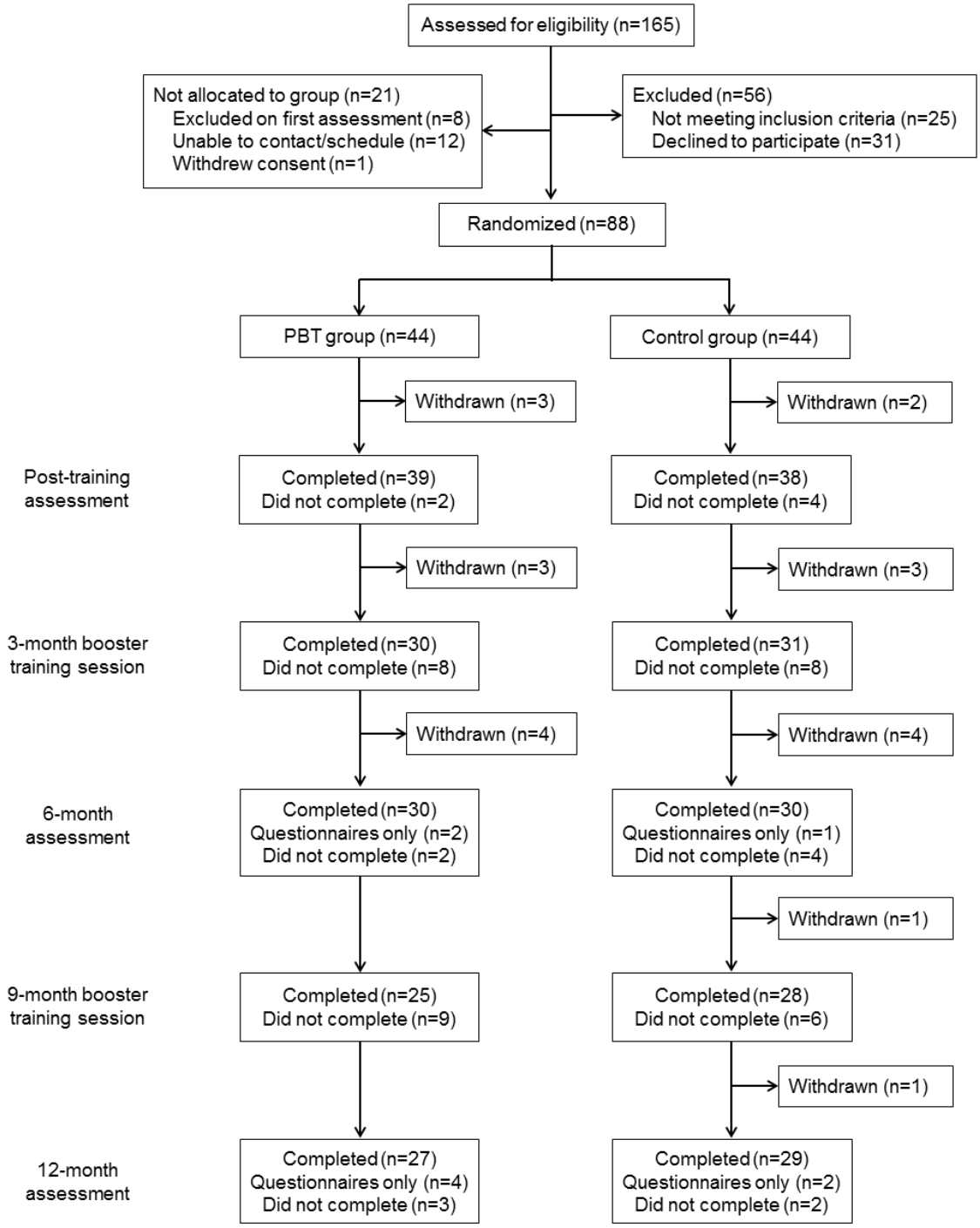
Participant Flow



Participant flow: 8 participants who consented were excluded on initial assessment because they could not tolerate the lean-and-release postural perturbations. Participants were withdrawn after randomization because it was discovered that they did not meet the study criteria (1 PBT and 1 control), or because they had a significant decline in health during the training portion of the study (1 PBT and 1 control). One PBT participant withdrew from the study because she did not like the group allocation. Therefore, there were 42 control participants and 41 PBT participants available for analysis of the primary outcome.

Baseline characteristics

Values presented are medians with interquartile range in parentheses (for continuous/ordinal variables) or number with percentage in parentheses (for count/frequency variables). The p-value is for the Wilcoxon-Mann-Whitney test (continuous/ordinal variables) or Fisher's exact test (count/frequency variables).

	PBT (n=41)	**Control (n=42)**	***p-value***
Age (years)	66 (17)	67 (13)	*0.84*
Sex (number, %)			
Female	15 (36.6)	12 (28.6)	*0.49*
Male	26 (63.4)	30 (71.4)	
Time post-stroke (years)	2.0 (3.3)	3.2 (4.5)	*0.086*
More affected side (number, %)			
Left	22 (53.7)	22 (52.4)	*>0.99*
Right	19 (46.3)	20 (47.6)	
NIH-SS (score)	3 (4)	3 (5)	*0.57*
CMSA leg (score)	5 (1)	5 (1)	*0.54*
CMSA foot (score)	5 (3)	5 (1)	*0.50*
ABC scale (%)	65.6 (26.3)	79.1 (33.8)	*0.42*
BBS (score)	50 (10)	51 (7)	*0.94*
Mini-BEST (score)	18 (7)	18 (5)	*0.95*
TUG (s)	14.4 (12.3)	13.0 (7.6)	*0.62*
Fall in the past year (number, %)			
Yes	17 (41.5)	18 (42.9)	*>0.99*
No	24 (58.5)	24 (57.1)	

ABC=Activities-specific balance confidence scale, BBS=Berg balance scale, mini-BEST=mini-Balance Evaluation Systems Test, CMSA=Chedoke-McMaster stroke assessment, NIH-SS=National Institutes of Health stroke scale.

Outcome measures

Primary outcome – falls in daily life: 'Fallers' are individuals who experienced at least one fall during the monitoring period. The ratios are odds ratios (number of fallers, controlling for fall monitoring duration) and rate ratios (number of falls), with the 95% confidence interval of the ratios in brackets. Per-protocol analysis includes only those participants who completed at least 10/12 of the initial training sessions and at least 1 booster training session.

Intent-to-treat analysis	**PBT (n=41)**	**Control (n=42)**	**Ratio**	**p-value**
Number of fallers	19	23	0.71 [0.30, 1.70]	0.44
Number of falls	53	64		
Number of falls (per person-year)	1.45	1.72	0.85 [0.42, 1.69]	0.63
Per-protocol analysis	**PBT (n=32)**	**Control (n=34)**	**Ratio**	**p-value**
Number of fallers	14	20	0.56 [0.21, 1.50]	0.25
Number of falls	32	57		
Number of falls (per person-year)	1.07	1.75	0.62 [0.29, 1.30]	0.20

Secondary outcomes – balance confidence, balance and mobility: Values presented are least-square means with 95% confidence intervals in brackets. The p-value is for the ANCOVA comparing groups at each time point, controlling for the baseline value.

	PBT	Control	*p-value*
Post-training			
N	39	38	
ABC (%)	75.6 [71.6, 79.7]	78.2 [74.1, 82.2]	*0.97*
BBS (score)	50.8 [50.0, 51.7]	51.2 [50.3, 52.1]	*0.99*
Mini-BEST (score)	20.3 [19.6, 21.0]	20.1 [19.3, 20.8]	*0.96*
BEST-anticipatory (score)	4.4 [4.2, 4.6]	4.4 [4.2, 4.6]	*0.94*
BEST-reactive (score)	4.2 [3.7, 4.7]	3.6 [3.0, 4.1]	*0.044*
BEST-sensory (score)	5.3 [5.2, 5.5]	5.6 [5.4, 5.7]	*0.0084*
BEST-gait (score)	6.4 [6.0, 6.7]	6.6 [6.2, 7.0]	*0.44*
TUG (s)	17.5 [15.8, 19.2]	17.4 [15.7, 19.1]	*0.30*
6-month follow-up			
N	30*	30*	
ABC (%)	75.4 [70.1, 80.8]	74.1 [68.6, 79.5]	*0.70*
BBS (score)	50.2 [49.2, 51.2]	51.3 [50.3, 52.4]	*0.11*
Mini-BEST (score)	19.8 [18.9, 20.7]	19.1 [18.2, 20.0]	*0.81*
BEST-anticipatory (score)	4.3 [4.0, 4.6]	4.3 [4.0, 4.6]	*0.99*
BEST-reactive (score)	4.0 [3.4, 4.5]	2.9 [2.3, 3.4]	*0.0055*
BEST-sensory (score)	5.4 [5.1, 5.7]	5.4 [5.2, 5.7]	*0.44*
BEST-gait (score)	6.2 [5.6, 6.7]	6.5 [6.0, 7.1]	*0.25*
TUG (s)	16.8 [15.3, 18.2]	15.4 [13.9, 16.9]	*0.32*
12-month follow-up			
N	27†	29†	
ABC (%)	75.2 [69.3, 81.1]	78.1 [72.1, 84.0]	*0.95*
BBS (score)	50.6 [49.5, 51.6]	51.1 [50.0, 52.1]	*0.27*
Mini-BEST (score)	20.6 [19.4, 21.8]	18.7 [17.5, 19.8]	*0.049*
BEST-anticipatory (score)	4.3 [4.0, 4.6]	4.3 [3.9, 4.6]	*0.45*
BEST-reactive (score)	4.2 [3.6, 4.9]	2.6 [2.0, 3.2]	*0.0013*
BEST-sensory (score)	5.4 [5.1, 5.7]	5.4 [5.1. 5.6]	*0.64*
BEST-gait (score)	6.6 [6.0, 7.3]	6.5 [5.9, 7.1]	*0.90*
TUG (s)	15.7 [14.3, 17.2]	17.3 [15.9, 18.7]	*0.79*

ABC=activities-specific balance confidence scale; BBS=Berg balance scale; BEST=balance evaluation systems test.

*N=32 PBT and 31 control for the ABC at 6-month follow-up. †N=31 PBT and 31 control for the ABC at 12-month follow-up.

Secondary outcomes – participation in daily activities: Values presented are least-square means with 95% confidence intervals in brackets The p-value is for the ANCOVA comparing groups at each time point, controlling for the baseline value.

	PBT	Control	*p-value*
Post-training			
N	39	38	
PASIPD (score)	12.3 [10.0, 14.6]	11.2 [8.8, 13.6]	*0.92*
SIPSO (score)	29.8 [28.1, 31.4]	31.2 [29.5, 32.9]	*0.29*
2-month follow-up			
N	38	31	
PASIPD (score)	8.6 [6.4, 10.8]	9.5 [7.1, 11.9]	*0.51*
SIPSO (score)	29.7 [28.2, 31.2]	31.5 [29.8, 33.21]	*0.23*
4-month follow-up			
N	33	34	
PASIPD (score)	9.2 [7.3, 11.2]	7.8 [5.9, 9.8]	*0.34*
SIPSO (score)	30.0 [28.2, 31.9]	30.2 [28.4, 32.0]	*0.62*
6-month follow-up			
N	32	31*	
PASIPD (score)	11.3 [7.3, 15.3]	10.9 [6.8, 15.0]	*0.21*
SIPSO (score)	30.3 [29.0, 31.6]	32.6 [31.3, 33.9]	*0.012*
8-month follow-up			
N	31	26	
PASIPD (score)	7.0 [5.6, 8.4]	6.9 [5.4, 8.5]	*0.61*
SIPSO (score)	30.5 [29.3, 31.7]	32.3 [31.0, 33.6]	*0.037*
10-month follow-up			
N	32	32	
PASIPD (score)	7.0 [5.5, 8.5]	8.2 [6.7, 9.7]	*0.16*
SIPSO (score)	29.9 [28.4, 31.3]	32.3 [30.9, 33.8]	*0.031*
12-month follow-up			
N	31	31	
PASIPD (score)	11.1 [7.4, 14.8]	10.1 [6.4, 13.9]	*0.27*
SIPSO (score)	30.6 [29.1, 32.0]	32.6 [31.1, 34.0]	*0.047*

PASIPD=physical activity scale for individuals with physical disabilities; SIPSO=subjective index of physical and social outcome

*N=30 control for the SIPSO

Adverse Events

Serious adverse events: Values presented are the number of adverse events reported for all randomized participants. Participants who experienced serious adverse events were withdrawn from the study at the time of the event

	PBT (n=44)	Control (n=44)
Events related to study procedures	0	0
Events unrelated to study procedures		
Prolonged hospitalization	1	1
Another stroke	2	3
Death	0	1
Cancer diagnosis	0	1

Other adverse events: Values are the numbers of adverse events for all randomized participants. Only adverse events that were deemed possibly, probably, or definitely related to study procedures are reported.

	PBT (n=44)	Control (n=44)
Fatigue	3	1
Joint pain	14	11
Delayed onset muscle soreness	5	8
Seizure	1	0
Elevated heart rate and low blood pressure	0	1
Falls*	3	1

*Only falls were deemed related to study procedures are reported here (distinct from the falls as an outcome listed above). One PBT participant noted that he felt more confident as a result of the training, and may have increased risk-taking behaviour. This participant reported 3 falls in the community during the initial 6-week training period of the study. One control participant fell outside the hospital on the way to a study appointment.