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Cochrane Argentina

Cochrane Rehabilitation: developments in evidence-based rehabilitation

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Instituto de **E**fectividad **C**línica y **S**anitaria

ISPRM 2017
11th International Society of Physical and Rehabilitation Medicine World Congress
Buenos Aires, Argentina | April 30 – May 4

11TH INTERNATIONAL SOCIETY OF PHYSICAL & REHABILITATION MEDICINE (ISPRM) WORLD CONGRESS

Sociedad Argentina de Medicina Física y Rehabilitación

Hilton Buenos Aires
Buenos Aires, Argentina
April 30 - May 4, 2017

Cochrane Library

Trusted evidence
Informed decisions
Better health

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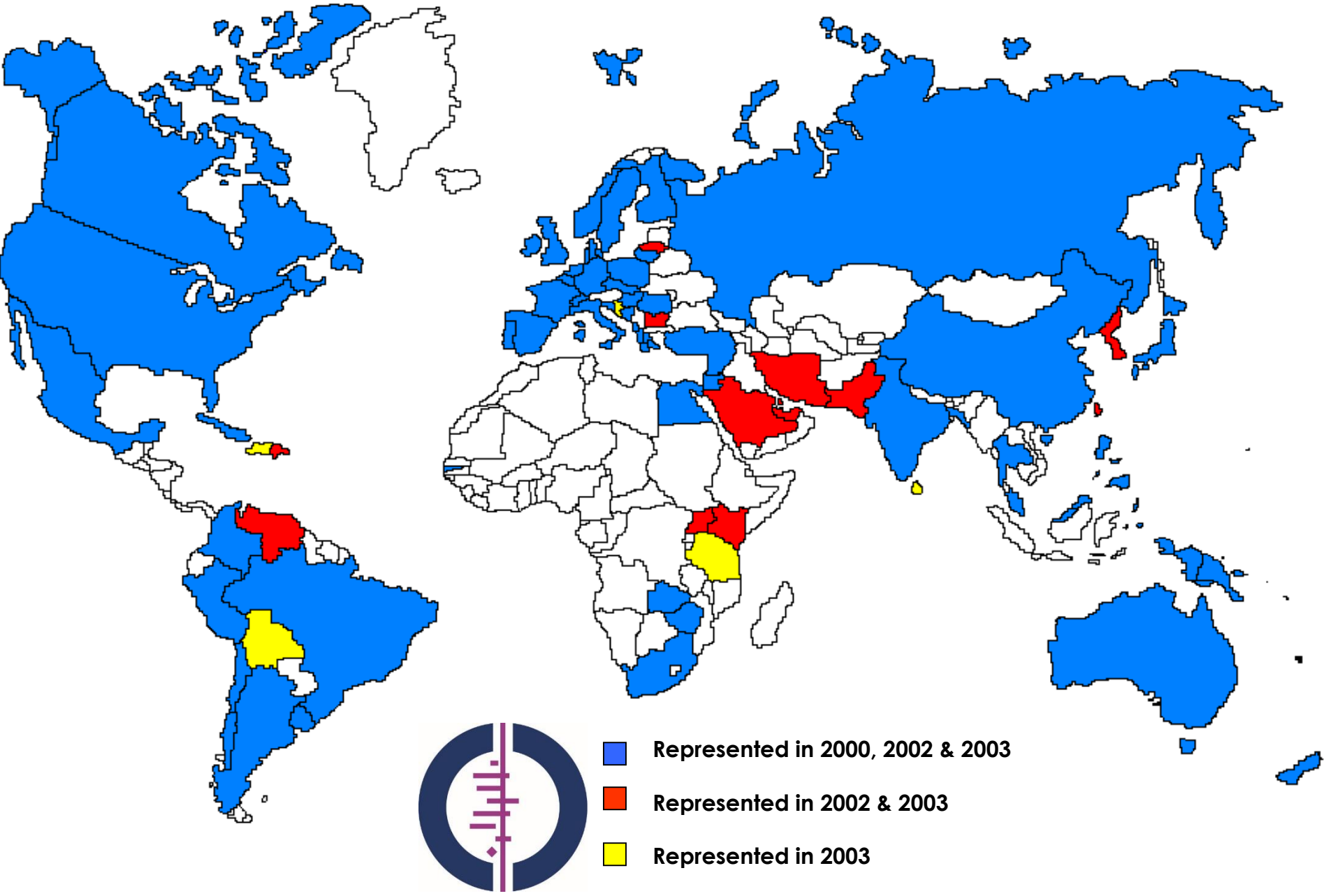
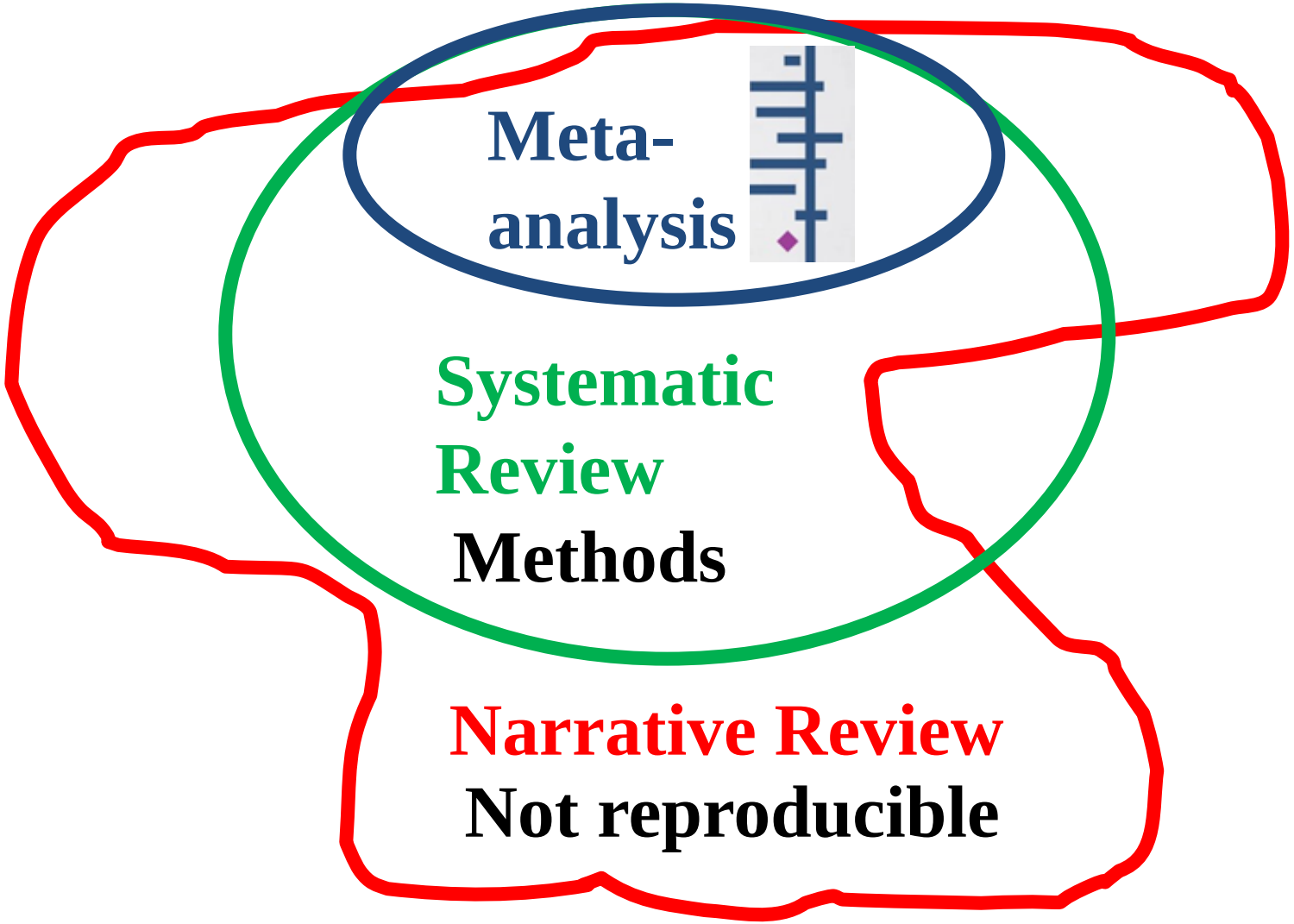

Represented in 2000, 2002 & 2003
Represented in 2002 & 2003
Represented in 2003

What do Cochrane do?

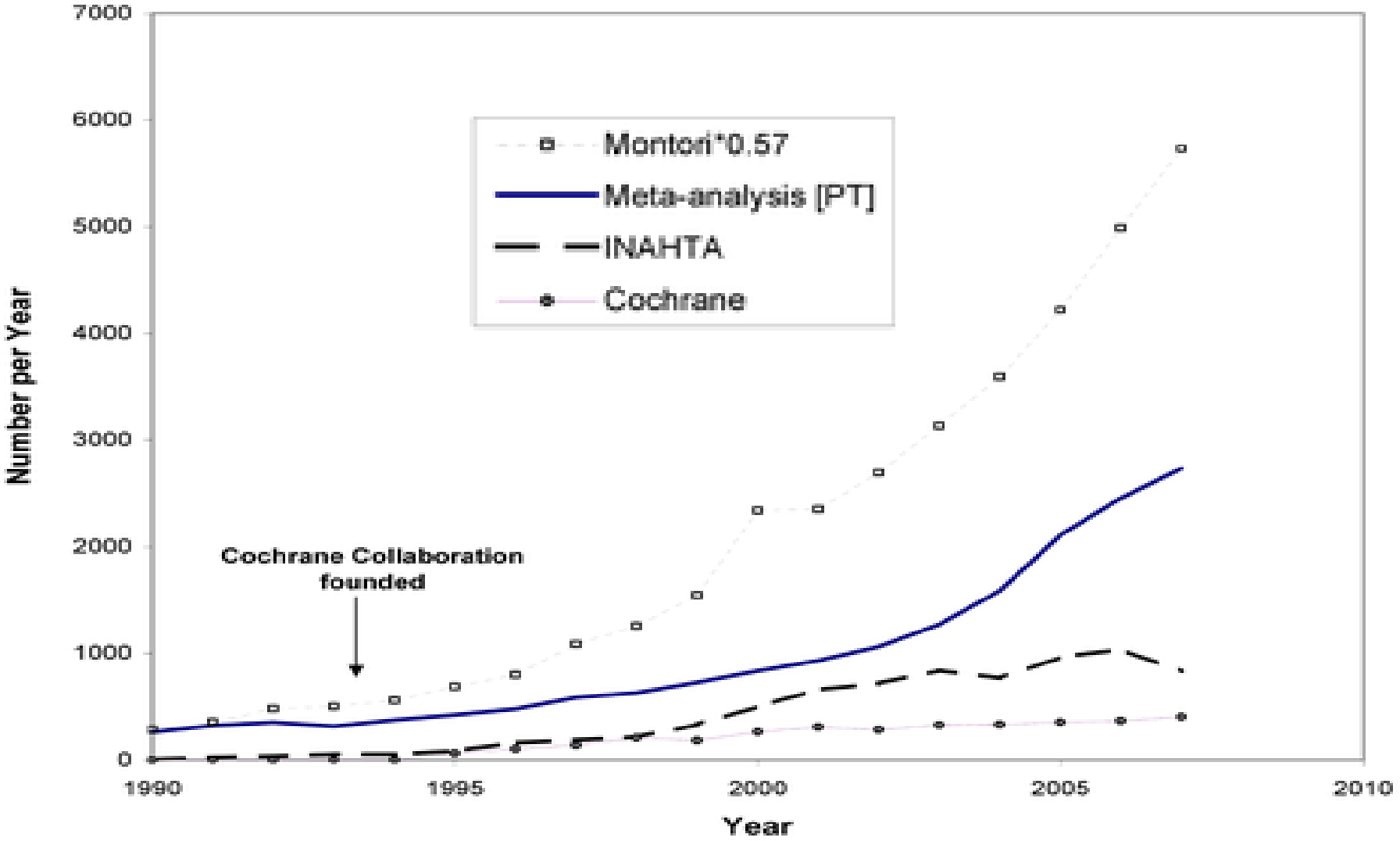
- During the past 20 years, Cochrane has helped to transform the way health decisions are made.
- We gather and summarize the best evidence from research to help you make informed choices about treatment.
- Whether you are a doctor or nurse, patient or carer, researcher or funder, Cochrane evidence provides a powerful tool to enhance your healthcare knowledge and decision making.
- The most important Cochrane product are **Systematic Reviews**

What are Systematic Reviews?

Reviews


Meta-analysis
Systematic Review
Methods
Narrative Review
Not reproducible

Growing trend in SRs 1970 -> 2007!



Bastian H, Glasziou P, Chalmers I. ***75 Trials and 11 Systematic Reviews a Day: How Will We Ever Keep Up?*** PLoS Med 2010;7:e1000326.

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Cochrane Rehabilitation

A systematic review of physical and rehabilitation medicine topics, as developed by the Cochrane Collaboration

EURA MEDICOPHYS 2007;43:381-90
S. NEGRINI [1], S. MINOZZI [2], M. TARICCO [3], V. ZILIANI [1], F. ZAINA [1]

ACRM
AMERICAN CONGRESS OF REHABILITATION MEDICINE

Archives of Physical Medicine and Rehabilitation

journal homepage: www.archives-pmr.org

Archives of Physical Medicine and Rehabilitation 2016;97:1226-7

EDITORIAL

Cochrane Physical and Rehabilitation Medicine: A New Field to Bridge Between Best Evidence and the Specific Needs of Our Field

CrossMark

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Cochrane Rehabilitation

16th of December Official Launch

- Rehabilitation include many health conditions:
- musculoskeletal,
- neurological,
- cardiorespiratory,
- uro-gynecological,
- oncological,
- age-related disorders (both pediatric and geriatric).

http://www.cochranelibrary.com/

Cochrane Library

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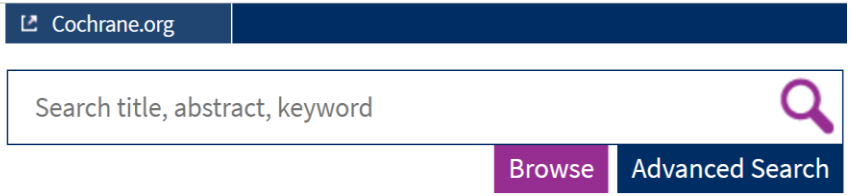
Informed decisions.
Better health.



4 CRGs have > 20 Reviews of PRM interest (Back and Neck; Bone, Joint and Muscle Trauma; Musculoskeletal; Stroke),

Rehab examples

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Exercise-based cardiac rehabilitation in heart transplant recipients (Review)

Cochrane Database of Systematic Reviews

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Exercise-based cardiac rehabilitation in heart transplant recipients (Review)

Cochrane Database of Systematic Reviews

Anderson L, Nguyen TT, Dall CH, Burgess L, Bridges C, Taylor RS

April 2017

Exercise versus no exercise for post-heart transplant recipients

Patient or population: Post-heart transplant recipients
Settings: Home and centre (hospital, cardiac rehabilitation clinic or physiotherapy department)
Intervention: Exercise versus no exercise

10 RCTs that involved a total of 300 participants whose mean age was 54.4 years

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)
	Assumed risk	Corresponding risk	**Moderate quality:** Further research is **likely** to have an important impact on our confidence in the estimate of effect and may change the estimate.		
	Control	Exercise versus no exercise			
Exercise capacity (VO_{2peak}) Follow-up: median 9 months		The mean exercise capacity in the intervention groups was **2.49 higher** (1.63 to 3.36 higher)		284 (9 studies)	⊕⊕⊕◯ **moderate**[1]
Health-related quality of life Various HRQoL measures Follow-up: median 12 weeks	HRQoL in comparator > HRQoL in intervention, in 16/19 domains	HRQoL in intervention > HRQoL in comparator, in 3/19 domains		120 (3 studies)	⊕⊕⊕◯ **moderate**[1]

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Exercise-based cardiac rehabilitation in heart transplant recipients (Review)

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Exercise capacity (VO2peak)

Study or subgroup	Experimental (mL/kg/min) N	Mean(SD)	Control (mL/kg/min) N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
Bernardi 2007	13	19.61 (2.34)	11	15.6 (5.84)		5.5 %	4.01 [0.33, 7.69]
Braith 2008	9	19.4 (5.5)	7	16.8 (2.8)		4.4 %	2.60 [-1.55, 6.75]
Haykowsky 2009	22	3.43 (3.3)	21	0.04 (2.2)		26.9 %	3.39 [1.72, 5.06]
Hermann 2011	14	28.3 (6.1)	13	23.4 (5.7)		3.8 %	4.90 [0.45, 9.35]
Kobashigawa 1999	14	13.6 (4.75)	13	12.3 (3.65)		7.4 %	1.30 [-1.88, 4.48]
Nytr en 2012	24	30.9 (5.3)	24	28 (6.7)		6.4 %	2.90 [-0.52, 6.32]
Pascoalino 2015	33	23.2 (6.68)	9	20.1 (4.5)		5.4 %	3.10 [-0.62, 6.82]
Tegtbur 2003	8	20.1 (4.2)	12	18.5 (2.8)		6.8 %	1.60 [-1.71, 4.91]
Wu 2008	14	1 (2.5)	23	-0.5 (1.8)		33.3 %	1.50 [0.00, 3.00]
Total (95% CI)	**151**		**133**			**100.0 %**	**2.49 [1.63, 3.36]**

Heterogeneity: $Chi^2 = 5.54$, $df = 8$ ($P = 0.70$); $I^2 = 0.0\%$

Test for overall effect: $Z = 5.64$ ($P < 0.00001$)

Test for subgroup differences: Not applicable

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Dysarthria intervention compared with another intervention, attention control, placebo or no intervention for people with dysarthria after stroke or other adult-acquired, non-progressive brain injury

Patient or population: adults with dysarthria following stroke or other adult-acquired, non-progressive brain injury
Settings: any
Intervention: dysarthria intervention
Comparison: another intervention, attention control, placebo or no intervention

Outcomes	Standardised mean difference (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)	Comments
Dysarthria intervention versus any control: persisting effects, activity level	0.18 [-0.18, 0.55]	116 participants 3 RCTs	⊕⊕◯◯ low	Very small numbers and none of the studies are adequately powered Only two of the three studies considered low risk of bias
Dysarthria intervention versus any control: persisting effects, impairment level	0.07 [-0.91, 1.06]	56 participants 2 RCTs	⊕◯◯◯ very low	Very small numbers, none of the studies are adequately powered. Only one of the two studies considered low risk of bias
Dysarthria intervention versus any control: persisting effects, participation level	-0.11 [-0.56, 0.33]	79 participants 2 RCTs	⊕⊕◯◯ low	Both studies considered low risk of bias but very small numbers and neither study adequately powered
Dysarthria intervention versus any control for stroke subgroup: persisting effects, activity level	0.16 [-0.23, 0.54]	106 participants 3 RCTs	⊕⊕◯◯ low	Very small numbers and none of the studies are adequately powered Only two of the three studies considered low risk of bias
Dysarthria intervention versus any control: immediate effects, impairment level	0.47 [0.02, 0.92]	99 participants 4 RCTs	⊕◯◯◯ very low	Very small participant numbers, not adequately powered. Only one of the four studies risk of bias

weeks

Interventions for dysarthria due to stroke and other adult-acquired, non-progressive brain injury (Review)

Mitchell C, Bowen A, Tyson S, Butterfint Z, Conroy P

February 2017

Cochrane Database of Systematic Reviews

5 RCTs that involved a total of 234 participants

Low quality: Further research is **very likely** to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low quality: We are **very uncertain about the estimate**.

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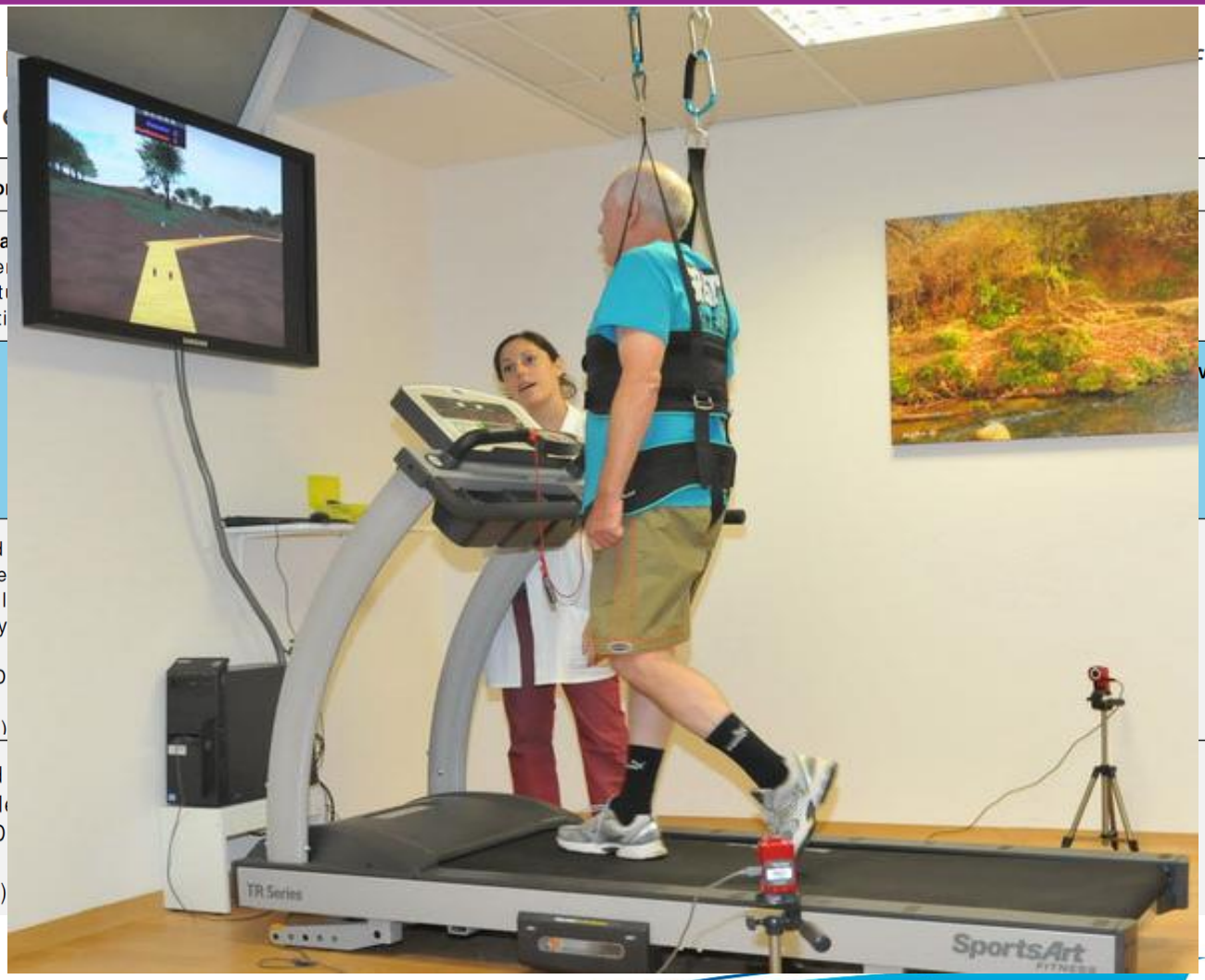
Virtual reality for rehabilitation in Parkinson's disease (Review)

Cochrane Database of Systematic Reviews

Dockx K, [illegible] JM, Mirelman A, Nieuwboe [illegible]

December 2016

Virtual reality co			
Patient or popula **Setting:** outpatie **Intervention:** virt **Comparison:** acti			
Outcomes		**vidence**	**Comments**
Gait (assessed composite me gait speed, step l stride length, Dy Gait Index) (measured in SD higher scores better outcomes)			As a rule of thumb, 0.2 SD represents a small difference, 0.5 a moderate difference, and 0.8 a large difference.
Gait (assessed step and stride l (measured in SD higher scores better outcomes)			



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Virtual reality for rehabilitation in Parkinson's disease (Review)

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Balance (assessed with composite measure: Berg Balance Scale, Timed Up and Go Test, Single-Leg Stance Test) (measured in SD units; higher scores mean better outcomes)	Balance score in the virtual reality groups was on average **0.34 standard deviations higher (0.04 lower to 0.71 higher)** than in the control groups.		-		155 (5 RCTs)	⊕⊕◯◯ LOW [23]
Quality of life (assessed with PDQ-39) (higher values mean better outcomes)	The mean change in quality of life in the control groups ranged from -1.88 to 11.4	The mean change in the virtual reality groups was on average **3.73 higher (2.16 lower to 9.61 higher)** than in the control groups.	-		106 (4 RCTs)	⊕◯◯◯ VERY LOW [123]
Number of adverse events	All studies reported that no adverse event had taken place in either the virtual reality or the active intervention		-		115 (4 RCTs)	⊕⊕◯◯ LOW [12]

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Caregiver-mediated exercises for improving outcomes after stroke (Review)

Cochrane Database of Systematic Reviews

Vloothuis JDM, Mulder M, Veerbeek JM, Konijnenbelt M, Visser-Meily JMA, Ket JCF, Kwakkel G, van Wegen EEH

9 RCTs, 333 patient-caregiver couples

December 2016

Patient or population
Settings: inpatient an
Intervention: caregiv
Comparison: control,

Outcomes

Patient: ADL measur
Barthel Index. Scale 0
100
(follow-up: 2 studies;
6 months)
FIM. Scale 7 to 126
(no follow-up)

Caregiver: measures
mood, burden and Qo
burden
Caregiver Strain Ind
Scale. 0 to 13
(follow-up 3 months)
Caregiver Burd
Scale. 22 to 88
(no follow-up)

Gait and gait-relate
measures: walking di
tance measured wi
the Six-Minute Wa
Test
in metres walked in
minutes
(follow-up: 1 study,
months)

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Analysis 5.1. Comparison 5 Sensitivity analysis - caregiver-mediated exercise (CME)-core - end of intervention, Outcome 1 Patient: activities of daily living (ADL) measures: Barthel Index.

Review: Caregiver-mediated exercises for improving outcomes after stroke

Comparison: 5 Sensitivity analysis - caregiver-mediated exercise (CME)-core - end of intervention

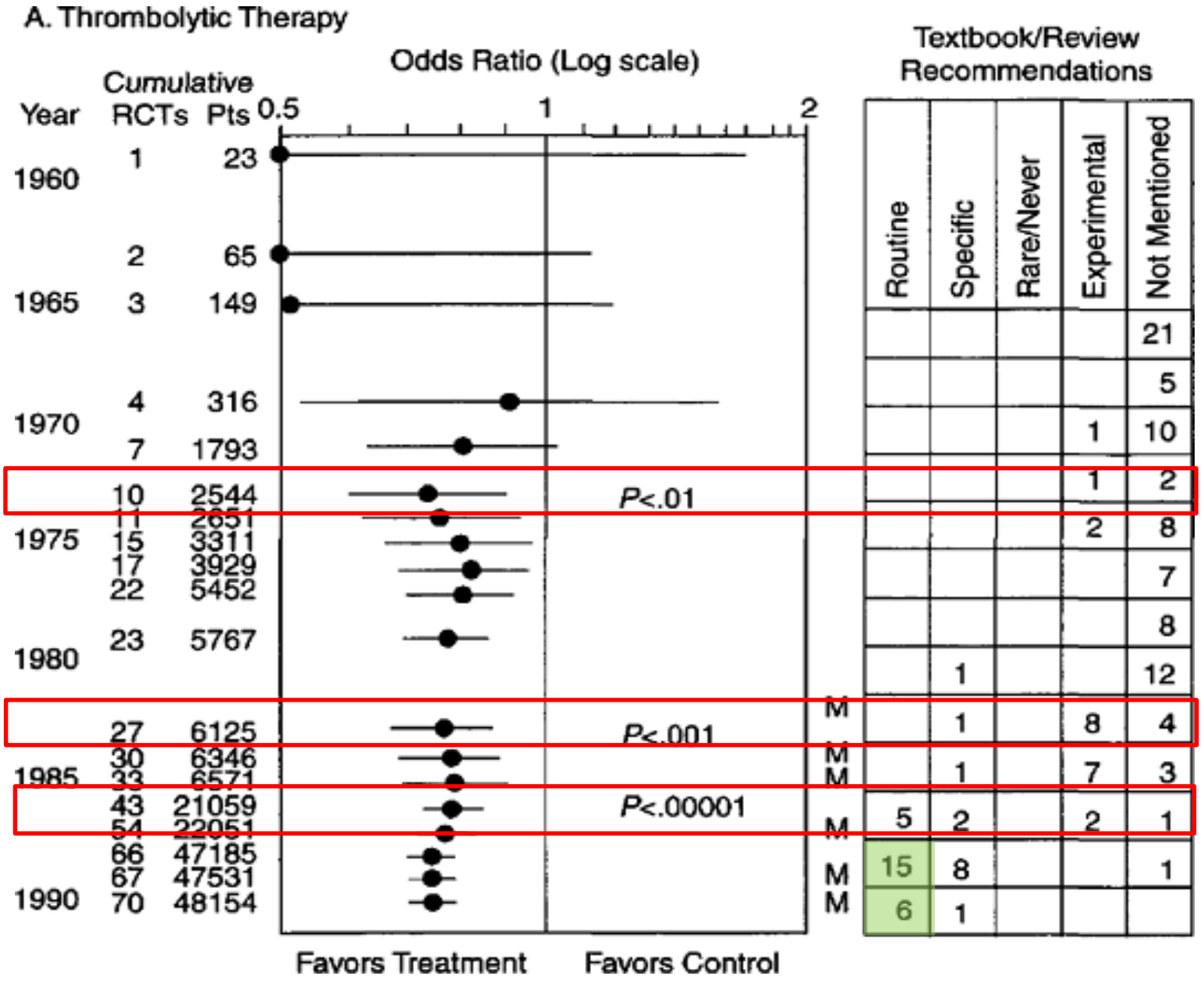
Outcome: 1 Patient: activities of daily living (ADL) measures: Barthel Index

Study or subgroup	Experimental N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
Galvin 2011	20	88.5 (15.6)	20	81.8 (18.7)		47.2 %	6.70 [-3.97, 17.37]
Wang 2015	25	89.6 (12.4)	26	77.7 (23)		52.8 %	11.90 [1.81, 21.99]
Total (95% CI)	**45**		**46**			**100.0 %**	**9.45 [2.11, 16.78]**

Heterogeneity: $Chi^2 = 0.48$, df = 1 (P = 0.49); $I^2 = 0.0\%$

Test for overall effect: Z = 2.53 (P = 0.012)

Test for subgroup differences: Not applicable



Total mortality

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http://www.iecs.org.ar/centro-cochrane-iecs/

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