



## HOW TO CALCULATE OUTCOME MEASURES USING OML FES PAPERWORK

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### Walking tests

- Patients are asked to carry out four 10m walks (if they are unable to manage four walks do walk 2 and 3 below; if they are unable to carry out *any* 10m walks or there is no room in the clinic consider other objective outcome measures e.g. timed up and go)
- There should be 1m at each end of the walkway for patients to accelerate and decelerate at the before and after of the 10m
- N.B. it has been shown that a 5m walk is sufficient (with 2m each end for acceleration and deceleration) to get accurate walking speeds (Ng et al 2012 "Walkway lengths for measuring walking speed in stroke rehabilitation" in J Rehabil Med 44:43-46)

10 METRE WALK	<i>(state reason if not completed)</i>		
	Time	Speed m/s	Borg RPE
Walk1 (no FES)	<i>12.3</i>	<i>0.81</i>	<i>3</i>
Walk 2 (no FES)	<i>11.5</i>	<i>0.87</i>	<i>3</i>
Walk 3 (with FES)	<i>9.8</i>	<i>1.02</i>	<i>2</i>
Walk 4 (no FES)	<i>10.2</i>	<i>0.98</i>	<i>3</i>
Change with stimulation today (Orthotic effect)		<i>17 %</i>	<i>-1</i> Numerical value e.g. +/- 2
Change since 1st assessment (NS) (Carry over)		%	Numerical value e.g. +/- 2

*Example data filled in*

- **Walk 1** is a "warm up" walk
- **Walk 2** is the non-stimulated walking speed used for calculations
- **Walk 3** is the walk with FES
- **Walk 4** shows any immediate carryover effect from the FES

To calculate the walking speed: 10 /time to walk 10m e.g. in this example walk 1:  $10/12.3 = 0.81\text{m/s}$

To calculate % change with stimulation today: (walk3/walk2) -1 x 100  
e.g. in this example:  $(1.02/0.87) - 1 \times 100 = 17\%$

To calculate change since 1<sup>st</sup> assessment: (walk 2/set-up non-stimulated walk) -1 x 100  
e.g. in this example (set-up non-stimulated walk =0.83)  $(0.87/0.83) - 1 \times 100 = 5\%$

Borg RPE is calculated by asking the patient to rate their effort at the end of each walk using the Borg RPE scale (available at <http://www.odstockmedical.com/forms-and-downloads>)

## GOAL ATTAINMENT SCALE (GAS)

- This is a way of formalising goals with patients. They should be jointly agreed between the clinician and their patient
- Goals need to follow the SMART format:
  - S- specific, M- measurable, A- achievable, R- relevant, T- timed
- Set their current level in the -1 level
- Write the expected outcome in the 0 level
- Then put a better than expected level of achievement in +1 and an even better level in +2
- Write in -2 a deterioration in their condition
- You need to write at least 3 goals in order to calculate a "GAS score"
  - We tend to find that patients can think of one functional goal and then 2 other symptoms can be rated using a visual analogue scale and put into the GAS

DESCRIPTION:	GOAL 1	GOAL 2	GOAL 3
	Walking- ↑ distance	↓ back pain when walking (VAS)	↓ fear of falling (VAS)
Much more than expected (+2)	Walk to shops (100m along road)	$\frac{0}{10}$	$\frac{\leq 1}{10}$
More than expected (+1)	Walk to postbox (20m along pavement)	$\frac{1-3}{10}$	$\frac{2-4}{10}$
Most likely outcome (0)	Walking to the car (10m along driveway)	$\frac{4-6}{10}$	$\frac{5-7}{10}$
Less than expected outcome (-1)	Walking around the house only	$\frac{7}{10}$	$\frac{8}{10}$
Much less than expected (-2)	Only able to do transfer	$\frac{>8}{10}$	$\frac{>9}{10}$
Timescale	18 weeks		
Sign, print and date:			
<b>Review</b> Date and level achieved	0	1	0

TOTAL GAS SCORE= 60

- When reviewing patients find out what levels they have achieved and then add up the sum of these values
  - in e.g. 0 +1 +0 =1, translated on the GAS table( available at <http://www.odstockmedical.com/forms-and-downloads>) as 60

For further information see: Turner-Stokes (2008) Goal attainment scaling (GAS) in rehabilitation: a practical guide in Clinical Rehabilitation 32: 362-370

## VISUAL ANALOGUE SCALE

- This can be used to rate change in subjective symptoms reported by the patient e.g. confidence in walking, fear of falling, pain, quality of gait
- It can be useful asking patients what they perceive the benefit is from using FES at each apt and then ask them to rate the difference with and without FES using the visual analogue scale. This can provide useful information if patients don't shown any change in walking tests, but there is still clearly a perceived benefit from using FES.
- Ensure that you state which end of the scale is better and which end is worse and note this down when recording your VAS

Pt's perception of benefits of FES:	Less embarrassed about walking in public
Patient-specific VAS scores: e.g. confidence in walking $\frac{x}{10}$ no FES, $\frac{y}{10}$ with FES	10/10= not at all embarrassed walking in public 0/10= completely embarrassed walking in public 4/10 without FES 7/10 with FES

- Make sure you use a vertical scale to prevent problems with neglect/visual field problems

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10  
9  
8  
7  
6  
5  
4  
3  
2  
1  
0

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