Cochrane Rehabilitation

Now that we are happy with the methodology we will proceed to examine the results

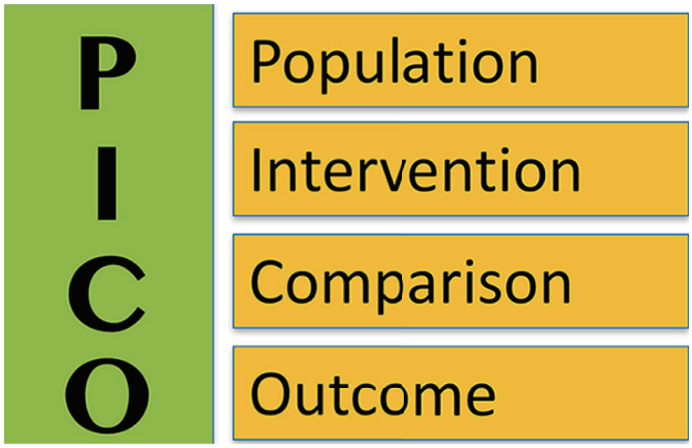
FLAWED SYSTEMATIC REVIEW?

Cochrane Rehabilitation

Results

Cochrane Rehabilitation

Start with PICO



Stroke patients

Body Weight supported treadmill training therapy

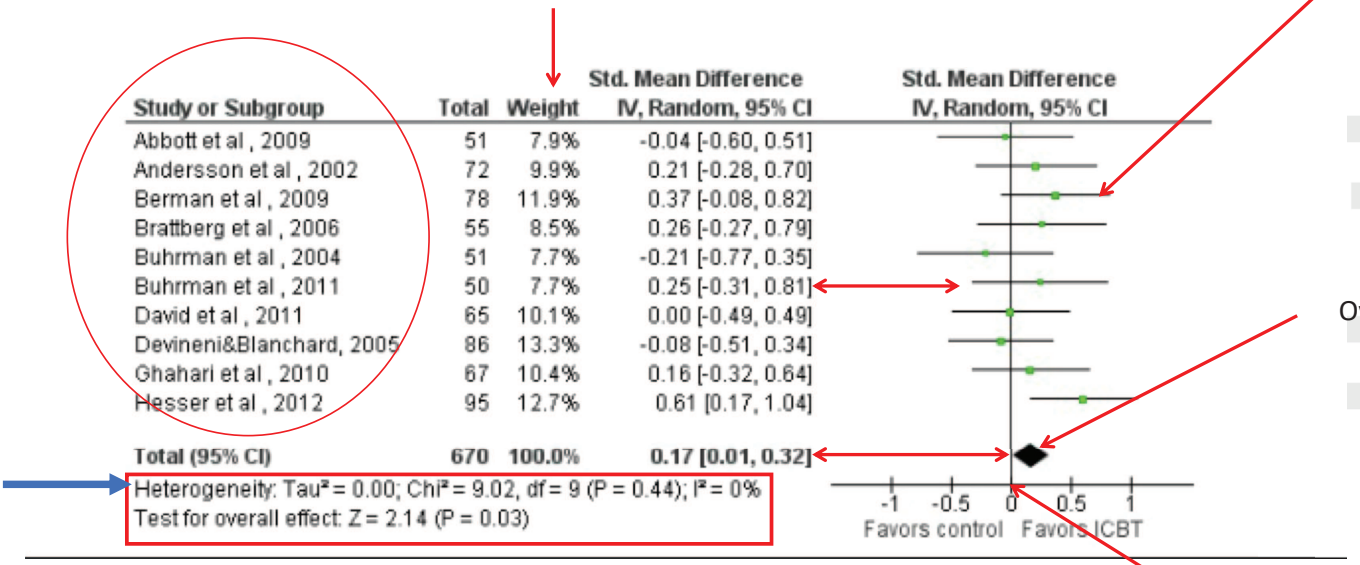
Conventional walking therapy

Walking ability

In a person with stroke, will training with BWSTT compared to conventional therapy improve walking ability?

Mr Lee wants to know if BWSTT therapy could make him walk faster and for further distance.

Cochrane Rehabilitation



Overall effect

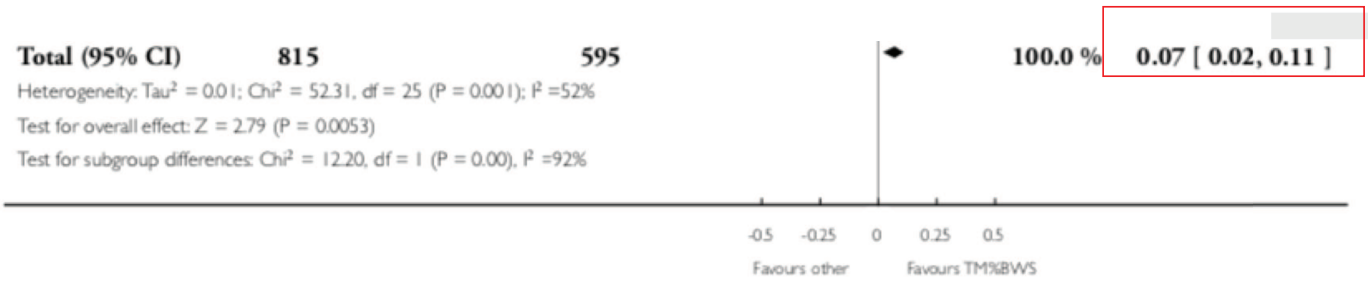
Line of no difference

Forest plot

Cochrane Rehabilitation

Analysis 2.2. Comparison 2 Treadmill and body weight support versus other interventions, Outcome 2 Walking speed (m/s) at end of treatment.

Regardless of walking ability at start of treatment



Cochrane Rehabilitation

Analysis 2.2. Comparison 2 Treadmill and body weight support versus other interventions, Outcome 2 Walking speed (m/s) at end of treatment.

Dependent

(. . . Continued)

Study or subgroup	TM%BWS N	Mean(SD)	Other interventions N	Mean(SD)	Mean Difference IV,Random,95% CI	Weight	Mean Difference IV,Random,95% CI
Zhu 2004	10	0.19 (0.11)	10	0.17 (0.13)		1.8 %	0.02 [-0.09, 0.13]
Subtotal (95% CI)	**441**		**297**			**36.5 %**	**-0.01 [-0.06, 0.03]**
Heterogeneity: Tau^2 = 0.0; Chi^2 = 3.34, df = 7 (P = 0.85); I^2 =0.0%							
Test for overall effect: Z = 0.66 (P = 0.51)							

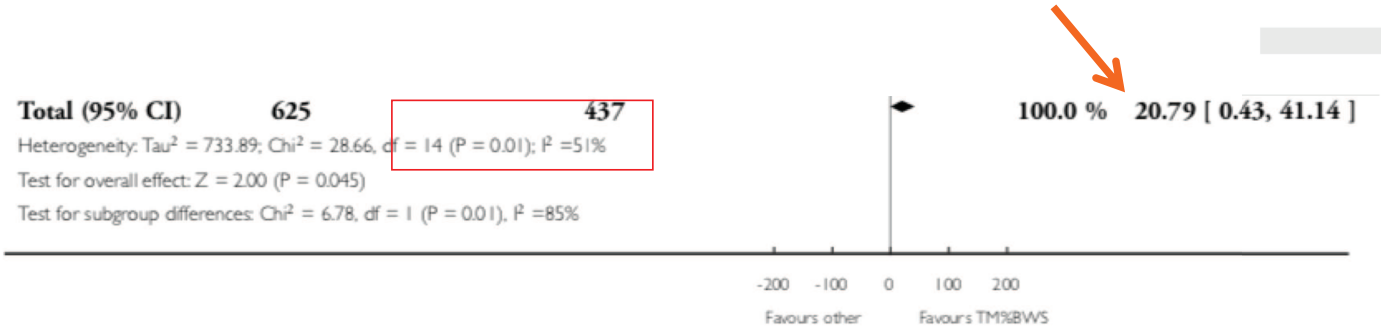
Independent in walking

Takami 2010	24	1.47 (0.45)	12	1.11 (0.49)		1.6 %	0.36 [0.03, 0.69]
Yen 2008	7	0.92 (0.32)	7	0.87 (0.43)		1.2 %	0.05 [-0.35, 0.45]
Subtotal (95% CI)	**374**		**298**			**63.5 %**	**0.11 [0.06, 0.17]**
Heterogeneity: Tau^2 = 0.01; Chi^2 = 29.09, df = 17 (P = 0.03); I^2 =42%							
Test for overall effect: Z = 3.95 (P = 0.000078)							

Cochrane Rehabilitation

Analysis 2.3. Comparison 2 Treadmill and body weight support versus other interventions, Outcome 3 Walking endurance (m) at end of treatment.

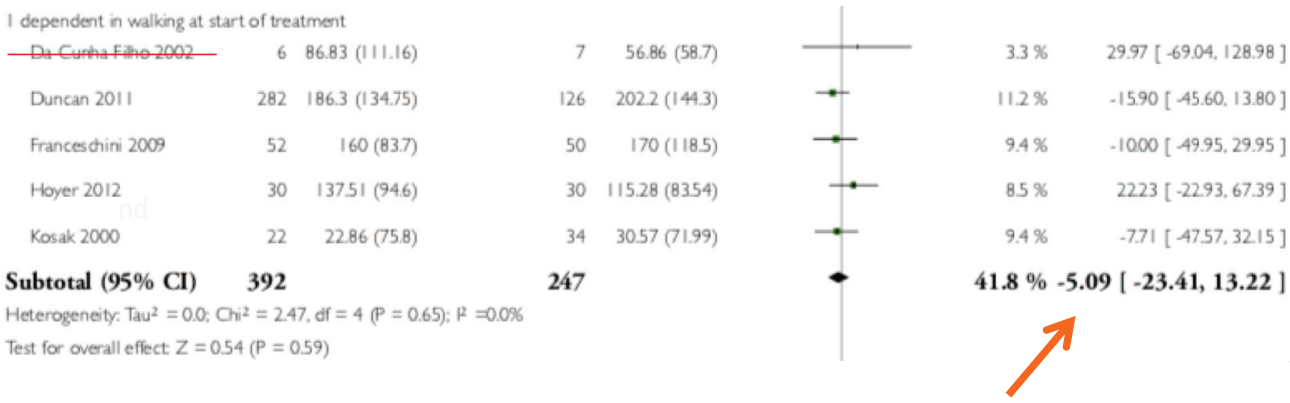
Regardless of walking ability at start of treatment



Cochrane Rehabilitation

Analysis 2.3. Comparison 2 Treadmill and body weight support versus other interventions, Outcome 3 Walking endurance (m) at end of treatment.

Dependent in walking



Analysis 2.3. Comparison 2 Treadmill and body weight support versus other interventions, Outcome 3 Walking endurance (m) at end of treatment.

Independent in walking

MacKay-Lyons 2013	24	278.6 (88.6)	26	232 (80.1)		8.3 %	46.60 [-0.35, 93.55]
Middleton 2014	27	337.98 (203.93)	23	239.46 (165.77)		3.1 %	98.52 [-3.98, 201.02]
Moore 2010	15	276 (130)	15	201 (134)		3.5 %	75.00 [-19.48, 169.48]
Srivastava 2016	10	285.38 (85.1)	10	290 (67.13)		5.7 %	-4.62 [-71.80, 62.56]
Sullivan 2007	60	235.6 (125.5)	20	170.5 (122.8)		6.2 %	65.10 [2.61, 127.59]
Subtotal (95% CI)	**233**		**190**			**58.2 %**	**36.91 [11.14, 62.68]**

Heterogeneity: Tau² = 627.40; Chi² = 14.80, df = 9 (P = 0.10); I² =39%

Test for overall effect: Z = 2.81 (P = 0.0050)

Cochrane Rehabilitation

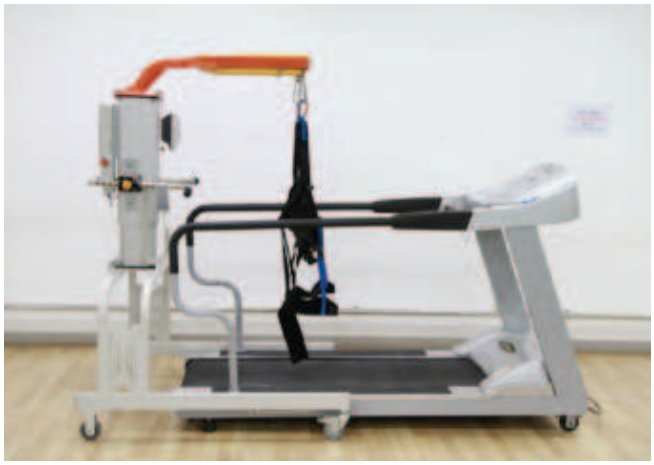
In the short term, patients who are walking independently at the start of treatment:

- Increase walking speed by 0.11m/s (0.06 - 0.17m/s)
- Increase walking endurance by 37m (11-63m)

No significant difference if dependent in walking at the start of treatment

Mr Lee walks independently

Cochrane
Rehabilitation



Long term ?

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In summary, BWSTT compared to conventional therapy:

In the short term, patients who are walking independently at the start of treatment:

- Increase walking speed by **0.11m/s (0.06 - 0.17m/s)**
- Increase walking endurance by **37m (11-63m)**

In the long term regardless of walking status, BWSTT

- Does not improve walking speed
- Does not improve walking endurance

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Sub group analysis

(ONLY DONE FOR INDEPENDENT WALKING)

- Duration of illness on starting treatment
  - 3 months

Velocity ✗ Endurance ✓

- Intensity of treatment
  - 5 times per week
  - 3-4 times a week
  - 3 times or less

Velocity ✗ Endurance ✗

- Duration of treatment
  - More than 4 weeks
  - 4 weeks
  - Less than 4 weeks

Velocity ✓ Endurance ✗

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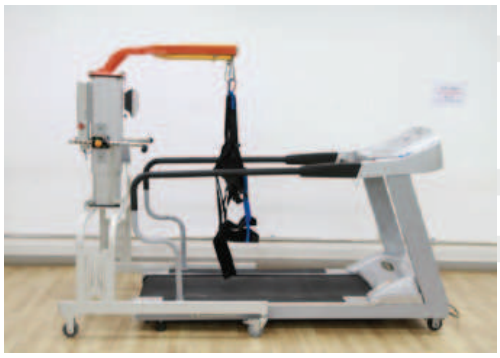
Personalize this information to Mr Lee..

Mr. Lee, a 60 years old man who suffered a stroke 6 months ago requested you to refer home for body weight supported treadmill training (BWSTT).
He has right hemiplegia, and is currently walking independently without walking aids. He is unhappy with his current walking ability and want to know if BWSTT therapy could make him walk faster and for further distance.
His insurance odes not cover such therapy but he is willing to pay. He is currently undergoing conventional gait training.



What are you going to tell him?
How do you make the decision to refer him for such therapy?

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Personalize this information to Mr Lee..

If you receive this treatment, you will:

- Walk faster by **0.11m/s (0.06 - 0.17m/s)**
- Walk further by **37m (11-63m)**

At the end of the treatment session

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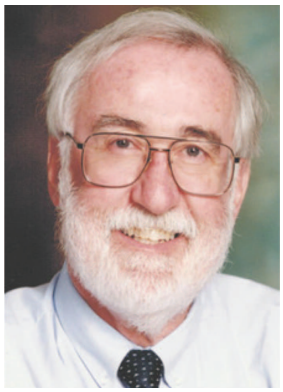
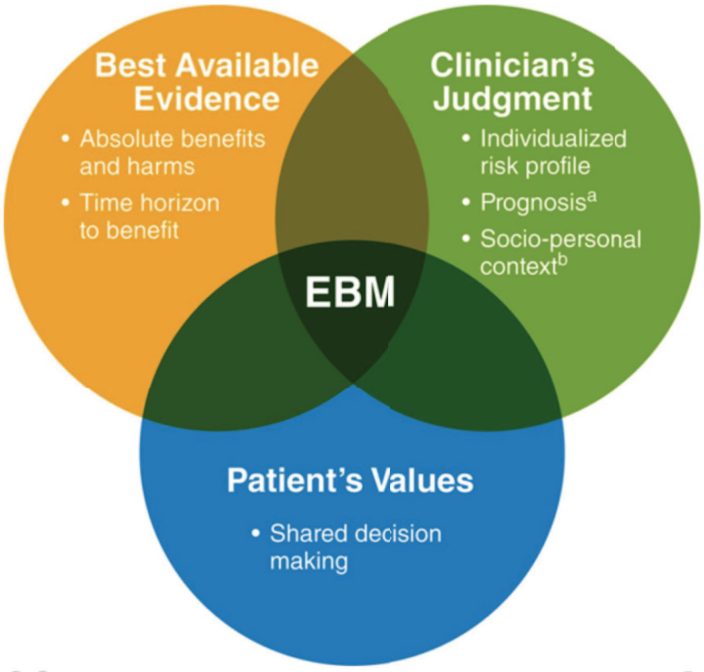
Evidence Based Medicine

"Evidence-based medicine is the integration of best *research evidence* with *clinical expertise* and *patient values*"

David Sackett





Cochrane Rehabilitation

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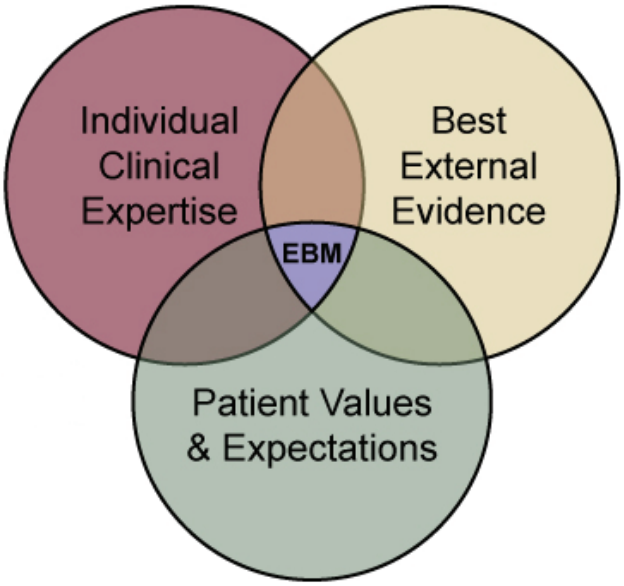

DIFFERENT TREATMENT DECISION

Cochrane Rehabilitation

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