

Supplemental Material

Supplementary Table 1: Social and clinical characteristics of declined participants *

Characteristic	n (%) [†]
No. of participants (declined or withdrew)	86
Declined	80
Withdrew	6
Age, median (IQR) ‡	5.05 (1.00, 9.00)
Male Gender	54 (63%)
Skin type	
Type I – Always burn	1 (1%)
Type II – Tan with difficulty	7 (8%)
Type III – Tan about average	28 (33%)
Type IV – Tan more than average	28 (33%)
Type V – Brown skin	12 (14%)
Type VI – Black skin	0 (0%)
Missing	10 (11%)
%TBSA of burn, median (IQR) ‡	1.50 (0.88, 5.00)
Missing	12
Burn depth	
Full thickness	24 (28%)

Deep Partial	33 (38%)
Superficial partial	18 (21%)
Missing	11 (13%)
Mechanism of injury	
Scald	33 (38%)
Contact	28 (33%)
Flame	3 (4%)
Friction	8 (9%)
Electrical	4 (5%)
Chemical	2 (2%)
Other	0 (0%)
Missing	8 (9%)
Surgical group	
Spontaneous	28 (33%)
Grafted	18 (21%)
Reconstruction	7 (8%)
Missing	33 (38%)
Caregiver education	
Completed post school qualifications	66 (77%)
Completed senior high school	8 (9%)

Completed junior high school	0 (0%)
Other	2 (2%)
Missing	10 (12%)
Reason for decline/withdrawal	
Wanted therapists opinion	30 (35%)
Had a preferred intervention option	14 (16%)
Travel	14 (16%)
Miscellaneous	28 (33%)

*Mann Whitney U Legacy test identified that children who did not participate in the study had darker skin types (skin type $p=0.01$), a younger median age (age $p=0.02$) and a greater frequency of caregiver post school qualifications (caregiver education $p<0.001$). Burn depth, %TBSA, burn mechanism, wound healing type and gender were not significantly different between the two groups ($p>0.05$). There is missing sociodemographic and clinical characteristic data for this cohort as not all caregivers consented to data collection.

† Number (percentage) except where indicated

‡IQR = interquartile range

Supplementary Table 2: Per protocol mixed effects regression analyses for primary outcomes

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Scar thickness (cm)	0.17 (0.08), 60	0.16 (0.08), 49	0.16 (0.08), 60	-	-	-	-	-	-
Scar itch intensity (NRS)	4.51 (2.62), 59	4.91 (2.80), 53	4.16 (2.83), 63	-	-	-	-	-	-
<i>1-week</i>									
Scar thickness (cm)	0.17 (0.10), 56	0.16 (0.08), 53	0.17 (0.08), 58	0.02 (-0.02, 0.05)	0.33	0.00 (-0.03, 0.04)	0.82	0.01 (-0.02, 0.05)	0.45
Scar itch intensity (NRS)	3.21 (2.29), 48	3.48 (2.53), 48	3.25 (2.62), 53	-0.21 (-1.13, 0.71)	0.66	0.03 (-0.87, 0.93)	0.95	-0.24 (-1.13, 0.66)	0.61

3-months

Scar thickness (cm)	0.18 (0.10), 57	0.17 (0.09), 51	0.18 (0.13), 48	0.00 (-0.03, 0.04)	0.88	-0.00 (-0.04, 0.03)	0.87	0.01 (-0.03, 0.04)	0.76
Scar itch intensity (NRS)	2.78 (2.37), 54	2.27 (2.19), 48	1.98 (1.76), 47	0.58 (-0.32, 1.48)	0.21	0.59 (-0.31, 1.50)	0.20	-0.01 (-0.93, 0.91)	0.98

6-months

Scar thickness (cm)	0.18 (0.10), 50	0.19 (0.09), 41	0.21 (0.13), 40	-0.00 (-0.04, 0.03)	0.80	-0.03 (-0.07, 0.01)	0.12	0.03 (-0.01, 0.06)	0.20
Scar itch intensity (NRS)	1.78 (1.49), 49	1.77 (1.65), 39	1.78 (1.56), 40	0.05 (-0.91, 1.01)	0.92	0.03 (-0.93, 0.99)	0.96	0.02 (-0.98, 1.02)	0.96

* Combined = topical silicone gel + pressure garment therapy

Supplementary Table 3: Standardised mean differences for primary outcomes of scar thickness and itch intensity

	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined*		Combined* vs pressure garment therapy	
	SMD [†] (95% CI)	Favours	SMD [†] (95% CI)	Favours	SMD [†] (95% CI)	Favours
<i>3-months</i>						
Scar thickness	0.10 (-0.27, 0.48)	-	0.00 (-0.38, 0.38)	-	0.09 (-0.30, 0.48)	-
Scar itch intensity	0.27 (-0.13, 0.66)	Pressure garment therapy	0.38 (-0.01, 0.77)	Combined	-0.15 (-0.54, 0.25)	-
<i>6-months</i>						
Scar thickness	0.00 (-0.41, 0.41)	-	-0.33 (-0.72, 0.07)	Silicone	0.33 (-0.08, 0.75)	Pressure garment therapy
Scar itch intensity	0.04 (-0.37, 0.45)	-	0.16 (-0.24, 0.55)	-	-0.11 (-0.53, 0.30)	-

* Combined = topical silicone gel + pressure garment therapy

[†] SMD=standardised mean difference

Supplementary Table 4: Mixed effects regression analyses for primary outcomes stratified by surgical group

a) Skin graft

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Scar thickness (cm)	0.19 (0.08), 16	0.18 (0.07), 13	0.17 (0.10), 18	-	-	-	-	-	-
Scar itch intensity (NRS)	3.75 (2.72), 16	4.21 (2.69), 14	4.00 (2.62), 19	-	-	-	-	-	-
<i>1-week</i>									
Scar thickness (cm)	0.18 (0.08), 16	0.18 (0.06), 14	0.17 (0.08), 17	0.00 (-0.08, 0.08)	1.00	0.01 (-0.06, 0.08)	0.78	-0.01 (-0.08, 0.06)	0.79
Scar itch intensity (NRS)	4.36 (2.71), 14	5.55 (3.11), 11	3.47 (2.50), 15	-1.11 (-2.92, 0.70)	0.23	0.98 (-0.71, 2.67)	0.26	-2.08 (-3.87, -0.30)	0.02
<i>3-months</i>									
Scar thickness (cm)	0.21 (0.10), 16	0.23 (0.09), 13	0.23 (0.20), 15	-0.03 (-0.11, 0.05)	0.42	-0.01 (-0.09, 0.06)	0.74	-0.02 (-0.10, 0.06)	0.63
Scar itch intensity (NRS)	3.56 (2.42),	2.31 (2.39),	2.53 (1.73),	1.47 (-0.24, 3.19)	0.09	0.88 (-0.78, 2.53)	0.30	0.60 (-1.14, 2.33)	0.50

	16	13	15						
<i>6-months</i>									
Scar thickness (cm)	0.22 (0.13),	0.23 (0.08),	0.29 (0.17),	-0.01 (-0.10, 0.07)	0.76	-0.09 (-0.16, -0.01)	0.03	0.07 (-0.01, 0.15)	0.08
	14	12	15						
Scar itch intensity (NRS)	2.07 (1.94),	2.27 (2.00),	2.27 (1.98),	0.03 (-1.78, 1.84)	0.97	-0.10 (-1.78, 1.59)	0.91	0.14 (-1.68, 1.95)	0.88
	15	11	15						

* Combined = topical silicone gel + pressure garment therapy

b) Spontaneous wound healing

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Scar thickness (cm)	0.15 (0.06), 41	0.17 (0.08), 31	0.17 (0.06), 36	-	-	-	-	-	-
Scar itch intensity (NRS)	4.78 (2.60), 41	5.48 (2.87), 33	4.34 (2.97), 38	-	-	-	-	-	-
<i>1-week</i>									
Scar thickness (cm)	0.17 (0.11), 37	0.15 (0.07), 33	0.17 (0.07), 35	0.02 (-0.01, 0.06)	0.23	-0.00 (-0.04, 0.03)	0.89	0.03 (-0.01, 0.06)	0.19
Scar itch intensity (NRS)	2.79 (1.95), 33	2.93 (2.03), 30	3.19 (2.73), 32	-0.03 (-1.13, 1.08)	0.96	-0.29 (-1.37, 0.79)	0.60	0.26 (-0.85, 1.37)	0.64
<i>3-months</i>									
Scar thickness (cm)	0.16 (0.09), 38	0.16 (0.07), 31	0.17 (0.07), 29	0.00 (-0.04, 0.04)	0.95	-0.01 (-0.05, 0.03)	0.67	0.03 (-0.01, 0.07)	0.14
Scar itch intensity (NRS)	2.45 (2.30), 38	2.30 (2.17), 30	1.89 (1.85), 28	0.18 (-0.90, 1.27)	0.74	0.45 (-0.65, 1.54)	0.42	-0.26 (-1.41, 0.88)	0.65

6-months

Scar thickness (cm)	0.16 (0.09), 34	0.17 (0.08), 24	0.20 (0.10), 27	-0.00 (-0.04, 0.04)	0.90	-0.03 (-0.07, 0.01)	0.13	0.03 (-0.01, 0.07)	0.20
Scar itch intensity (NRS)	1.82 (1.66), 34	1.57 (1.34), 23	1.44 (1.15), 27	0.12 (-1.05, 1.29)	0.84	0.24 (-0.89, 1.37)	0.68	-0.12 (-1.34, 1.10)	0.85

* Combined = topical silicone gel + pressure garment therapy

c) Burn scar reconstruction

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Scar thickness (cm)	0.26 (0.14), 3	0.10 (0.03), 6	0.12 (0.09), 6	-	-	-	-	-	-
Scar itch intensity (NRS)	5.00 (1.41), 2	3.86 (2.12), 7	3.50 (2.88), 6	-	-	-	-	-	-
<i>1-week</i>									
Scar thickness (cm)	0.19 (0.10), 3	0.13 (0.14), 6	0.15 (0.10), 6	0.02 (-0.13, 0.17)	0.78	0.03 (-0.11, 0.18)	0.65	-0.01 (-0.14, 0.11)	0.84
Scar itch intensity (NRS) ‡	- (-) 1	2.57 (1.99), 7	3.00 (2.68), 6	-2.34 (-6.06, 1.39)	0.22	-2.69 (-6.44, 1.05)	0.16	0.36 (-1.86, 2.57)	0.75
<i>3-months</i>									
Scar thickness (cm)	0.20 (0.13), 3	0.12 (0.12), 7	0.10 (0.06), 6	0.05 (-0.09, 0.20)	0.47	0.10 (-0.05, 0.25)	0.18	-0.05 (-0.17, 0.08)	0.47
Scar itch intensity (NRS) ‡	- (-) 0	2.00 (2.24), 5	1.00 (0.00), 6	0.92 (-2.10, 3.94)	0.55	1.86 (-1.49, 5.22)	0.28	-0.95 (-3.25, 1.35)	0.42

6-months

Scar thickness (cm)	0.19 (0.11), 3	0.15 (0.14), 7	0.11 (0.06), 6	0.01 (-0.13, 0.16)	0.88	0.08 (-0.07, 0.23)	0.29	-0.07 (-0.19, 0.06)	0.29
Scar itch intensity (NRS) ‡	- (-) 1	2.00 (2.24), 7	1.00 (0.00), 6	-0.81 (-4.49, 2.88)	0.67	0.26 (-3.44, 3.96)	0.89	-1.07 (-3.29, 1.15)	0.34

* Combined = topical silicone gel + pressure garment therapy

‡ No mean (SD) provided due to sample size ≤ 1

Supplementary Table 5: Mixed effects regression analyses for primary outcomes stratified by scar location

a) Upper limb

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy	p	Topical silicone gel vs combined	p	Combined vs pressure garment therapy	p
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)		Mean difference (CI)		Mean difference (CI)	
<i>Baseline</i>									
Scar thickness (cm)	0.13 (0.06), 29	0.13 (0.08), 22	0.14 (0.06), 33	-	-	-	-	-	-
Scar itch intensity (NRS)	3.97 (2.73), 29	5.56 (2.71), 25	3.77 (2.76), 35	-	-	-	-	-	-
<i>1-week</i>									
Scar thickness (cm)	0.15 (0.12), 27	0.12 (0.08), 24	0.15 (0.08), 32	0.03 (-0.02, 0.08)	0.29	-0.00 (-0.05, 0.04)	0.88	0.03 (-0.02, 0.08)	0.21
Scar itch intensity (NRS)	2.43 (1.63), 21	3.00 (2.41), 21	2.75 (2.41), 28	-0.41 (-1.68, 0.86)	0.53	-0.07 (-1.25, 1.11)	0.90	-0.33 (-1.53, 0.86)	0.58
<i>3-months</i>									
Scar thickness (cm)	0.13 (0.07), 28	0.13 (0.09), 25	0.15 (0.11), 30	-0.00 (-0.05, 0.05)	0.99	-0.02 (-0.07, 0.03)	0.41	0.02 (-0.03, 0.07)	0.44
Scar itch intensity (NRS)	2.15 (1.79),	2.18 (2.20),	1.70 (1.60),	0.05 (-1.16, 1.26)	0.93	0.43 (-0.69, 1.55)	0.45	-0.38 (-1.55, 0.79)	0.53

	27	22	30						
<i>6-months</i>									
Scar thickness (cm)	0.13 (0.08),	0.14 (0.10),	0.20 (0.15),	-0.01 (-0.06, 0.04)	0.76	-0.07 (-0.12, -0.02)	0.004	0.06 (0.01, 0.11)	0.01
	25	23	29						
Scar itch intensity (NRS)	1.52 (1.08),	2.00 (1.86),	1.38 (1.15),	-0.39 (-1.61, 0.84)	0.54	0.16 (-0.99, 1.31)	0.79	-0.54 (-1.72, 0.64)	0.37
	25	23	29						

* Combined = topical silicone gel + pressure garment therapy

b) Lower limb

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Scar thickness (cm)	0.20 (0.08), 20	0.19 (0.07), 22	0.20 (0.08), 24	-	-	-	-	-	-
Scar itch intensity (NRS)	4.55 (2.33), 20	4.70 (2.88), 23	4.50 (2.87), 24	-	-	-	-	-	-
<i>1-week</i>									
Scar thickness (cm)	0.20 (0.10), 20	0.17 (0.05), 23	0.20 (0.08), 22	0.03 (-0.03, 0.08)	0.31	0.00 (-0.05, 0.06)	0.92	0.02 (-0.03, 0.08)	0.34
Scar itch intensity (NRS)	3.33 (1.75), 18	4.14 (2.46), 21	3.71 (2.61), 21	-0.72 (-2.18, 0.75)	0.34	-0.36 (-1.83, 1.11)	0.63	-0.36 (-1.76, 1.05)	0.62
<i>3-months</i>									
Scar thickness (cm)	0.22 (0.10), 18	0.22 (0.07), 21	0.24 (0.14), 18	0.00 (-0.05, 0.06)	0.93	-0.00 (-0.06, 0.05)	0.91	0.01 (-0.05, 0.06)	0.83
Scar itch intensity (NRS)	3.53 (2.98), 17	2.33 (2.20), 21	2.59 (1.94), 17	1.14 (-0.35, 2.63)	0.13	0.92 (-0.64, 2.47)	0.25	0.22 (-1.25, 1.70)	0.77

6-months

Scar thickness (cm)	0.22 (0.11), 15	0.22 (0.06), 15	0.24 (0.13), 16	0.00 (-0.06, 0.06)	0.93	-0.01 (-0.07, 0.05)	0.66	0.02 (-0.04, 0.07)	0.59
Scar itch intensity (NRS)	2.40 (2.41), 15	1.69 (1.65), 13	1.75 (1.39), 16	0.42 (-1.26, 2.11)	0.62	0.77 (-0.85, 2.40)	0.35	-0.35 (-2.01, 1.31)	0.68

* Combined = topical silicone gel + pressure garment therapy

c) Torso

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Scar thickness (cm)	0.20 (0.05), 11	0.21 (0.05), 6	0.20 (0.04), 3	-	-	-	-	-	-
Scar itch intensity (NRS)	6.00 (2.45), 10	3.33 (2.25), 6	5.50 (3.32), 4	-	-	-	-	-	-
<i>1-week</i>									
Scar thickness (cm)	0.20 (0.04), 9	0.24 (0.06), 6	0.17 (0.02), 4	-0.05 (-0.11, 0.02)	0.20	0.02 (-0.06, 0.10)	0.64	-0.06 (-0.15, 0.02)	0.15
Scar itch intensity (NRS)	4.78 (3.63), 9	2.83 (3.13), 6	4.25 (3.95), 4	1.82 (-0.67, 4.31)	0.15	0.41 (-2.43, 3.25)	0.78	1.42 (-1.65, 4.48)	0.37
<i>3-months</i>									
Scar thickness (cm)	0.23 (0.09), 11	0.19 (0.06), 5	0.19 (0.00), 2	0.02 (-0.05, 0.09)	0.58	0.05 (-0.04, 0.13)	0.31	-0.03 (-0.12, 0.07)	0.60
Scar itch intensity (NRS)	3.20 (2.35), 10	2.40 (2.61), 5	1.0 (0.00), 2	0.95 (-1.61, 3.51)	0.47	0.76 (-2.74, 4.25)	0.67	0.19 (-3.59, 3.96)	0.92

6-months

Scar thickness (cm)	0.23 (0.11), 11	0.25 (0.09), 5	0.25 (0.05), 3	-0.00 (-0.08, 0.07)	0.91	-0.01 (-0.10, 0.07)	0.81	0.01 (-0.09, 0.10)	0.90
Scar itch intensity (NRS)	2.10 (1.73), 10	1.40 (0.89), 5	3.67 (3.06), 3	0.80 (-1.78, 3.38)	0.54	-1.87 (-4.98, 1.25)	0.24	2.67 (-0.78, 6.11)	0.13

* Combined = topical silicone gel + pressure garment therapy

Supplementary Table 6: Mixed effects regression analyses for primary outcomes at 3-months post-burn injury

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
Scar thickness (cm)	0.18 (0.10), 57	0.17 (0.09), 51	0.18 (0.13), 50	0.00 (-0.03, 0.04)	0.88	-0.00 (-0.0, 0.0)	1.00	0.00 (-0.03, 0.04)	0.88
Scar itch intensity (NRS)									
Caregiver report	2.78 (2.37), 54	2.27 (2.19), 48	1.98 (1.74), 49	0.58 (-0.32, 1.48)	0.20	0.65 (-0.24, 1.55)	0.15	-0.07 (-0.98, 0.84)	0.87
Child self-report	2.63 (2.91), 19	2.04 (2.23), 25	0.94 (1.55), 18	0.61 (-0.77, 2.00)	0.39	1.60 (0.11, 3.09)	0.04	-0.99 (-2.38, 0.40)	0.17

* Combined = topical silicone gel + pressure garment therapy

Supplementary Table 7: Mixed effects regression analysis for caregiver behavioural observation of itch*

	Topical silicone gel	Pressure garment therapy	Combined†	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>	1.03 (0.74), 32	0.95 (0.84), 22	0.63 (0.72), 30	-	-	-	-	-	-
<i>1-week</i>	0.76 (0.83), 29	0.50 (0.51), 22	0.43 (0.69), 28	0.27 (-0.11, 0.65)	0.16	0.36 (0.01, 0.71)	0.04	-0.09 (-0.47, 0.29)	0.64
<i>3-months</i>	0.43 (0.69), 28	0.41 (0.85), 22	0.28 (0.68), 25	0.05 (-0.32, 0.43)	0.78	0.15 (-0.21, 0.51)	0.42	-0.09 (-0.48, 0.29)	0.64
<i>6-months</i>	0.39 (0.69), 28	0.12 (0.33), 17	0.25 (0.53), 24	0.18 (-0.22, 0.59)	0.37	0.12 (-0.25, 0.48)	0.54	0.07 (-0.35, 0.48)	0.75

* Toronto Pediatric Itch Scale

† Combined = topical silicone gel + pressure garment therapy

Supplementary Table 8: Mixed effects regression analyses for scar severity*

a) Caregiver report

	Topical silicone gel	Pressure garment therapy	Combined [†]	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Pain	3.48 (2.53), 50	3.25 (2.23), 48	1.54 (1.64), 52	-	-	-	-	-	-
Itch	4.50 (2.60), 50	4.69 (2.68), 48	4.37 (2.79), 52	-	-	-	-	-	-
Colour	7.84 (2.57), 50	7.53 (2.73), 49	8.08 (2.09), 52	-	-	-	-	-	-
Stiffness	5.26 (2.75), 50	5.10 (2.76), 49	5.39 (2.83), 49	-	-	-	-	-	-
Thickness	5.44 (2.98), 50	5.35 (2.70), 49	5.65 (2.84), 52	-	-	-	-	-	-
Irregular	6.24 (2.87), 50	6.55 (2.61), 49	6.26 (2.75), 50	-	-	-	-	-	-
Overall opinion	7.25 (2.39),	6.90 (2.43),	6.61 (2.32),	-	-	-	-	-	-

	48	49	51						
<i>3-months</i>									
Pain	1.72 (1.33),	1.58 (1.72),	1.78 (1.95)	0.17 (-0.63, 0.97)	0.67	-0.00 (-0.82, 0.82)	1.00	0.14 (-0.65, 1.00)	0.68
	46	43	40						
Itch	2.73 (2.33),	2.26 (2.24),	2.05 (1.85),	0.51 (-0.43, 1.46)	0.29	0.66 (-0.30, 1.62)	0.18	-0.15 (-1.11, 0.82)	0.77
	45	43	40						
Colour	6.07 (2.92),	5.79 (3.04),	6.18 (2.65),	0.34 (-0.79, 1.47)	0.55	0.03 (-1.11, 1.16)	0.97	0.32 (-0.84, 1.47)	0.59
	46	42	40						
Stiffness	4.85 (2.72),	4.26 (2.94),	4.50 (2.81),	0.56 (-0.57, 1.69)	0.33	0.41 (-0.72, 1.55)	0.48	0.15 (-1.00, 1.29)	0.80
	46	42	40						
Thickness	5.13 (2.80),	4.93 (3.10),	5.30 (2.70),	0.17 (-0.99, 1.33)	0.77	-0.11 (-1.28, 1.06)	0.85	0.28 (-0.90, 1.46)	0.64
	46	43	40						
Irregular	5.52 (2.73),	5.07 (3.11),	5.20 (3.03),	0.39 (-0.78, 1.56)	0.51	0.46 (-0.72, 1.64)	0.44	-0.07 (-1.26, 1.12)	0.91
	46	43	40						
Overall opinion	6.02 (2.64),	5.02 (2.92),	5.68 (2.45),	0.85 (-0.21, 1.92)	0.12	0.41 (-0.66, 1.48)	0.45	0.44 (-0.64, 1.53)	0.42
	45	42	40						
<i>6-months</i>									
Pain	1.46 (1.32),	1.54 (1.64),	1.43 (1.57)	-0.15 (-1.00, 0.70)	0.73	0.03 (-0.83, 0.84)	1.00	-0.15 (-1.01, 0.70)	0.73
	41	37	40						
Itch	2.15 (2.04),	1.95 (1.76),	1.65 (1.46),	0.16 (-0.83, 1.15)	0.75	0.44 (-0.54, 1.42)	0.38	-0.28 (-1.28, 0.71)	0.58

	41	37	40						
Colour	5.56 (3.16),	4.70 (3.11),	5.00 (2.92),	0.99 (-0.19, 2.16)	0.10	0.67 (-0.49, 1.84)	0.26	0.31 (-0.87, 1.50)	0.61
	41	37	40						
Stiffness	4.46 (2.83),	3.86 (2.83),	4.13 (2.50),	0.90 (-0.28, 2.07)	0.13	0.34 (-0.81, 1.50)	0.56	0.55 (-0.63, 1.73)	0.36
	41	37	40						
Thickness	4.80 (2.84),	4.08 (2.75),	4.80 (2.94),	0.89 (-0.33, 2.10)	0.15	-0.05 (-1.25, 1.15)	0.93	0.94 (-0.28, 2.16)	0.13
	41	37	40						
Irregular	4.90 (2.83),	4.38 (2.80),	4.75 (3.30),	0.69 (-0.53, 1.92)	0.27	0.17 (-1.03, 1.38)	0.78	0.52 (-0.71, 1.75)	0.41
	41	37	40						
Overall opinion	5.29 (2.83),	4.83 (2.95),	4.90 (2.75),	0.56 (-0.56, 1.67)	0.33	0.40 (-0.69, 1.49)	0.47	0.15 (-0.96, 1.27)	0.79
	41	36	40						

* Patient and Observer Scar Assessment Scale (POSAS)

† Combined = topical silicone gel + pressure garment therapy

b) Observer report

	Topical silicone gel	Pressure garment therapy	Combined [†]	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Vascularity	4.97 (1.25), 60	4.89 (1.65), 53	4.55 (1.70), 62	-	-	-	-	-	-
Pigmentation	1.75 (1.08), 60	1.58 (0.86), 53	2.19 (1.86), 62	-	-	-	-	-	-
Thickness	1.93 (1.21), 60	1.77 (0.80), 53	1.79 (0.85), 62	-	-	-	-	-	-
Relief	2.78 (1.09), 60	2.85 (1.01), 53	3.00 (1.10), 62	-	-	-	-	-	-
Pliability	2.38 (1.49), 60	2.45 (1.03), 53	2.35 (0.98), 62	-	-	-	-	-	-
Overall opinion	4.17 (1.12), 60	4.15 (1.18), 53	4.02 (1.17), 62	-	-	-	-	-	-
<i>3-months</i>									
Vascularity	4.15 (1.74),	3.78 (1.58),	3.69 (1.96),	0.33 (-0.28, 0.94)	0.29	0.54 (-0.08, 1.15)	0.09	-0.21 (-0.84, 0.41)	0.51

	55	50	48						
Pigmentation	1.96 (1.47),	2.04 (1.28),	2.58 (2.01),	-0.10 (-0.65, 0.44)	0.71	-0.54 (-1.09, 0.00)	0.05	0.44 (-0.12, 0.99)	0.12
	55	50	48						
Thickness	2.71 (1.50),	2.16 (1.46),	2.29 (1.46),	0.51 (-0.03, 1.06)	0.07	0.50 (-0.05, 1.05)	0.07	0.01 (-0.54, 0.57)	0.96
	55	50	48						
Relief	2.09 (0.87),	2.08 (0.90),	2.02 (0.86),	0.01 (-0.37, 0.39)	0.96	0.07 (-0.32, 0.45)	0.73	-0.06 (-0.45, 0.34)	0.78
	55	50	48						
Pliability	2.75 (1.66),	2.52 (1.34),	2.50 (1.47),	0.21 (-0.36, 0.79)	0.47	0.34 (-0.24, 0.92)	0.26	-0.12 (-0.71, 0.47)	0.68
	55	50	48						
Overall opinion	3.89 (1.41),	3.58 (1.46),	3.71 (1.50),	0.26 (-0.27, 0.80)	0.34	0.29 (-0.25, 0.82)	0.30	-0.02 (-0.57, 0.52)	0.93
	55	50	48						
<i>6-months</i>									
Vascularity	3.00 (1.53),	2.60 (1.35),	2.75 (1.56),	0.33 (-0.31, 0.96)	0.32	0.33 (-0.29, 0.95)	0.30	-0.01 (-0.65, 0.64)	0.99
	52	43	48						
Pigmentation	2.06 (1.06),	1.98 (1.08),	2.23 (1.31),	0.14 (-0.42, 0.70)	0.62	-0.13 (-0.68, 0.42)	0.65	0.27 (-0.30, 0.84)	0.36
	52	43	48						
Thickness	2.33 (1.56),	2.26 (1.42),	2.69 (2.40),	0.12 (-0.44, 0.69)	0.67	-0.27 (-0.83, 0.28)	0.34	0.39 (-0.18, 0.97)	0.18
	52	43	48						
Relief	1.98 (0.85),	2.02 (0.86),	2.23 (1.26),	-0.01 (-0.40, 0.39)	0.98	-0.23 (-0.62, 0.16)	0.25	0.22 (-0.18, 0.63)	0.28
	52	43	48						

Pliability	2.44 (1.64), 52	2.60 (1.50), 43	2.75 (2.34), 48	-0.08 (-0.68, 0.52)	0.79	-0.24 (-0.83, 0.34)	0.42	0.16 (-0.44, 0.77)	0.60
Overall opinion	3.10 (1.49), 52	2.84 (1.34), 43	3.33 (1.91), 48	0.30 (-0.25, 0.86)	0.28	-0.18 (-0.72, 0.37)	0.52	0.48 (-0.08, 1.04)	0.09

* Patient and Observer Scar Assessment Scale (POSAS)

† Combined = topical silicone gel + pressure garment therapy

Supplementary Table 9: Mixed effects regression analyses for scar severity (colour)*

	Topical silicone gel	Pressure garment therapy	Combined†	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Erythema a	34.83 (6.64), 58	33.23 (8.97), 52	31.42 (8.69), 61	-	-	-	-	-	-
Pigmentation L	-15.40 (10.22), 51	-15.90 (8.74), 47	-12.84 (12.73), 58	-	-	-	-	-	-
<i>3-months</i>									
Erythema a	29.70 (6.72), 57	29.14 (5.73), 50	28.05 (8.21), 49	0.74 (-2.02, 3.49)	0.60	1.30 (-1.44, 4.05)	0.35	-0.57 (-3.38, 2.24)	0.69
Pigmentation L	-12.84 (10.31), 53	-12.41 (8.36), 48	-9.56 (8.34), 44	-0.52 (-4.36, 3.32)	0.79	-2.83 (-6.72, 1.06)	0.15	2.31 (-1.65, 6.26)	0.25
<i>6-months</i>									
Erythema a	25.70 (4.48),	26.42 (5.33),	26.16 (8.06),	-0.56 (-3.42, 2.31)	0.70	-0.62 (-3.43, 2.18)	0.66	0.06 (-2.84, 2.97)	0.97

	52	42	48						
Pigmentation L	-8.00 (10.70),	-8.52 (9.51),	-7.87 (8.14),	0.51 (-3.50, 4.52)	0.80	0.87 (-3.08, 4.82)	0.67	-0.36 (-4.44, 3.72)	0.86
	49	41	45						

* DSMII ColorMeter® (Cortex Technology, Hadsund, Denmark)

† Combined = topical silicone gel + pressure garment therapy

Supplementary Table 10: Mixed effects regression analyses for health-related quality of life[†]

a) Generic health-related quality of life^{*}

	Topical silicone gel	Pressure garment therapy	Combined [‡]	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Caregiver report less than 5 years of age	0.78 (0.17), 28	0.82 (0.17), 22	0.82 (0.20), 27	-	-	-	-	-	-
Caregiver report greater than 5 years of age	0.80 (0.18), 21	0.78 (0.19), 27	0.81 (0.22), 24	-	-	-	-	-	-
Child self-report from 5 years of age	0.80 (0.22), 19	0.79 (0.16), 26	0.80 (0.19), 23	-	-	-	-	-	-
<i>3-months</i>									
Caregiver report less than 5 years of age	0.89 (0.12), 27	0.90 (0.09), 20	0.89 (0.14), 23	-0.01 (-0.09, 0.08)	0.89	-0.00 (-0.08, 0.08)	0.98	-0.00 (-0.09, 0.08)	0.91
Caregiver report greater than 5 years of age	0.93 (0.09), 18	0.92 (0.12), 23	0.92 (0.10), 16	-0.00 (-0.09, 0.09)	0.10	-0.01 (-0.11, 0.09)	0.84	0.01 (-0.08, 0.10)	0.83
Child self-report from 5 years of age	0.91 (0.12), 19	0.88 (0.14), 26	0.92 (0.10), 18	0.02 (-0.06, 0.11)	0.56	-0.03 (-0.12, 0.06)	0.49	0.06 (-0.03, 0.14)	0.18

6-months

Caregiver report less than 5 years of age	0.92 (0.15), 25	0.91 (0.12), 16	0.93 (0.10), 21	0.01 (-0.08, 0.10)	0.86	-0.01 (-0.09, 0.08)	0.86	0.02 (-0.08, 0.11)	0.74
Caregiver report greater than 5 years of age	0.96 (0.06), 0.06	0.94 (0.08), 21	0.96 (0.07), 18	0.02 (-0.08, 0.11)	0.74	0.00 (-0.10, 0.10)	0.99	0.02 (-0.07, 0.10)	0.74
Child self-report from 5 years of age	0.91 (0.13), 16	0.93 (0.07), 18	0.92 (0.11), 18	-0.03 (-0.12, 0.06)	0.51	-0.01 (-0.11, 0.08)	0.78	-0.02 (-0.11, 0.07)	0.69

* Child Health Utility-9D (CHU-9D)

‡ Combined = topical silicone gel + pressure garment therapy

b) Burn-specific health-related quality of life[†]: Caregivers of children < 8 years

	Topical silicone gel	Pressure garment therapy	Combined [‡]	Topical silicone gel vs pressure garment		Topical silicone gel vs combined		Combined vs pressure garment	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Overall impact of burn scar	2.43 (0.83), 36	2.02 (0.53), 23	2.16 (0.89), 32	-	-	-	-	-	-
Sensory frequency	2.17 (0.82), 36	1.86 (0.73), 23	1.92 (0.94), 32	-	-	-	-	-	-
Sensory sensitivity [§]	1.86 (2.37), 36	2.22 (2.65), 23	2.31 (2.51), 32	-	-	-	-	-	-
Mobility	1.67 (0.99), 36	1.68 (1.19), 23	1.63 (1.15), 32	-	-	-	-	-	-
Daily living	1.96 (0.85), 36	1.92 (0.77), 23	1.98 (1.02), 32	-	-	-	-	-	-
Friendships and social interactions	1.65 (0.92), 33	1.42 (0.85), 23	1.68 (1.08), 31	-	-	-	-	-	-

Appearance	2.25 (1.29), 35	1.83 (0.89), 23	1.88 (1.19), 32	-	-	-	-	-	-
Emotional reactions	1.52 (0.65), 36	1.37 (0.53), 23	1.39 (0.71), 31	-	-	-	-	-	-
Physical symptoms	2.00 (0.65), 36	2.02 (0.60), 23	1.88 (0.57), 32	-	-	-	-	-	-
Parent worry	1.83 (0.95), 36	1.55 (0.53), 23	1.77 (0.89), 32	-	-	-	-	-	-
Parent impact	2.04 (1.09), 36	1.79 (0.92), 23	1.78 (0.99), 32	-	-	-	-	-	-
Impact on daily routine ^{ll}	2.18 (1.29), 33	1.67 (0.91), 21	1.87 (1.20), 30	-	-	-	-	-	-
Impact on developing new skills or independence? ^{fl}	1.79 (1.23), 34	1.65 (1.11), 23	1.71 (1.13), 31	-	-	-	-	-	-
Child bothered by appearance of their scar? [#]	1.74 (1.07), 35	1.30 (0.76), 23	1.55 (1.06), 31	-	-	-	-	-	-

3-months

Overall impact of burn scar	1.46 (0.44), 33	1.47 (0.59), 22	1.44 (0.52), 26	-0.03 (-0.37, 0.31)	0.86	0.01 (-0.31, 0.33)	0.96	-0.04 (-0.39, 0.32)	0.83
Sensory frequency	1.71 (0.89), 33	1.56 (0.96), 22	1.42 (0.79), 26	0.14 (-0.29, 0.57)	0.52	0.28 (-0.12, 0.68)	0.17	-0.14 (-0.59, 0.30)	0.53
Sensory sensitivity [§]	1.55 (2.48), 33	1.27 (2.16), 22	2.00 (2.59), 26	0.24 (-1.04, 1.51)	0.71	-0.62 (-1.82, 0.58)	0.31	0.86 (-0.47, 2.19)	0.21
Mobility	1.06 (0.22), 33	1.00 (0.00), 22	1.27 (0.82), 26	0.05 (-0.34, 0.45)	0.79	-0.25 (-0.63, 0.13)	0.19	0.30 (-0.11, 0.72)	0.15
Daily living	1.06 (0.12), 33	1.21 (0.40), 22	1.37 (0.70), 26	-0.17 (-0.51, 0.17)	0.32	-0.36 (-0.68, -0.04)	0.03	0.19 (-0.16, 0.54)	0.29
Friendships and social interactions	1.12 (0.42), 33	1.06 (0.17), 22	1.09 (0.24), 26	0.06 (-0.28, 0.40)	0.74	0.02 (-0.30, 0.34)	0.90	0.04 (-0.32, 0.40)	0.83
Appearance	1.57 (0.81), 33	1.35 (0.61), 22	1.44 (0.67), 26	0.11 (-0.40, 0.63)	0.67	0.07 (-0.41, 0.56)	0.77	0.04 (-0.49, 0.57)	0.88
Emotional reactions	1.12 (0.24), 33	1.12 (0.38), 22	1.18 (0.28), 25	-0.02 (-0.27, 0.24)	0.90	-0.04 (-0.28, 0.20)	0.73	0.03 (-0.24, 0.29)	0.85
Physical symptoms	1.85 (0.53), 33	1.73 (0.69), 22	1.84 (0.63), 26	0.12 (-0.20, 0.44)	0.46	0.05 (-0.25, 0.35)	0.74	0.07 (-0.26, 0.40)	0.69
Parent worry	1.53 (0.79), 33	1.38 (0.56), 22	1.41 (0.45), 26	0.10 (-0.28, 0.48)	0.60	0.12 (-0.23, 0.48)	0.50	-0.02 (-0.41, 0.37)	0.92

Parent impact	1.11 (0.28), 33	1.11 (0.27), 22	1.25 (0.47), 26	-0.03 (-0.41, 0.35)	0.87	-0.14 (-0.50, 0.22)	0.43	0.11 (-0.29, 0.51)	0.58
Impact on daily routine ^{ll}	1.06 (0.25), 32	1.05 (0.21), 22	1.15 (0.37), 26	-0.00 (-0.41, 0.41)	1.00	-0.10 (-0.49, 0.29)	0.61	0.10 (-0.33, 0.53)	0.65
Impact on developing new skills or independence? ^{ll}	1.06 (0.25), 31	1.00 (0.00), 22	1.15 (0.46), 26	0.07 (-0.36, 0.50)	0.75	-0.12 (-0.52, 0.29)	0.58	0.19 (-0.26, 0.63)	0.41
Child bothered by appearance of their scar? [#]	1.16 (0.45), 32	1.05 (0.21), 22	1.15 (0.46), 26	0.10 (-0.29, 0.49)	0.62	-0.02 (-0.39, 0.34)	0.90	0.12 (-0.28, 0.53)	0.56
<i>6-months</i>									
Overall impact of burn scar	1.30 (0.52), 29	1.44 (0.48), 19	1.45 (0.54), 25	-0.15 (-0.50, 0.21)	0.42	-0.14 (-0.47, 0.18)	0.39	-0.00 (-0.37, 0.37)	1.00
Sensory frequency	1.39 (0.72), 29	1.30 (0.53), 19	1.40 (0.78), 25	0.06 (-0.39, 0.50)	0.81	0.01 (-0.41, 0.42)	0.97	0.05 (-0.41, 0.51)	0.84
Sensory sensitivity [§]	1.38 (2.35), 29	0.84 (1.61), 19	1.56 (2.62), 25	0.41 (-0.93, 1.75)	0.55	-0.25 (-1.49, 0.99)	0.69	0.66 (-0.71, 2.04)	0.35
Mobility	1.03 (0.09), 29	1.05 (0.23), 19	1.08 (0.20), 25	-0.02 (-0.45, 0.40)	0.91	-0.04 (-0.43, 0.35)	0.84	0.02 (-0.42, 0.45)	0.94
Daily living	1.07 (0.19),	1.10 (0.20),	1.10 (0.26),	-0.08 (-0.43, 0.28)	0.67	-0.04 (-0.37, 0.29)	0.83	-0.04 (-0.41, 0.32)	0.83

	29	19	25						
Friendships and social interactions	1.08 (0.30),	1.16 (0.41),	1.03 (0.13),	-0.08 (-0.45, 0.28)	0.65	0.04 (-0.30, 0.38)	0.81	-0.12 (-0.50, 0.25)	0.51
Appearance	29	19	25						
Appearance	1.45 (0.94),	1.74 (1.09),	1.40 (0.70),	-0.29 (-0.83, 0.24)	0.28	0.051 (-0.44, 0.55)	0.84	-0.34 (-0.89, 0.21)	0.22
Emotional reactions	29	19	25						
Emotional reactions	1.15 (0.42),	1.03 (0.08),	1.14 (0.30),	0.06 (-0.20, 0.33)	0.63	-0.01 (-0.25, 0.24)	0.96	0.07 (-0.20, 0.35)	0.61
Physical symptoms	29	19	25						
Physical symptoms	1.73 (0.57),	1.72 (0.62),	1.83 (0.67),	0.09 (-0.24, 0.42)	0.60	-0.08 (-0.39, 0.23)	0.61	0.17 (-0.17, 0.51)	0.34
Parent worry	29	19	25						
Parent worry	1.47 (0.80),	1.44 (0.58),	1.37 (0.49),	-0.01 (-0.40, 0.38)	0.96	0.08 (-0.28, 0.44)	0.67	-0.09 (-0.49, 0.31)	0.67
Parent impact	29	19	25						
Parent impact	1.17 (0.52),	1.02 (0.06),	1.18 (0.42),	0.10 (-0.30, 0.50)	0.63	-0.00 (-0.37, 0.37)	1.00	0.10 (-0.31, 0.51)	0.64
Impact on daily routine ^l	29	19	25						
Impact on daily routine ^l	1.10 (0.31),	1.12 (0.33),	1.16 (0.37),	-0.01 (-0.45, 0.43)	0.98	-0.05 (-0.45, 0.35)	0.79	0.05 (-0.41, 0.50)	0.84
Impact on developing new skills or independence? ^{fl}	29	17	25						
Impact on developing new skills or independence? ^{fl}	1.17 (0.54),	1.26 (0.81),	1.08 (0.28),	-0.10 (-0.55, 0.35)	0.66	0.10 (-0.31, 0.52)	0.63	-0.20 (-0.66, 0.26)	0.39
Child bothered by appearance of their scar? [#]	29	19	25						
Child bothered by appearance of their scar? [#]	1.29 (0.81),	1.21 (0.54),	1.08 (0.28),	0.08 (-0.33, 0.49)	0.70	0.18 (-0.21, 0.56)	0.37	-0.10 (-0.52, 0.33)	0.66
	28	19	24						

† Brisbane Burn Scar Impact Profile (BBSIP): total score for item groups were examined except where indicated

‡ Combined = topical silicone gel + pressure garment therapy

§ Individual item: sensory sensitivity

|| Individual item: impact on daily routine

¶ Individual item: impact on developing new skills or independence?

Individual item: how bothered has your child been by the appearance of their scars?

c) Burn-specific health-related quality of life[†]: Caregivers of children > 8 years

	Topical silicone gel	Pressure garment therapy	Combined [‡]	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>									
Overall impact of burn scar	2.00 (0.61), 14	2.34 (0.82), 26	2.15 (0.94), 20	-	-	-	-	-	-
Sensory frequency	2.26 (0.85), 14	2.27 (0.84), 26	2.43 (1.18), 20	-	-	-	-	-	-
Sensory sensitivity [§]	1.86 (1.92), 14	2.92 (2.54), 26	2.67 (2.93), 18	-	-	-	-	-	-
Mobility	1.55 (1.11), 14	1.66 (0.63), 26	1.38 (0.70), 20	-	-	-	-	-	-
Daily living	1.83 (0.86), 14	1.87 (0.69), 26	1.85 (0.88), 20	-	-	-	-	-	-
Friendships and social interactions	1.84 (0.82), 14	1.59 (0.74), 26	1.44 (0.72), 20	-	-	-	-	-	-
Appearance	1.78 (0.71),	1.77 (0.97),	1.68 (1.11),	-	-	-	-	-	-

	13	26	20						
Emotional reactions	1.65 (1.04),	1.55 (0.85),	1.52 (0.58),	-	-	-	-	-	-
	14	26	20						
Physical symptoms	2.00 (0.49),	1.95 (0.58),	2.06 (0.68),	-	-	-	-	-	-
	14	26	20						
Parent worry	1.62 (0.54),	1.77 (0.70),	1.62 (0.54),	-	-	-	-	-	-
	14	26	20						
Parent impact	1.87 (1.37),	1.81 (0.97),	1.57 (0.61),	-	-	-	-	-	-
	14	26	20						
Bothered by appearance of child's scar?	1.93 (1.14),	1.88 (0.77),	1.65 (1.04),	-	-	-	-	-	-
	14	26	20						
<i>3-months</i>									
Overall impact of burn scar	1.52 (0.48),	1.51 (0.45),	1.33 (0.27),	0.03 (-0.38, 0.45)	0.87	0.27 (-0.17, 0.72)	0.23	-0.24 (-0.63, 0.15)	0.23
	12	21	14						
Sensory frequency	1.58 (0.53),	1.52 (0.63),	1.44 (0.55),	0.05 (-0.47, 0.58)	0.84	0.09 (-0.49, 0.66)	0.77	-0.03 (-0.54, 0.47)	0.90
	12	21	13						
Sensory sensitivity [§]	1.67 (2.31),	1.62 (2.71),	1.57 (1.74),	-0.05 (-1.56, 1.47)	0.95	0.15 (-1.48, 1.80)	0.85	-0.20 (-1.64, 1.23)	0.78
	12	21	14						

Mobility	1.06 (0.16), 12	1.04 (0.12), 21	1.06 (0.15), 13	0.05 (-0.31, 0.42)	0.78	0.01 (-0.39, 0.41)	0.97	0.05 (-0.31, 0.40)	0.80
Daily living	1.15 (0.33), 12	1.09 (0.12), 21	1.06 (0.11), 14	0.06 (-0.31, 0.43)	0.74	0.10 (-0.30, 0.49)	0.64	-0.03 (-0.38, 0.31)	0.85
Friendships and social interactions	1.19 (0.34), 12	1.18 (0.43), 21	1.06 (0.21), 13	0.01 (-0.36, 0.38)	0.96	0.11 (-0.29, 0.51)	0.59	-0.10 (-0.45, 0.26)	0.58
Appearance	1.25 (0.37), 11	1.43 (0.90), 21	1.31 (0.59), 13	-0.14 (-0.67, 0.40)	0.62	0.02 (-0.57, 0.60)	0.96	-0.15 (-0.66, 0.35)	0.55
Emotional reactions	1.26 (0.38), 12	1.17 (0.30), 21	1.09 (0.17), 13	0.08 (-0.31, 0.47)	0.70	0.17 (-0.25, 0.60)	0.43	-0.09 (-0.47, 0.28)	0.62
Physical symptoms	1.98 (0.51), 12	1.75 (0.51), 21	1.95 (0.58), 13	0.26 (-0.12, 0.64)	0.18	0.09 (-0.32, 0.50)	0.66	0.17 (-0.20, 0.53)	0.37
Parent worry	1.25 (0.32), 12	1.35 (0.34), 21	1.21 (0.25), 14	-0.11 (-0.44, 0.22)	0.52	0.05 (-0.31, 0.41)	0.78	-0.16 (-0.47, 0.15)	0.32
Parent impact	1.05 (0.12), 12	1.11 (0.24), 21	1.04 (0.12), 14	0.02 (-0.43, 0.46)	0.94	0.04 (-0.45, 0.52)	0.89	-0.02 (-0.44, 0.40)	0.93
Bothered by appearance of child's scar? [¶]	1.17 (0.39), 12	1.62 (0.67), 21	1.43 (0.51), 14	-0.32 (-0.83, 0.20)	0.23	-0.07 (-0.63, 0.48)	0.80	-0.24 (-0.73, 0.24)	0.33

6-months

Overall impact of burn scar	1.23 (0.31), 12	1.37 (0.39), 18	1.21 (0.30), 14	-0.10 (-0.52, 0.32)	0.64	0.04 (-0.41, 0.49)	0.87	-0.14 (-0.54, 0.26)	0.50
Sensory frequency	1.53 (0.89), 12	1.30 (0.36), 18	1.17 (0.39), 14	0.16 (-0.38, 0.70)	0.56	0.24 (-0.33, 0.81)	0.41	-0.08 (-0.60, 0.43)	0.76
Sensory sensitivity [§]	1.17 (1.27), 12	0.94 (2.10), 18	0.50 (0.76), 14	0.20 (-1.36, 1.76)	0.80	0.42 (-1.23, 2.07)	0.62	-0.22 (-1.70, 1.26)	0.77
Mobility	1.08 (0.29), 12	1.02 (0.06), 16	1.00 (0.00), 14	0.05 (-0.33, 0.43)	0.80	0.02 (-0.38, 0.42)	0.93	0.03 (-0.33, 0.40)	0.87
Daily living	1.05 (0.14), 12	1.11 (0.24), 18	1.02 (0.05), 14	-0.06 (-0.44, 0.32)	0.77	0.02 (-0.38, 0.42)	0.92	-0.08 (-0.44, 0.28)	0.67
Friendships and social interactions	1.02 (0.07), 12	1.14 (0.27), 16	1.02 (0.07), 14	-0.04 (-0.43, 0.35)	0.84	-0.04 (-0.44, 0.37)	0.87	-0.01 (-0.37, 0.36)	0.98
Appearance	1.00 (0.00), 12	1.22 (0.45), 18	1.14 (0.36), 14	-0.19 (-0.73, 0.34)	0.48	-0.14 (-0.71, 0.42)	0.62	-0.05 (-0.56, 0.46)	0.84
Emotional reactions	1.02 (0.06), 12	1.14 (0.32), 18	1.02 (0.06), 14	-0.14 (-0.54, 0.26)	0.50	-0.03 (-0.46, 0.39)	0.88	-0.10 (-0.48, 0.28)	0.60
Physical symptoms	1.75 (0.66), 12	1.60 (0.39), 18	1.73 (0.60), 14	0.11 (-0.27, 0.50)	0.57	0.04 (-0.37, 0.45)	0.84	0.07 (-0.30, 0.44)	0.71

Parent worry	1.17 (0.30), 12	1.37 (0.50), 18	1.19 (0.31), 14	-0.18 (-0.52, 0.16)	0.31	0.01 (-0.36, 0.37)	0.97	-0.19 (-0.51, 0.14)	0.26
Parent impact	1.05 (0.17), 12	1.00 (0.00), 18	1.01 (0.05), 14	0.09 (-0.37, 0.55)	0.70	0.04 (-0.44, 0.53)	0.86	0.05 (-0.39, 0.48)	0.83
Bothered by appearance of child's scar?	1.42 (0.67), 12	1.28 (0.57), 18	1.21 (0.43), 14	0.24 (-0.28, 0.77)	0.37	0.35 (-0.21, 0.90)	0.22	-0.11 (-0.61, 0.39)	0.67

† Brisbane Burn Scar Impact Profile (BBSIP): total score for item groups were examined except where indicated

‡ Combined = topical silicone gel + pressure garment therapy

§ Individual item: sensory sensitivity

|| Individual item: how bothered have you been by the appearance of your child's scars

d) Burn-specific health-related quality of life[†]: Child self-report (8-18 years)

	Topical silicone gel	Pressure garment therapy	Combined [‡]	Topical silicone gel vs pressure garment	p	Topical silicone gel vs combined	p	Combined vs pressure garment	p
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)		Mean difference (CI)		Mean difference (CI)	
<i>Baseline</i>									
Overall impact of burn scar	1.90 (0.91), 12	2.02 (0.84), 25	1.95 (0.92), 19	-	-	-	-	-	-
Sensory frequency	2.19 (1.13), 12	2.29 (0.87), 25	2.14 (0.72), 19	-	-	-	-	-	-
Sensory sensitivity	2.08 (2.21), 12	2.00 (1.74), 25	2.49 (1.74), 19	-	-	-	-	-	-
Sensory impact	1.47 (0.51), 12	1.61 (0.61), 25	1.43 (0.57), 19	-	-	-	-	-	-
Mobility	1.58 (0.98), 12	1.55 (0.78), 25	1.51 (0.98), 19	-	-	-	-	-	-
Daily living	1.65 (0.73), 12	1.88 (0.76), 25	1.77 (0.67), 19	-	-	-	-	-	-

Friendships and social interactions	2.17 (1.05), 12	1.77 (1.06), 25	1.74 (0.78), 19	-	-	-	-	-	-
Appearance	1.65 (0.85), 12	1.79 (0.94), 25	1.64 (0.82), 19	-	-	-	-	-	-
Emotional reactions	1.46 (0.49), 12	1.44 (0.77), 25	1.31 (0.51), 19	-	-	-	-	-	-
Physical symptoms	2.02 (0.59), 12	1.82 (0.51), 25	2.06 (0.58), 19	-	-	-	-	-	-
<i>3-months</i>									
Overall impact of burn scar	1.22 (0.35), 12	1.44 (0.38), 22	1.10 (0.13), 12	-0.20 (-0.64, 0.24)	0.37	0.07 (-0.42, 0.55)	0.79	-0.27 (-0.69, 0.15)	0.21
Sensory frequency	1.50 (0.48), 12	1.58 (0.66), 22	1.28 (0.49), 12	-0.05 (-0.53, 0.44)	0.86	0.19 (-0.36, 0.73)	0.50	-0.23 (-0.71, 0.24)	0.33
Sensory sensitivity	0.90 (1.20), 12	1.17 (1.32), 22	0.56 (0.95), 12	-0.23 (-1.28, 0.82)	0.67	0.20 (-0.96, 1.38)	0.73	-0.44 (-1.45, 0.57)	0.39
Sensory impact	1.07 (0.16), 12	1.25 (0.38), 22	1.23 (0.63), 12	-0.16 (-0.48, 0.16)	0.32	-0.18 (-0.53, 0.17)	0.31	0.02 (-0.28, 0.32)	0.90
Mobility	1.04 (0.14), 12	1.15 (0.31), 22	1.13 (0.31), 12	-0.10 (-0.52, 0.32)	0.64	-0.02 (-0.48, 0.45)	0.95	-0.09 (-0.49, 0.32)	0.68
Daily living	1.08 (0.15),	1.20 (0.24),	1.12 (0.29),	-0.11 (-0.45, 0.24)	0.55	0.01 (-0.38, 0.39)	0.97	-0.11 (-0.45, 0.22)	0.51

	12	22	12						
Friendships and social interactions	1.72 (0.83), 12	1.49 (0.87), 22	1.64 (0.86), 12	0.18 (-0.45, 0.82)	0.57	0.06 (-0.65, 0.76)	0.88	0.13 (-0.48, 0.74)	0.68
Appearance	1.33 (0.62), 12	1.40 (0.46), 21	1.15 (0.24), 12	-0.06 (-0.54, 0.42)	0.81	0.23 (-0.31, 0.77)	0.41	-0.29 (-0.76, 0.19)	0.24
Emotional reactions	1.23 (0.38), 12	1.15 (0.26), 22	1.11 (0.21), 12	0.05 (-0.30, 0.40)	0.79	0.12 (-0.27, 0.50)	0.55	-0.07 (-0.40, 0.26)	0.69
Physical symptoms	1.79 (0.54), 12	1.74 (0.44), 22	1.74 (0.48), 12	0.05 (-0.30, 0.40)	0.78	0.06 (-0.33, 0.45)	0.76	-0.01 (-0.35, 0.33)	0.95
Impact of scar treatments [§]	4.09 (0.94), 11	3.32 (1.21), 22	4.64 (0.50), 11	0.77 (0.05, 1.49)	0.04	-0.54 (-1.38, 0.29)	0.20	1.32 (0.60, 2.04)	0.00
<i>6-months</i>									
Overall impact of burn scar	1.27 (0.34), 10	1.18 (0.23), 18	1.05 (0.12), 12	0.07 (-0.39, 0.54)	0.76	0.14 (-0.36, 0.65)	0.58	-0.07 (-0.51, 0.37)	0.75
Sensory frequency	1.39 (0.63), 11	1.35 (0.46), 18	1.20 (0.36), 12	-0.04 (-0.55, 0.47)	0.88	0.11 (-0.45, 0.67)	0.70	-0.15 (-0.64, 0.34)	0.55
Sensory sensitivity	1.14 (1.59), 11	0.85 (1.26), 18	0.44 (0.82), 12	0.08 (-1.01, 1.17)	0.89	0.46 (-0.73, 1.65)	0.45	-0.38 (-1.42, 0.66)	0.47
Sensory impact	1.09 (0.21), 11	1.09 (0.18), 18	1.13 (0.46), 12	-0.02 (-0.34, 0.31)	0.92	-0.08 (-0.44, 0.27)	0.64	0.07 (-0.24, 0.38)	0.67

Mobility	1.02 (0.08), 11	1.07 (0.24), 18	1.06 (0.22), 12	-0.04 (-0.48, 0.39)	0.84	-0.03 (-0.51, 0.45)	0.90	-0.01 (-0.44, 0.41)	0.95
Daily living	1.05 (0.10), 11	1.15 (0.23), 18	1.07 (0.18), 12	-0.09 (-0.45, 0.27)	0.63	-0.01 (-0.40, 0.39)	0.97	-0.08 (-0.43, 0.27)	0.65
Friendships and social interactions	1.79 (0.74), 11	1.98 (0.99), 18	1.83 (0.99), 12	-0.00 (-0.66, 0.66)	1.00	-0.06 (-0.78, 0.66)	0.87	0.06 (-0.57, 0.69)	0.86
Appearance	1.41 (0.66), 11	1.31 (0.47), 17	1.21 (0.72), 12	0.14 (-0.37, 0.65)	0.58	0.20 (-0.36, 0.75)	0.49	-0.05 (-0.55, 0.44)	0.83
Emotional reactions	1.26 (0.43), 11	1.28 (0.58), 17	1.06 (0.20), 12	-0.04 (-0.40, 0.32)	0.83	0.16 (-0.23, 0.55)	0.42	-0.20 (-0.54, 0.14)	0.25
Physical symptoms	1.88 (0.57), 11	1.59 (0.57), 18	1.51 (0.32), 12	0.30 (-0.06, 0.67)	0.11	0.35 (-0.05, 0.75)	0.09	-0.05 (-0.40, 0.30)	0.79
Impact of scar treatments [§]	4.43 (0.79), 7	4.31 (0.79), 16	3.70 (1.42), 10	0.12 (-0.76, 1.01)	0.79	0.73 (-0.23, 1.70)	0.14	-0.61 (-1.40, 0.18)	0.13

† Brisbane Burn Scar Impact Profile (BBSIP): total score for item groups were examined except where indicated

‡ Combined = topical silicone gel + pressure garment therapy

§ Individual item: how much did treatments improve your score, 1=a lot, 5=not at all

Supplementary Table 11: Mixed effects regression analyses for intervention fidelity

	Topical silicone gel	Pressure garment therapy	Combined*	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>Baseline</i>	96.88 (10.24), 44	90.48 (21.95), 36	93.12 (14.41), 44	-	-	-	-	-	-
<i>1-week</i>	88.17 (27.68), 32	97.99 (4.48), 45	94.78 (13.91), 43	-9.65 (-20.04, 0.74)	0.07	-6.56 (-17.05, 3.93)	0.22	-3.09 (-12.67, 6.49)	0.53
<i>3-months</i>	76.30 (29.66), 45	79.22 (28.73), 36	70.22 (31.31), 35	-2.97 (-13.02, 7.08)	0.56	6.06 (-4.07, 16.19)	0.24	-9.03 (-19.69, 1.64)	0.10
<i>6-months</i>	79.17 (27.72), 28	76.51 (31.59), 16	67.34 (36.11), 18	3.01 (-11.07, 17.09)	0.68	12.09 (-1.48, 25.67)	0.08	-9.08 (-24.52, 6.36)	0.25

* Combined = topical silicone gel + pressure garment therapy

Supplementary Table 12: Mixed effects regression analyses for interface pressure*

	Pressure garment therapy	Combined†	Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p
<i>Baseline</i>				
Stationary interface pressure	35.10 (32.49), 44	25.22 (23.04), 42	-	-
Dynamic interface pressure	33.67 (31.15), 44	32.02 (26.45), 41	-	-
<i>3-months</i>				
Stationary interface pressure	21.10 (28.66), 36	21.17 (29.95), 19	0.82 (-13.96, 15.59)	0.91
Dynamic interface pressure	18.89 (15.68), 36	28.60 (31.56), 18	9.79 (-4.37, 23.95)	0.18
<i>6-months</i>				
Stationary interface pressure	29.97 (23.68), 21	21.70 (15.21), 14	-8.64 (-26.51, 9.24)	0.34
Dynamic interface pressure	28.50 (22.74), 21	32.55 (21.51), 13	6.00 (-11.05, 23.04)	0.49

* Pliance X® (Novel Electronics, Munich, Germany) (mmHg)

† Combined = topical silicone gel + pressure garment therapy

Supplementary Table 13: Mixed effects regressions analyses for intervention burden at 6-months post-burn*

	Topical silicone gel	Pressure garment therapy	Combined†	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
	Mean (SD), n	Mean (SD), n	Mean (SD), n	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
Caregivers of children < 8 years	1.30 (0.67), 27	1.83 (1.15), 18	1.54 (0.98), 24	-0.57 (-1.14, 0.00)	0.05	-0.18 (-0.71, 0.35)	0.51	-0.39 (-0.98, 0.20)	0.19
Caregivers of children ≥ 8 years	1.42 (0.67), 12	1.61 (1.04), 18	1.29 (0.61), 14	-0.18 (-0.72, 0.35)	0.50	0.13 (-0.44, 0.70)	0.66	-0.31 (-0.83, 0.20)	0.23
Children 8-18 years	1.43 (0.79), 7	1.81 (1.17), 16	1.30 (0.67), 10	-0.41 (-1.11, 0.28)	0.24	0.16 (-0.59, 0.91)	0.68	-0.57 (-1.19, 0.05)	0.07

* Single item on the Brisbane Burn Scar Impact Profile (BBSIP)

† Combined = topical silicone gel + pressure garment therapy

Supplementary Table 14: Adverse effects: type, number and mixed effects regression analyses

a) Type and number of adverse effects

	Topical silicone gel	Pressure garment therapy	Combined
	n (%)	n (%)	n (%)
<i>3-months</i>	48	45	42
Skin irritation	1 (2.0%)	3 (6.1%)	5 (9.4%)
Sensory symptoms	0 (0.0%)	1 (2.0%)	2 (3.8%)
Wound breakdown	3 (5.9%)	5 (10.2%)	1 (1.9%)
Swelling	0 (0.0%)	0 (0.0%)	2 (3.8%)
Bony changes	0 (0.0%)	0 (0.0%)	0 (0.0%)
Misplaced intervention	0 (0.0%)	1 (2.0%)	0 (0.0%)
Problems with intervention (e.g. ill fitting pressure garment, ran out of silicone)	1 (2.0%)	7 (14.3%)	7 (13.2%)
<i>6-months</i>	43	37	39
Skin irritation	0 (0.0%)	5 (10.2%)	1 (1.9%)
Sensory symptoms	0 (0.0%)	1 (2.0%)	0 (0.0%)
Wound breakdown	0 (0.0%)	0 (0.0%)	0 (0.0%)
Swelling	0 (0.0%)	0 (0.0%)	0 (0.0%)
Bony changes	0 (0.0%)	0 (0.0%)	0 (0.0%)
Misplaced intervention	0 (0.0%)	0 (0.0%)	0 (0.0%)
Problems with intervention (e.g. ill fitting pressure garment, ran out of silicone)	2 (3.9%)	4 (8.2%)	3 (5.7%)

b) Mixed effects regression intention-to-treat analysis for adverse effects*

	Topical silicone gel	Pressure garment therapy	Combined†	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
Total number of adverse effects	n (%)	n (%)	n (%)	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>3-months</i>	48	45	42	-1.29 (-2.30, -0.28)	0.01	-1.36 (-2.37, -0.35)	0.01	0.07 (-0.62, 0.76)	0.84
0	44 (91.7%)	29 (64.4%)	28 (66.7%)						
1	3 (6.2%)	15 (33.3%)	11 (26.2%)						
2	1 (2.1%)	1 (2.2%)	3 (7.1%)						
<i>6-months</i>	43	37	39	-1.36 (-2.66, -0.06)	0.04	-0.40 (-1.90, 1.11)	0.61	-0.97 (-2.14, 0.20)	0.10
0	40 (93.0%)	28 (75.7%)	35 (89.7%)						
1	3 (7.0%)	8 (21.6%)	4 (10.3%)						
2	0 (0.0)	1 (2.7%)	0 (0.0%)						

*Poisson model

† Combined = topical silicone gel + pressure garment therapy

c) Mixed effects regression per protocol analysis for adverse effects*

	Topical silicone gel	Pressure garment therapy	Combined [†]	Topical silicone gel vs pressure garment therapy		Topical silicone gel vs combined		Combined vs pressure garment therapy	
Total number of adverse effects	n (%)	n (%)	n (%)	Mean difference (CI)	p	Mean difference (CI)	p	Mean difference (CI)	p
<i>3-months</i>	48	45	40	-1.29 (-2.29, -0.28)	0.01	-1.35 (-2.36, -0.33)	0.01	0.06 (-0.64, 0.76)	0.87
0	44 (91.67)	29 (64.44)	27 (67.50)						
1	3 (6.25)	15 (33.33)	10 (25.00)						
2	1 (2.08)	1 (2.22)	3 (7.50)						
<i>6-months</i>	42	34	32	-1.72 (-3.26, -0.18)	0.03	-0.97 (-2.68, 0.73)	0.26	-0.75 (-1.93, 0.44)	0.22
0	40 (95.24)	26 (76.47)	28 (87.50)						
1	2 (4.76)	7 (20.59)	4 (12.50)						
2	0 (0.00)	1 (2.94)	0 (0.00)						

*Poisson model

† Combined = topical silicone gel + pressure garment therapy

Supplementary Table 15: Treatment satisfaction at 6-months post-burn*

	Topical silicone gel	Pressure garment therapy	Combined topical silicone gel and pressure garment therapy	
			Topical silicone gel component	Pressure garment component
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
<i>6-months post-burn</i>				
Caregiver report	6.87 (2.33)	7.53 (1.92)	6.35 (2.97)	6.03 (2.81)
Occupational therapist report	7.03 (2.10)	6.40 (2.14)	5.86 (2.56)	5.11 (3.35)

* Measured using a 0-10 numeric rating scale

Supplementary Table 16: Per protocol analysis for adherence at 3 and 6-months post-burn

a) Topical silicone gel adherence*, alone and in combination

	Topical silicone gel	Combined†
	n (%)	n (%)
<i>3-months</i>		
Did not apply	5 (11.63)	3 (8.33)
Applied at least once per day	38 (88.37)	33 (91.67)
<i>6-months</i>		
Did not apply	3 (8.57)	4 (16.67)
Applied at least once per day	32 (91.43)	20 (83.33)

* Adherence = topical silicone gel applied at least once per day

† Combined = topical silicone gel + pressure garment therapy

b) Pressure garment therapy adherence*, alone and in combination

	Pressure garment therapy	Combined†
	Mean (SD), n	Mean (SD), n
<i>3-months</i>	83.78 (23.00), 37	73.49 (33.71), 35
<i>6-months</i>	77.08 (32.68), 22	61.56 (41.73), 19

* % adherence = (number of hours wear per day/recommended 23 hrs wear per day) x 100

† Combined = topical silicone gel + pressure garment therapy

Appendix 1: Additional participant and procedural information

Procedure

Eligibility	Age restrictions for acute (up to 16 years) and post-acute wounds (up to 18 years) were in line with current clinical practice at the participating burns centre. Day 17 post-burn injury for spontaneous wound healing was pre-selected as the time point for referral to scar management to focus on scar prevention. Day 17 was also a clinically meaningful time point at the participating burns centre as children were likely to attend the participating burns centre for routine dressing changes on day 3, 10 and 17 following the application of a three-day dressing and two subsequent seven-day dressings. The greater than 40%TBSA exclusion criteria was implemented as the burden of applying topical silicone gel to more than 40% of the child's body was considered too great by the clinical team, prior to the trial commencing.
Consent	Participants were provided verbal and written information prior to inclusion in the study. Consent was provided by parents, caregivers and health professionals for participation in the study. Child assent was obtained for children over five years of age. If the potential participant did not consent to the study, consent was sought for the collection of sociodemographic and clinical characteristics to investigate differences between the sample of children who did and did not participate in the study. Thus, an assessment of the generalisability of the results could be made.
Scar site selection and relocation	Scar sites were selected in conjunction with the family and treating health professionals. The child and their family reported the worst scar site/s (e.g. thickest, itchiest, or of most concern). If families did not or could not report a worst site, the area most at risk of scarring and most tolerable for ultrasound was selected for scar assessment according to the clinical assessment of treating health professionals. If a worst scar site or site most at risk of scarring was unable to be identified, the primary investigator selected the site that would assist in scar relocation. Body measurements, anatomical landmarks and descriptive summaries were used to assist with scar relocation. Photographs were inconsistently used due to camera availability.
Outcome measures	Objective outcome measures were completed on up to two scar sites during the clinical appointment, using distraction techniques as required to assist with keeping the child still. Paper based outcome measures were provided to families by the primary investigator and were typically completed by families in the waiting room of the participating burns centre prior to the clinical appointment. If necessary, questionnaires were completed during or at the conclusion of the clinical appointment.

Appendix 2: Intervention description

Brief description: Topical silicone gel and pressure garment therapy for the prevention and management of paediatric abnormal post-burn scarring

Rationale: Prevention of abnormal scarring post burn is the first priority after injury (Monstrey 2014, practice guidelines). The effectiveness of these interventions and their mechanisms of action remain unclear.

Description of Intervention	Who provided the intervention	Mode of delivery	Setting	Modifications/ tailoring	Adherence/ fidelity (planned and actual)
<p><u>Topical silicone gel</u>^{*†} Product: Strataderm® film forming topical silicone gel.</p> <p>Quantity provided: Dependant on burn size – manufacturers recommendations applied. Sufficient topical silicone gel for use until the child’s next clinical appointment was supplied. If necessary, families could contact the burns centre and have additional topical silicone tubes posted to their home.</p> <p>Frequency of application: 1-2x daily to clean, dry, healed skin. Families were advised to check the skin after eight hours of wear according to manufactures directions to determine if a second application was required.</p> <p>Commenced: At 100% wound healing (baseline or one week follow up time point).</p> <p>Length of intervention: Until scar maturation according to OT clinical decision.</p> <p>Education: Standard verbal education (according to fidelity checklist) and standard one page handout provided. Education components were listed on</p>	<p>Occupational therapists (OT’s) provided scar management at all participating health services (n=14). Occupational therapists experience ranged from new graduate to 10+ years.</p> <p>OT’s receive on the job training regarding silicone indications, precautions and prescription.</p> <p>All participating OT’s received training from the research investigators regarding the study protocol, topical silicone gel use and adverse effect responses in line with the fidelity checklist.</p>	<p>Interventions were provided face to face at the participating burns centre for all participants at scar management commencement in individual appointments.</p> <p>Subsequent supply of topical silicone gel depended on participant availability and geographical location. Additional silicone tubes and education and problem solving could be provided in face-to-face scar management appointments or education and problem solving could be provided via phone or email and silicone tubes posted to the participant’s home.</p>	<p>Participating burns centre and/or local health service hospital</p>	<p>Quantity of silicone tubes provides was tailored to the size of the burn. Manufacturer guidelines were used.</p> <p>If adverse effects were experienced the intervention was ceased until issue resolved then tried again.</p>	<p><u>Adherence</u></p> <p>Planned: Adherence was measured using self-report questionnaires to child and caregiver participants, which included questions regarding number of topical silicone gel applications per day. The percentage of caregiver reported adherence was measured at the three and six month follow-up.</p> <p>Actual: As planned.</p> <p><u>Fidelity</u></p> <p>Planned: Therapist fidelity was monitored via self-report checklists of salient elements of the intervention. Therapist fidelity was also evaluated through the use of audio recordings of sessions for 20 percent of participants.</p> <p>Actual:</p>

<p>the intervention fidelity checklist and included the goals of scar management, the scar maturation process, proposed mechanisms of action of scar management interventions, and scar management product wear and care. Verbal instructions and practical demonstration was provided for topical silicone gel application.</p>					<p>As planned.</p>
<p><u>Pressure garment therapy</u>*† Product: Therapeutic Support Laboratory (TSL)[®] custom-made pressure garments.</p> <p>Fabrication: Custom-made pressure garment measurements were taken by clinical occupational therapists at the burn centre according to manufacturer training. Pressure garments were fabricated by the manufacturer. Interface pressure over the scar site of interest was assessed by the primary investigator at each research follow up time point, however treating occupational therapists were blinded to this information.</p> <p>Quantity provided: Two custom made pressure garments supplied at least every three months – increased frequency if pressure garment broken down or child outgrown current garment.</p> <p>Frequency of application: 23 hours per day.</p> <p>Commenced: At 95-100% wound healing (baseline or one week follow up time point).</p>	<p>Occupational therapists (OT's) provided scar management at all participating health services (n=14). Occupational therapists experience ranged from new graduate to 10+ years. OT's received on the job training regarding pressure garment indications, precautions and prescription. OT's also receive training in measurement practices for custom made pressure garments as part of their orientation to clinical service provision. All participating OT's received training from the research investigators regarding the study protocol, pressure garment therapy use and adverse effect responses in line with the fidelity checklist.</p>	<p>Interventions were provided face to face at the participating burns centre for all participants at scar management commencement in individual appointments. Subsequent supply of pressure garments depended on participant availability and geographical location. Pressure garment measurements were completed face-to-face at the participating burns centre or local health service. Pressure garments were then fitted in a face to face appointment or posted to the participant's home for self-fitting. Appointment type also depended on participant awareness and comfort with self-fitting pressure garment. Additional</p>	<p>Participating burns centre and/or local health service hospital</p>	<p>Customised pressure garments were measured by the treating occupational therapist and made by the manufacturer. Modifications were made to the pressure garment as required to ensure adequate fit. Pressure garments were assessed at least every three months and re-supplied with new pressure garments as required. If adverse effects were experienced the intervention was ceased until issue resolved then tried again.</p>	<p><u>Adherence</u> Planned: Adherence was measured using self-report questionnaires to child and caregiver participants, which included questions about the number of hours per day of pressure garment wear. The percentage of caregiver reported adherence (<i>(number of hours daily wear/recommended 23 hours of daily wear) x 100</i>) at the three and six month follow-up was used in the analysis.</p> <p>Actual: As planned.</p> <p><u>Fidelity</u> Planned: Therapist fidelity was monitored via self-report checklists of salient elements of the intervention. Therapist fidelity was also evaluated through the use of audio recordings of</p>

<p>Length of intervention: Until scar maturation according to OT clinical decision.</p> <p>Education: Standard verbal education (according to fidelity checklist) and standard one page handout provided. Education components were listed on the intervention fidelity checklist and included the goals of scar management, the scar maturation process, proposed mechanisms of action of scar management interventions, and scar management product wear and care. Verbal instructions and practical demonstration was provided for pressure garment therapy donning and doffing.</p> <p>Pressure garment care: Participants were advised that pressure garments should be washed according to the manufacturer's instructions. The manufacturer provided donning and washing instructions in writing on the pressure garment packaging. Manufacturer washing instructions recommend: (1) hand wash in a mild detergent with cold water; (2) roll the pressure garment in a towel and wring out excess water; (3) dry in shade.</p>		<p>support was provided over the phone or via email if pressure garments were posted to the home.</p>			<p>sessions for 20 percent of participants.</p> <p>Actual: As planned.</p>
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* The combined intervention required both intervention components to be implemented.

† All participants were advised to use moisturising cream and sunscreen as per usual care. Massage and ranging exercises were able to be recommended at the treating occupational therapist's discretion.

Appendix 3: Procedure for outcome measures

Outcome	Outcome measure	Procedure	Scoring	Mode of report
Scar thickness	GE Healthcare Ultrasound	Measurement of burn scar thickness was completed in real time at baseline, 1-week, 3, and 6-month follow up points. Thickness was measured from the top of the epidermis to the bottom of the dermis. At the conclusion of the 6-months post-burn data collection, the blinded ultrasound assessor (a second investigator) measured the participant's burn scar thickness for all follow up time points using the ultrasound images taken by the primary investigator. The blinded ultrasound assessor was blinded to the participant's identity, treatment group, and the primary investigator's scar thickness measurement. An average of three thickness measurements completed by the blinded investigator was used in data analysis. Inter-rater variation between the two investigators was determined.	centimetres A larger mean=greater scar thickness.	Primary investigator Blinded investigator
Scar itch intensity	Patient and Observer Scar Assessment Scale (POSAS) single item of itch severity rated using a numeric rating scale (NRS)	Caregiver proxy report was the primary measure of scar itch intensity. Child self-report was a secondary measure of interest for scar itch intensity.	1='no, not at all' 10='yes, very much' 0='no itch' 10='itch as bad as it could possibly be'	Caregiver proxy Child self-report from 5 years of age

Behavioural itch rating scale	Toronto Pediatric Itch Scale	The behavioural itch rating scale was used by caregivers for participants aged five years and under.	0=itch absent 3=severe itch	Caregiver proxy
Scar severity	POSAS	Scar severity was measured using individual items of the POSAS patient version (itch, pain, colour, stiffness, thickness, irregular) and observer version (vascularity, pigmentation, thickness, relief, pliability). The surface area item of the observer version was not completed as it has not been validated for people with burn scars (van der Wal et al., 2012).	1='no, not at all/as normal skin' 10='yes, very much/very different'	Caregiver proxy (patient version) Primary investigator (observer version)
	DSMII ColorMeter® (Cortex Technology, Hadsund, Denmark)	An average of three consecutive colorimeter measurements were taken immediately following each other (for scar and normal skin) for L* (lightness) and a* (erythema) measurements. Colorimeter L* measurements are reported as the difference between the scar site and contralateral normal skin (scar - normal skin) to account for seasonal changes in skin pigmentation. Where a contralateral site was not available (i.e. in the case of bilateral burn injuries), scar colour was compared to the nearest site of unaffected skin.	Tristimulus colorimetry (L*a*b*)	Primary investigator
Health-related quality of life	Child Health Utility 9D (CHU-9D)	Caregiver report on health-related quality of measures was used as the primary approach. However, child self-report data was also collected where possible for triangulation of caregiver and child report results.	Utility score of less than one indicates a reduced health-related quality of life.	Caregiver proxy report Child self-report from five years of age

	Brisbane Burn Scar Impact Profile (BBSIP) version 1.0	Caregiver report on the burn-scar specific health-related quality of measures was used as the primary approach. Measures included: BBSIP ⁰⁻⁸ for caregivers of children aged less than eight years; BBSIP ^{ca8-18} for caregivers of children aged eight to eighteen years; BBSIP ⁸⁻¹⁸ for children aged eight to eighteen years	Low scores indicate no or minimal impact on health-related quality of life.	Caregiver proxy Child selfreport 8-18 years
Adherence	Adherence questionnaire designed for the study purposes.	<p>Assessment of adherence was based on responses to the following questions (completed according to the relevant intervention).</p> <p>Topical silicone gel:</p> <ul style="list-style-type: none"> In the last month, on average how many times per day did you/your child apply topical silicone gel? <p>Pressure garment:</p> <ul style="list-style-type: none"> In the last month, on average how many hours per day/night did you/your child wear your/their pressure garment? <p>Analysis was completed using the caregiver proxy report as this was available for all age groups.</p>	<p>Topical silicone gel use reported as percentage of people who reported applying the gel at least once per day.</p> <p>Pressure garment adherence means (SD) are reported as a percentage of adherence ((number of hours daily wear/recommended 23 hours of daily wear) x 100).</p>	<p>Caregiver proxy report for children of all ages</p> <p>Child self-report for children aged eight years and older</p>
Treatment satisfaction	NRS	Assessment of treatment satisfaction was based on responses to the following questions (completed according to the relevant intervention).	0=very dissatisfied; 10=very satisfied	Caregiver proxy

- How satisfied are you with the ability of the silicone gel to prevent or treat scarring of the child's skin?
- How satisfied are you with the ability of the pressure garment to prevent or treat scarring of the child's skin?

Treating occupational therapist

Resource use and costs

-

Resource use and costs will be reported separately

-

-

Adverse effects

Categories:

- Skin irritation
- Sensory symptoms (i.e. itch, pain, pins and needles)
- Wound breakdown
- Swelling
- Bony changes
- Lost/misplaced interventions
- Problems with interventions (i.e. running out of topical silicone gel, ill-fitting pressure garment)

The total number of adverse effects experienced up to each follow up time point was calculated.

Caregivers were encouraged to contact the health service or the primary investigator immediately if adverse effects were identified. At each appointment the treating occupational therapist reviewed the presence of adverse effects since the last appointment and documented the reported adverse effects on the fidelity checklist. All adverse effects were reported to the clinical health service and overseeing human research ethics committee.

Discontinuation or alteration of treatment was at the discretion of the treating clinical team and was monitored throughout the study.

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Caregiver proxy report

Child report

Treating health professionals

Intervention fidelity	Paper-based checklist, designed for the study purposes.	Occupational therapists participating in the trial (at all participating health services) received training (verbal education, study information form and review of fidelity checklist) from the primary investigator regarding the study protocol, standardised intervention requirements and completion of the fidelity checklist. Occupational therapists completed the fidelity checklist during or at the cessation of scar management sessions. Occupational therapists could report an item as 'not applicable'. The primary investigator completed audio recordings of sessions for 20% of participants to assess fidelity from an observer's perspective.	Scoring was completed as a percentage of items completed, compared to the number of items applicable at each follow-up.	Treating occupational therapists
Intervention burden	The single items of the caregiver report BBSIP ⁰⁻⁸ and BBSIP ⁸⁻¹⁸ and child report BBSIP ⁸⁻¹⁸ addressing intervention burden.	Caregiver's completed the intervention burden question as part of the BBSIP.	Lower score indicates less intervention burden 1=not at all, 5=a lot	Caregiver proxy report Child self-report
Interface pressure	Pliance X [®] (Novel Electronics, Munich, Germany)	Interface pressure of one scar site (the scar site reported to be the most severe at baseline by the caregiver) was measured using the Pliance X [®] at each follow up time point, except when the machine was undergoing calibration. Treating health professionals were blinded to the results of the interface pressure assessment at each time point.	mmHg	Primary investigator
