

Comparison: Whole-body massage compared with no massage

Source: Priyadarshi M, Kumar V, Balachander B, Gupta S, Sankar MJ. Effect of whole-body massage on growth and neurodevelopment in term healthy newborns: a systematic review (submitted).

Certainty assessment							No of patients		Effect		Certainty (GRADE)	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whole-body massage	No massage	Relative (95% CI)	Absolute (95% CI)		
Weight (g) – end of intervention period												
16	randomized trials	very serious ^a	serious ^b	not serious	not serious	none	1072	1076	-	MD 343.43 higher (260.73 higher to 426.12 higher)	⊕○○○ VERY LOW	CRITICAL
Weight (g) – follow-up at 8–12 months												
2	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	74	83	-	MD 455.07 higher (86.33 higher to 823.8 higher)	⊕○○○ VERY LOW	CRITICAL
Length (cm) – end of intervention period												
8	randomized trials	very serious ^a	not serious	not serious	not serious	none	630	630	-	MD 1.53 higher (1.37 higher to 1.70 higher)	⊕⊕○○ LOW	CRITICAL
Length (cm) – follow-up at 12 months												
1	randomized trials	very serious ^a	not serious	not serious	very serious ^{c,d}	none	54	62	-	MD 0.71 higher (0.15 lower to 1.57 higher)	⊕○○○ VERY LOW	CRITICAL
Head circumference (cm) – end of intervention period												
6	randomized trials	very serious ^a	serious ^b	not serious	not serious	none	500	500	-	MD 0.85 higher (0.57 higher to 1.14 higher)	⊕○○○ VERY LOW	CRITICAL

Certainty assessment							No of patients		Effect		Certainty (GRADE)	Importance
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Head circumference (cm) – follow-up at 6 months												
1	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	55	60	-	MD 1.31 higher (0.55 higher to 2.07 higher)	⊕○○○ VERY LOW	CRITICAL
Bilirubin levels at 4 days												
4	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	168	177	-	MD 31.75 lower (40.05 lower to 23.46 lower)	⊕○○○ VERY LOW	CRITICAL
Sleep duration over 24-hour period (hours/day) – end of intervention												
3	randomized trials	very serious ^a	serious ^b	not serious	not serious	none	266	268	-	MD 0.62 higher (0.12 higher to 1.12 higher)	⊕○○○ VERY LOW	CRITICAL
Sleep duration over 24-hour period (hours/day) – follow-up at 6 months												
1	randomized trials	very serious ^a	not serious	not serious	very serious ^{c,d}	none	61	63	-	MD 0.08 higher (0.48 lower to 0.64 higher)	⊕○○○ VERY LOW	CRITICAL
Psychomotor Development Indices (PDI) meta-analysis post-intervention – end of intervention period												
3	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	234	154	-	SMD 0.39 higher (0.6 higher to 0.18 higher)	⊕○○○ VERY LOW	CRITICAL
Psychomotor Development Indices (PDI) meta-analysis post-intervention – follow-up at 24 months												
1	randomized trials	very serious ^a	not serious	not serious	very serious ^{c,d}	none	20	21	-	SMD 7.52 higher (1.49 lower to 16.53 higher)	⊕○○○ VERY LOW	CRITICAL
Mental Development Indices (MDI) meta-analysis post-intervention – end of intervention period												
3	randomized trials	very serious ^a	serious ^b	not serious	very serious ^{c,d}	none	234	154	-	SMD 0.29 higher (0.18 lower to 0.77higher)	⊕○○○ VERY LOW	CRITICAL

Certainty assessment							No of patients		Effect		Certainty (GRADE)	Importance
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whole-body massage	No massage	Relative (95% CI)	Absolute (95% CI)		
Mental Development Indices (MDI) meta-analysis – follow-up at 24 months												
1	randomized trials	very serious ^a	not serious	not serious	very serious ^{c,d}	none	20	21	-	SMD 8.59 higher (1.62 lower to 18.80 higher)	⊕○○○ VERY LOW	CRITICAL
Gross motor development at end of intervention (Gesell development quotient/Capital Institute mental checklist)												
2	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	117	120	-	SMD 0.44 higher (0.18 higher to 0.7 higher)	⊕○○○ VERY LOW	CRITICAL
Fine motor development at end of intervention (Gesell development quotient/Capital Institute mental checklist)												
2	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	117	120	-	SMD 0.61 higher (0.35 higher to 0.87 higher)	⊕○○○ VERY LOW	CRITICAL
Language at end of intervention (Gesell development quotient/Capital Institute mental checklist)												
2	randomized trials	very serious ^a	serious ^b	not serious	very serious ^{c,d}	none	117	120	-	SMD 0.82 higher (0.03 lower to 1.67 higher)	⊕○○○ VERY LOW	CRITICAL
Personal-social behaviour at end of intervention (Gesell development quotient/Capital Institute mental checklist)												
2	randomized trials	very serious ^a	serious ^b	not serious	serious ^c	none	117	120	-	SMD 0.9 higher (0.18 higher to 1.61 higher)	⊕○○○ VERY LOW	CRITICAL
Gross motor development at 12 months (Gesell development quotient)												
1	randomized trials	very serious ^a	not serious	not serious	very serious ^{c,d}	none	54	62	-	MD 2.85 higher (2.48 lower to 8.18 higher)	⊕○○○ VERY LOW	CRITICAL
Fine motor development at 12 months (Gesell development quotient)												
1	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	54	62	-	MD 8.12 higher (4.57 higher to 11.67 higher)	⊕○○○ VERY LOW	CRITICAL

No of studies	Study design	Certainty assessment					No of patients		Effect		Certainty (GRADE)	Importance
		Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Whole-body massage	No massage	Relative (95% CI)	Absolute (95% CI)		

Language at 12 months (Gesell development quotient)

1	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	54	62	-	MD 7.9 higher (4.1 higher to 11.7 higher)	⊕○○○ VERY LOW	CRITICAL
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Personal-social behaviour at 12 months (Gesell development quotient)

1	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	54	62	-	MD 6.19 higher (2.55 higher to 9.83 higher)	⊕○○○ VERY LOW	CRITICAL
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Maternal Attachment Inventory score

1	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	57	60	-	MD 5.77 higher (0.95 higher to 10.59 higher)	⊕○○○ VERY LOW	CRITICAL
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Crying or fussing time – end of intervention

3	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	136	135	-	MD 0.36 lower (0.16 lower to 0.56 lower)	⊕○○○ VERY LOW	CRITICAL
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Crying or fussing time – follow-up at 6 months

1	randomized trials	very serious ^a	not serious	not serious	serious ^c	none	61	63	-	MD 0.15 lower (0.01 lower to 0.29 lower)	⊕○○○ VERY LOW	CRITICAL
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CI: confidence interval; MD: mean difference; SMD: standardized mean difference.

a. The pooled effect provided by studies C.

b. Severe, unexplained, heterogeneity ($I^2 \geq 60\%$ or $Chi^2 < 0.05$).

c. Less than 400 participants.

d. Wide confidence interval crossing the line of no effect.