

Figure 1 Study protocol.

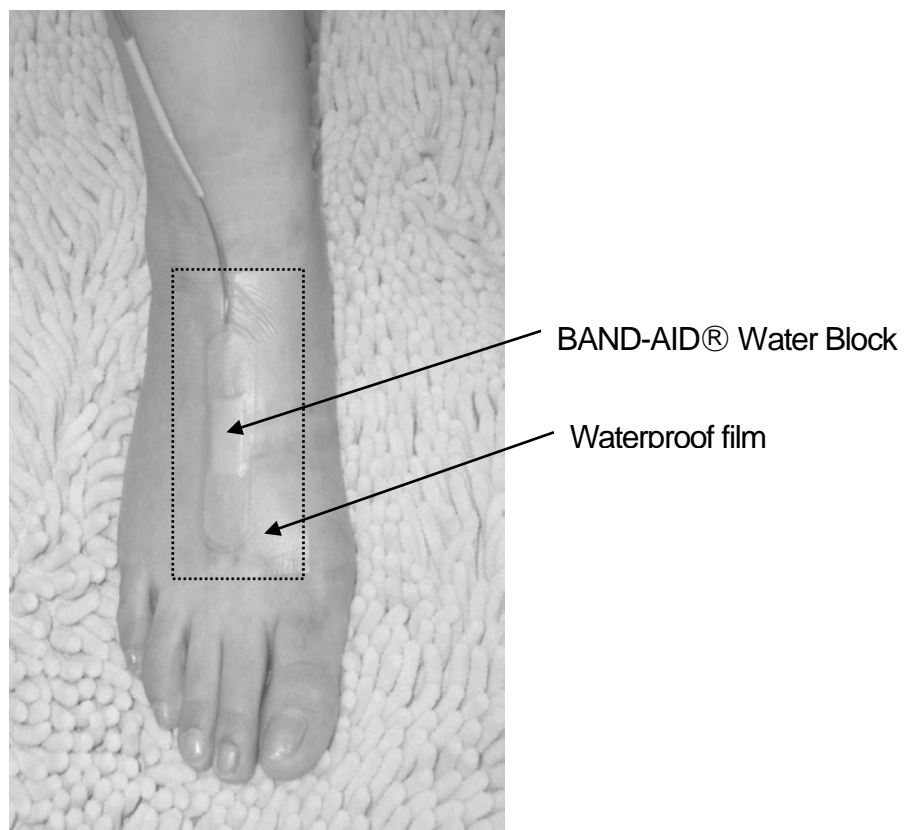


Figure 2. Application of skin temperature probe on the dorsum of the foot

Table 1. Summary of Subjects

		Patients who had a stroke (n=20)	Healthy Adults (n=20)	<i>p-value</i>	<i>Effect size r</i>
Age (years)	Mean (SD)	67.5 (10.15)	59.5 (10.86)	.02*	.36
Gender	Male	14	9		
	Female	6	11		
Types of stroke	Cerebral infarction	14	No disease		
	Cerebral hemorrhage	4			
	Cerebral infarction + cerebral hemorrhage	2			
Impairment classification	Hemiplegia + sensory impairment	12	No impairment		
	Sensory impairment only	8			
Stroke period (month)	Mean (range)	38.9 (2~252)			

Note: *t*-test. \**p*<.05

Table 2. Changes in Skin Temperature With Footbath in 2 Groups

	Temperature(°C)							<i>F</i>	<i>p-value</i>	<i>Partial η<sup>2</sup></i>
	Before Footbath	Immediately After Start of Footbath	Footbath 5 Min	Footbath 10 Min	Footbath 15 Min	5 Min After Completion	10 Min After Completion			
Patients who had a stroke (n=20)										
Dorsum of the foot, affected side	31.8 (2.33)	35.0 (2.04) <sup>***</sup>	38.7 (0.83) <sup>***</sup>	38.9 (0.72) <sup>***</sup>	38.8 (0.66) <sup>***</sup>	36.2 (0.77) <sup>***</sup>	35.4 (0.76) <sup>***</sup>	120.22	.00	.86
Dorsum of the foot, unaffected side	32.7 (1.76)	35.5 (1.91) <sup>***</sup>	38.5 (0.91) <sup>***</sup>	38.8 (0.74) <sup>***</sup>	38.8 (0.60) <sup>***</sup>	36.5 (0.59) <sup>***</sup>	35.7 (0.73) <sup>***</sup>	121.36	.00	.87
	( <i>t</i> -test: <i>p</i> -value, effect size <i>r</i> )	(.16, .23)	(.44, .13)	(.48, .11)	(.65, .07)	(.90, .02)	(.20, .21)	(.18, .22)		
Lower leg, affected side	31.2(1.15)	31.7 (1.48)	32.2 (1.76) <sup>***</sup>	32.6 (2.00) <sup>***</sup>	32.8 (2.04) <sup>***</sup>	32.5 (1.61) <sup>***</sup>	32.3(1.58) <sup>***</sup>	8.85	.00	.32
Lower leg, unaffected side	32.0 (1.01)	32.3 (1.09)	32.8 (1.36) <sup>**</sup>	33.1 (1.50) <sup>**</sup>	33.2 (1.46) <sup>**</sup>	32.7 (1.36) <sup>**</sup>	32.4 (1.23)	10.49	.00	.36
	( <i>t</i> -test: <i>p</i> -value, effect size <i>r</i> )	(.03 <sup>†</sup> , .34)	(.20, .21)	(.22, .20)	(.34, .16)	(.55, .10)	(.70, .06)	(.86, .03)		
Healthy adults (n=20)										
Dorsum of the foot, low-temperature side	29.0 (2.90)	30.9 (2.81) <sup>***</sup>	36.9(1.27) <sup>***</sup>	38.0 (0.79) <sup>***</sup>	38.1 (0.56) <sup>***</sup>	35.8 (0.47) <sup>***</sup>	35.3(0.54) <sup>***</sup>	150.80	.00	.89
Dorsum of the foot, high-temperature side	30.5(2.66)	32.4 (2.61) <sup>***</sup>	37.8 (1.18) <sup>***</sup>	38.7 (0.68) <sup>***</sup>	38.6 (0.56) <sup>***</sup>	36.1 (0.46) <sup>***</sup>	35.5 (0.46) <sup>***</sup>	128.01	.00	.87
	( <i>t</i> -test: <i>p</i> -value, effect size <i>r</i> )	(.10, .27)	(.09, .27)	(.03 <sup>†</sup> , .35)	(.01 <sup>††</sup> , .43)	(.01 <sup>††</sup> , .40)	(.10, .26)	(.17, .22)		
Lower leg, low-temperature side	30.9 (1.37)	31.0 (1.32)	31.3 (1.71)	31.5 (1.93)	31.5 (2.12)	31.5 (1.94)	31.4 (1.83)	1.83	.00	.10

Lower leg, high-temperature side	31.4 (1.38)	31.6 (1.51)**	31.9 (1.45)**	32.2 (1.65)**	32.3 (1.85)**	31.9 (1.90)**	31.7 (1.92)**	56.87	.00	.75
( <i>t</i> -test: <i>p</i> -value, effect size <i>r</i> )	(.31, .16)	(.24, .19)	(.24, .19)	(.23, .20)	(.23, .19)	(.47, .12)	(.61, .09)			

Note: Skin temperatures before and after start of footbath compared by Repeated Measures ANOVA followed by Dunnett's test. \*\*\*  $p < .001$ , \*\*  $p < .01$ .

Affected (low-temperature) and unaffected (high-temperature) compared by *t*-test. ††  $p < .01$ , †  $p < .05$ .

Numerical value of skin temperature shows an mean (SD).

Table 3. Perceived Temperature (warmth) and Comfort

		Before Footbath	Footbath 10 Min	Footbath 15 Min	5 Min After Completion	10 Min After Completion	<i>F</i>	<i>p-value</i>	<i>Partial η<sup>2</sup></i>
Warmth (point: 5-1)									
Lower leg	Patients who had a stroke (n=20)	2.9 (0.31)	4.8 (0.64)***	4.8 (0.55)***	4.5 (0.69)***	4.2 (0.62)***	59.81	.00	.76
	Healthy adults (n=20)	2.1 (1.00)	5.0 (0.22)***	4.8 (0.41)***	4.4 (0.50)***	3.9 (0.72)***	84.00	.00	.82
	( <i>t</i> -test: <i>p</i> -value, effect size <i>r</i> )	(.00 <sup>†††</sup> , .51)	(.19, .21)	(.75, .05)	(.60, .09)	(.16, .23)			
Whole body	Patients who had a stroke (n=20)	2.9 (0.49)	4.4 (0.67)***	4.6 (0.51)***	4.3 (0.55)***	4.1 (0.55)***	49.21	.00	.72
	Healthy adults (n=20)	3.0 (0.56)	4.6 (0.51)***	4.7 (0.49)***	4.3 (0.55)***	3.9 (0.79)***	46.34	.00	.71
	( <i>t</i> -test: <i>p</i> -value, effect size <i>r</i> )	(.37, .15)	(.30, .17)	(.53, .10)	(1.00, .00)	(.36, .15)			
Comfort (point: 5-1)									
	Patients who had a stroke (n=20)	2.9 (0.45)	4.6 (0.68)***	4.7(0.59)***	4.2 (0.62)***	4.2 (0.59)***	68.64	.00	.78
	Healthy adults (n=20)	3.2 (0.77)	4.7 (0.49)***	4.5 (0.69)***	4.2 (0.70)***	3.9 (0.79)***	31.48	.00	.62
	( <i>t</i> -test: <i>p</i> -value, effect size <i>r</i> )	(.14, .24)	(.79, .04)	(.46, .12)	(1.00, .00)	(.26, .18)			

Note: Warmth and comfort before and after start of footbath compared by Repeated Measures ANOVA followed by Dunnett's test. \*\*\**p*<.001.

Patients who had a stroke and healthy adults compared by *t*-test. <sup>†††</sup>*p*<.001.

Numerical value of point shows an Mean (SD).

Table 4. Changes in Blood Pressure, Heart Rate and Rate of Change for Autonomic Activity With Footbath

	Before Footbath	After Footbath	<i>p</i> -value	<i>Effect size r</i>					
Patients who had a stroke (n=20)									
Systolic blood pressure (mmHg)	115.7(18.09)	114.2(13.63)	.61	.12					
Diastolic blood pressure (mmHg)	72.2(11.10)	71.0(10.51)	.47	.17					
Healthy adults (n=20)									
Systolic blood pressure (mmHg)	117.1(19.51)	111.2(15.06)	.05*	.44					
Diastolic blood pressure (mmHg)	72.5(12.30)	67.8(11.23)	.01**	.54					
	Before Footbath	Footbath 5 Min	Footbath 10 Min	Footbath 15 Min	5 min After Completion	10 Min After Completion	<i>F</i>	<i>p</i> -value	<i>Partial η</i> <sup>2</sup>
Heart Rate									
Patients who had a stroke (n=20)	82.2(15.82)	81.3(15.11)	81.7(15.34)	82.2(15.18)	83.4(15.21)	83.5(15.33)	3.95	.00	.17
Healthy adults (n=20)	72.3(9.30)	70.8(9.12)*	70.7(9.74)**	70.2(9.50)***	70.1(9.59)***	70.3(9.71)***	5.31	.00	.22
Patients who had a stroke (n=20)									
HF	1.00	1.04(0.32)	1.41(1.78)	1.51(1.84)	1.13(0.67)	1.20(0.69)	0.90	.49	.05
LF/HF	1.00	0.91(0.41)	0.93(0.47)	1.39(1.02)	1.39(0.66)	1.56(1.24)*	3.75	.00	.17

Healthy adults (n=20)

HF	1.00	1.22(0.50)	1.16(0.64)	1.17(0.73)	1.31(0.63)*	1.13(0.66)	1.48	.20	.07
LF/HF	1.00	0.74(0.34)	0.81(0.47)	0.85(0.40)	0.86(0.49)	1.04(0.64)	2.15	.07	.10

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Note: Numerical value of Blood Pressure, Heart rate and HF, LF/HF shows an Mean (SD). \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ .

Blood Pressure by *t*-test.

Heart Rate and Autonomic activity before and after start of footbath compared by Repeated Measures ANOVA followed by Dunnett's test.