

Supplementary Table 1. Anthropometric data of each subject

Patient No.	Age (yr)	Sex	Height (cm)	Weight (kg)	BMI (kg/m ²)	Total anesthesia time (min)	Operated side	Pain VAS	
								Preoperative	Postoperative
1	64	Male	160.0	62.9	24.57	163	Right	7	7
2	62	Male	164.8	63.8	23.49	109	Left	8	5
3	50	Male	171.6	63.6	21.60	159	Left	8	3
4	27	Male	173.3	87.2	29.03	134	Right	6	7
5	62	Male	169.6	82.1	28.54	208	Left	7	10
6	64	Female	152.9	56.0	23.95	131	Right	6	5
7	71	Male	162.1	63.1	24.01	163	Right	5	4
8	57	Male	166.0	99.8	36.22	153	Left	7	8
9	49	Male	175.0	95.0	31.02	132	Left	7	6
10	57	Female	154.0	50.0	21.08	186	Right	6	3
11	62	Male	169.1	72.8	25.46	99	Left	7	7
12	67	Male	162.7	70.5	26.61	170	Left	8	5
13	70	Female	153.2	49.4	21.03	172	Right	7	4
14	69	Male	161.8	70.6	26.95	241	Left	4	4
15	62	Female	160.8	62.2	24.06	161	Right	7	6
16	47	Male	171.1	80.9	27.63	191	Left	4	3
17	68	Male	169.1	75.9	26.54	197	Left	8	4
18	54	Male	161.9	68.9	26.29	165	Left	6	3
19	48	Male	174.0	72.0	23.78	168	Left	7	6
20	63	Female	143.7	55.8	27.02	160	Right	8	5

BMI: body mass index, VAS: visual analogue scale.

Supplementary Table 2. Electromyography activity of each patient during awakening from general anesthesia

Patient No.	Muscle	Total contraction	Contraction over 20% of MVIC			
			Events	Mean duration (sec)	MVIC rate (%)	
					Maximum	Mean±SD
1	UT	7	0			
	BB	4	0			
	RF	10	1	0.58	26.86	25.83±6.56
2	UT	0	0			
	BB	4	2	0.25	44.22	31.74±3.80
	RF	11	4	1.12	42.16	29.68±4.26
3	UT	8	3	4.91	35.21	22.84±5.95
	BB	1	0			
	RF	4	2	7.68	60.86	31.62±13.97
4	UT	0	0			
	BB	1	0			
	RF	1	0			
5	UT	8	3	1.17	37.72	34.76±3.98
	BB	5	0			
	RF	4	0			
6	UT	2	0			
	BB	1	0			
	RF	7	2	1.12	32.03	25.92±2.51
7	UT	5	0			
	BB	7	0			
	RF	10	2	0.21	23.52	21.49±0.41
8	UT	2	1	1.79	35.84	25.70±4.06
	BB	3	0			
	RF	6	0			
9	UT	10	3	1.53	39.4	26.83±2.98
	BB	2	0			
	RF	3	1	0.16	31.48	28.87±3.50
10	UT	5	0			
	BB	4	0			
	RF	12	3	3.62	54.17	26.61±4.17
11	UT	2	0			
	BB	4	0			
	RF	6	0			
12	UT	2	0			
	BB	2	0			
	RF	5	0			
13	UT	1	0			
	BB	1	0			
	RF	2	1	0.19	78.03	70.38±15.67
14	UT	8	2	9.04	54.58	29.9±6.22
	BB	4	1	0.12	106.57	21.03±0.19
	RF	6	1	15.80	70.83	31.53±8.40
15	UT	4	0			
	BB	8	0			
	RF	12	1	0.60	104.85	65.13±25.65
16	UT	6	0			
	BB	8	1	1.10	43.71	30.04±10.16
	RF	7	0			

Supplementary Table 2. Continued

Patient No.	Muscle	Total contraction	Contraction over 20% of MVIC			
			Events	Mean duration (sec)	MVIC rate (%)	
					Maximum	Mean±SD
17	UT	6	0	1.91	55.65	28.53±9.13
	BB	6	2			
	RF	8	0			
18	UT	4	0	10.27	94.19	29.08±7.61
	BB	5	0			
	RF	9	1			
19	UT	4	0	0.10	27.00	22.95±2.18
	BB	3	0			
	RF	8	2			
20	UT	5	0	7.61	75.96	54.43±4.52
	BB	4	0			
	RF	8	1			

UT: upper trapezius, BB: biceps brachii, RF: rectus femoris, MVIC: maximum voluntary isometric contraction, SD: standard deviation.

Supplementary Table 3. Electromyography activity of each patient while in PACU

Patient No.	Muscle	Total contraction	Contraction over 20% of MVIC			
			Events	Mean duration (sec)	MVIC rate (%)	
					Maximum	Mean±SD
2	UT	2	0			
	BB	3	0			39.21±4.12
	RF	5	2	0.58	57.24	21.72±3.00
3	UT	8	1	1.11	25.96	25.03±0.06
	BB	6	1	0.26	29.48	36.84±7.72
	RF	4	1	1.12	53.16	
4	UT	1	0			
	BB	5	0			22.05±2.74
	RF	7	2	0.75	27.61	
5	UT	3	0			
	BB	5	0			20.94±0.38
	RF	1	1	0.08	21.31	
6	UT	2	0			
	BB	4	0			
	RF	2	0			
7	UT	2	0			
	BB	1	0			
	RF	7	0			
8	UT	2	0			
	BB	2	0			
	RF	3	0			
9	UT	6	0			
	BB	4	0			
	RF	3	0			
10	UT	4	0			
	BB	4	0			
	RF	7	0			
11	UT	2	0			
	BB	4	0			32.64±8.04
	RF	3	0			
12	UT	8	3	3.26	72.14	20.88±7.34
	BB	3	0			
	RF	7	2	18.54	22.92	
13	UT	1	0			
	BB	2	0			
	RF	2	0			
14	UT	3	0			
	BB	4	0			
	RF	3	0			
15	UT	6	0			
	BB	3	0			
	RF	4	0			
16	UT	1	0			23.25±3.10
	BB	3	0			
	RF	2	2	0.50	30.46	
16	UT	3	0			
	BB	3	0			
	RF	6	0			

Supplementary Table 3. Continued

Patient No.	Muscle	Total contraction	Contraction over 20% of MVIC			
			Events	Mean duration (sec)	MVIC rate (%)	
					Maximum	Mean±SD
17	UT	6	0			
	BB	10	0			
	RF	12	0			
18	UT	4	0			
	BB	2	0			
	RF	7	0			
19	UT	3	0			
	BB	4	0			
	RF	4	0			
20	UT	5	0			
	BB	3	0			
	RF	6	0			

UT: upper trapezius, BB: biceps brachii, RF: rectus femoris, MVIC: maximum voluntary isometric contraction, SD: standard deviation.