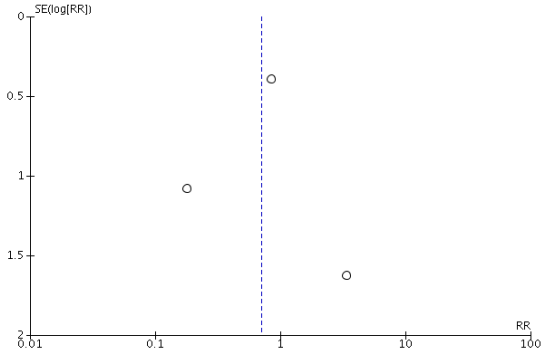
MRC score in during hospital stay



Handgrip strength at hospital discharge



Any adverse events


SE(log[RR])
0
0.5
1
1.5
2
0.01
0.1
1
10
100
RR