

Supplementary Materials

Supplementary Table S1. Outcome measures descriptive statistics for all study groups at baseline (T0) and follow-ups after 8 weeks (T8) (where applicable) and 16 weeks (T16) of intervention.

Parameter	Time	Group					
		Placebo		CP		CPHA	
		Mean	SD	Mean	SD	Mean	SD
Density (score 0-100)	T0	28.51	2.38	29.13	2.45	28.80	1.87
	T8	29.65	3.05	33.37	4.62	33.17	5.76
	T16	30.26	3.53	35.35	5.71	35.05	5.58
Thickness (µm)	T0	972.3	154.3	978.0	116.5	979.8	149.7
	T8	981.2	155.2	981.3	119.9	984.5	140.5
	T16	947.1	147.8	992.0	117.0	992.2	134.7
Viscoelasticity (MPa)	T0	4.63	1.27	4.53	1.62	4.54	1.79
	T8	4.82	1.33	5.04	2.00	5.06	1.70
	T16	4.87	1.72	5.40	2.49	5.48	2.31
Hydration (µS)	T0	48.52	13.99	47.34	17.35	49.14	21.96
	T8	63.56	31.33	65.35	33.38	75.95	48.29
	T16	86.76	45.57	97.94	51.16	101.25	44.94
Roughness - Ra (µm)	T0	8.07	0.48	8.08	0.53	7.98	0.62
	T16	8.61	0.75	7.83	0.68	7.75	0.78
Wrinkles - Volume (mm ³)	T0	7.44	0.29	7.51	0.24	7.43	0.25
	T16	7.65	0.64	6.68	1.14	6.61	1.01
Wrinkles - Maximum depth (mm)	T0	0.134	0.031	0.133	0.017	0.123	0.016
	T16	0.137	0.036	0.115	0.020	0.105	0.019
Wrinkles - Indentation index (a.u.)	T0	42.01	2.30	41.96	3.11	43.10	3.30
	T16	43.00	3.12	39.30	3.83	40.34	4.07

Notes: SD: standard deviation.

Supplementary Table S2. Results of ANCOVA interaction effect between time and group (each intervention over placebo).

Variable	Interaction effect (intervention x time)	CP		CPHA	
		F	p-value	F	p-value
Density	Level 2 vs. Level 1	12.91	< 0.05	8.44	< 0.01
	Level 3 vs. Level 1	14.8	< 0.001	14.14	< 0.001
Thickness	Level 2 vs. Level 1	0.049	0.826	0.001	0.977
	Level 3 vs. Level 1	3.279	0.076	3.402	0.071
Viscoelasticity	Level 2 vs. Level 1	0.478	0.492	0.079	0.779
	Level 3 vs. Level 1	1.665	0.202	2.218	0.142
Hydration	Level 2 vs. Level 1	0.218	0.643	1.517	0.224
	Level 3 vs. Level 1	1.72	0.195	1.846	0.18
Roughness - Ra	Level 2 vs. Level 1	39.83	< 0.001	43.62	< 0.001
Wrinkles					
- Volume	Level 2 vs. Level 1	17.56	< 0.001	21.257	< 0.001
- Maximum depth	Level 2 vs. Level 1	13.34	< 0.05	19.395	< 0.001
- Indentation index	Level 2 vs. Level 1	31.18	< 0.001	41.663	< 0.001

Notes: Level 1: baseline. level 2: 8-week follow-up. level 3: 16-week follow-up.

Supplementary Table S3. Absolute and relative effects of intervention in comparison to the placebo at follow-ups.

Variables	Time	Intervention effect		Intervention effect (%)	
		CP	CPHA	CP	CPHA
Density (score)	Follow-up 8 weeks	3.14*	3.27**	10.9*	11.3**
	Follow-up 16 weeks	4.71***	4.60***	16.3***	16.0***
Thickness (μm)	Follow-up 8 weeks	-4.5	-0.60	-0.5	-0.1
	Follow-up 16 weeks	40.5	41.40	4.1	4.2
Viscoelasticity (MPa)	Follow-up 8 weeks	0.3	0.09	6.6	2.0
	Follow-up 16 weeks	0.79	0.65	17.3	14.3
Hydration (μS)	Follow-up 8 weeks	3.11	12.22	6.4	25.3
	Follow-up 16 weeks	12.83	15.70	26.6	32.5
Roughness - Ra (μm)	Follow-up 16 weeks	-0.77***	-0.80***	-9.6***	-9.9***
Wrinkles					
- Volume (mm ³)	Follow-up 16 weeks	-1.03***	-1.04***	-13.8***	-13.9***
- Maximum depth (mm)	Follow-up 16 weeks	-0.022*	-0.03***	-16.9*	-19.2***
- Indentation index (a.u.)	Follow-up 16 weeks	-3.6***	-3.80***	-8.5***	-9.0***

Notes: *p<0.05. **p<0.01. ***p<0.001 for comparison of change from baseline at follow-ups between intervention and placebo.