

Production Ergonomics Workplace Evaluated Report

Client: _____

Address: _____

Project name: _____

Workplace name: _____

Created by: ViveLab Ergo

Complied by: _____

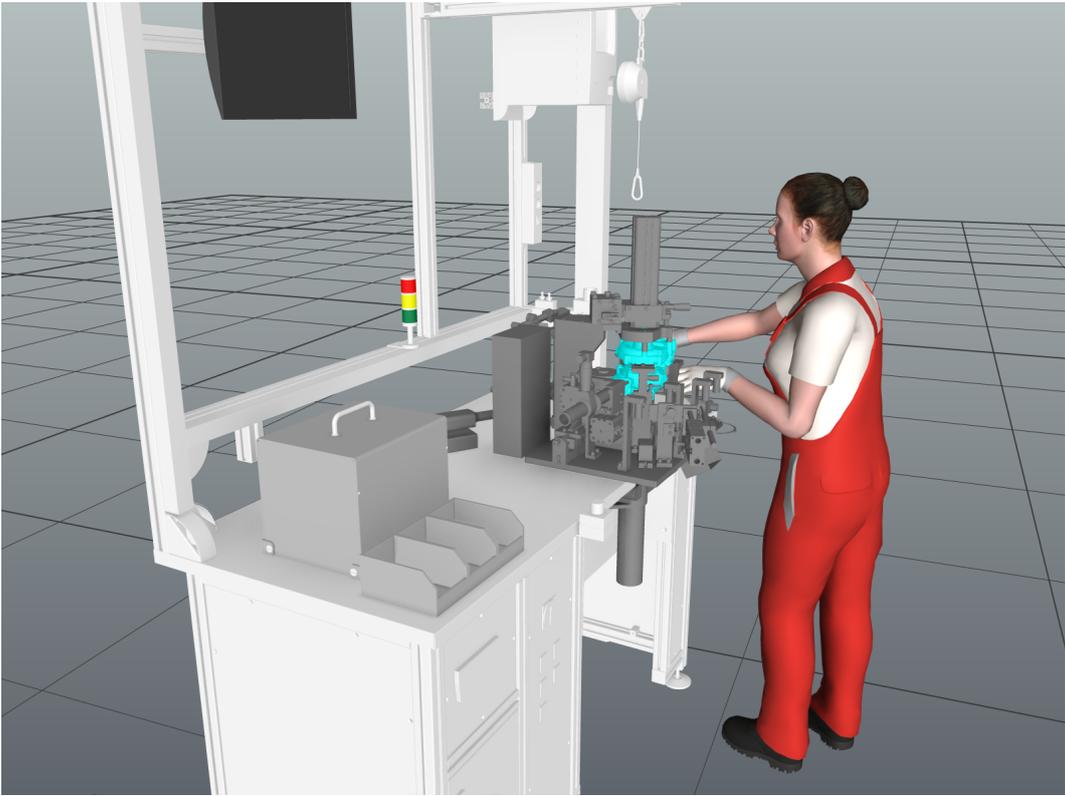
Date of issue: _____

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Figure 1.

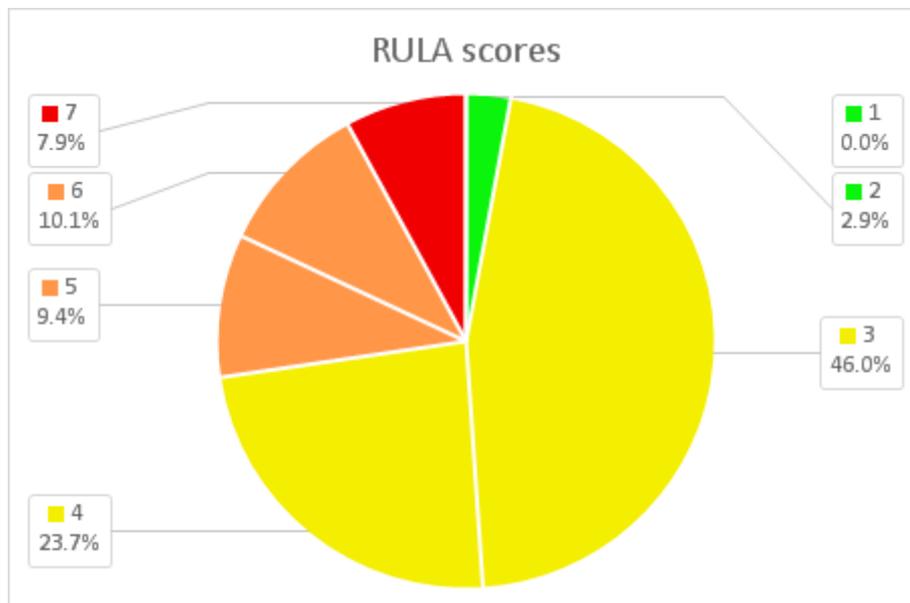
Using a torque wrench



RULA Statistics Result

Human 1

Time interval: 0s – 2m 18s
 Load: 2kg or less
 Physical work: Non-exacting
 Evaluated arm: Left and right arm
 Trunk support: No
 Left arm support: No
 Right arm support: No



Acceptable posture (Score: 1 or 2)

0s – 2s	35s – 36s	2m 18s – 2m 18s
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Further investigation, change may be needed (Score: 3 or 4)

2s – 4s	5s – 6s	9s – 14s
15s – 16s	17s – 20s	21s – 23s
24s – 28s	30s – 31s	33s – 35s
36s – 45s	46s – 55s	57s – 1m 7s
1m 8s – 1m 9s	1m 13s – 1m 15s	1m 16s – 1m 19s
1m 20s – 1m 22s	1m 23s – 1m 25s	1m 26s – 1m 28s
1m 29s – 1m 31s	1m 32s – 1m 39s	1m 40s – 1m 41s
1m 42s – 1m 53s	1m 54s – 2m 0s	2m 1s – 2m 4s
2m 5s – 2m 7s	2m 12s – 2m 14s	2m 15s – 2m 17s

Further investigation, change soon (Score: 5 or 6)

4s – 5s	6s – 7s	14s – 15s
16s – 17s	20s – 21s	23s – 24s
28s – 30s	31s – 33s	45s – 46s
55s – 57s	1m 10s – 1m 12s	1m 22s – 1m 23s
1m 28s – 1m 29s	1m 31s – 1m 32s	1m 39s – 1m 40s
1m 53s – 1m 54s	2m 0s – 2m 1s	2m 4s – 2m 5s
2m 7s – 2m 11s	2m 17s – 2m 18s	

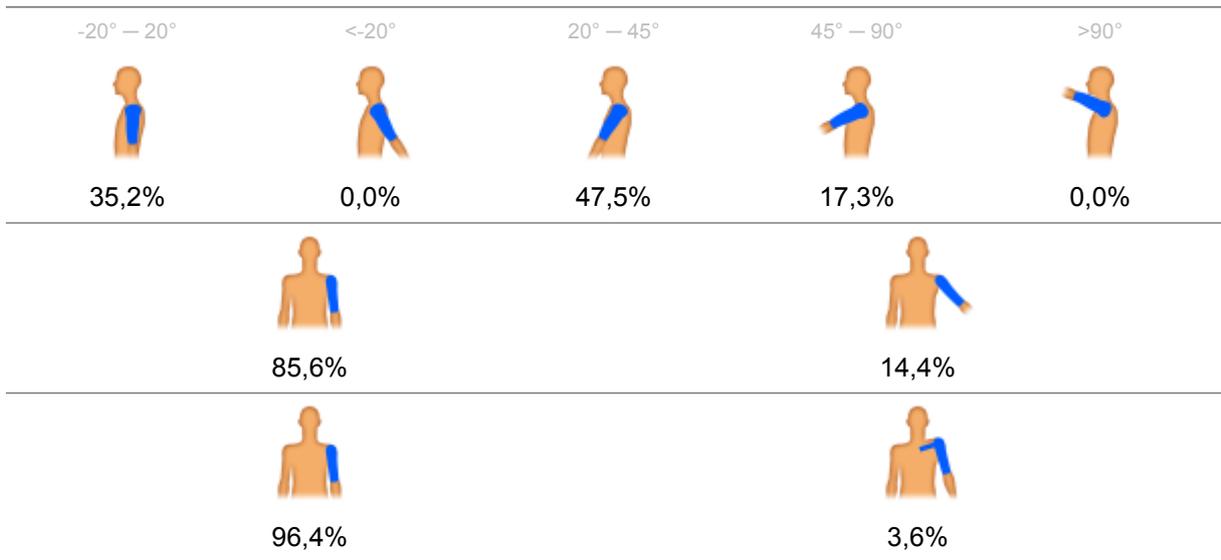
Investigate and implement change (Score: 7)

7s – 9s	1m 7s – 1m 8s	1m 9s – 1m 10s
1m 12s – 1m 13s	1m 15s – 1m 16s	1m 19s – 1m 20s
1m 25s – 1m 26s	1m 41s – 1m 42s	2m 11s – 2m 12s
2m 14s – 2m 15s		

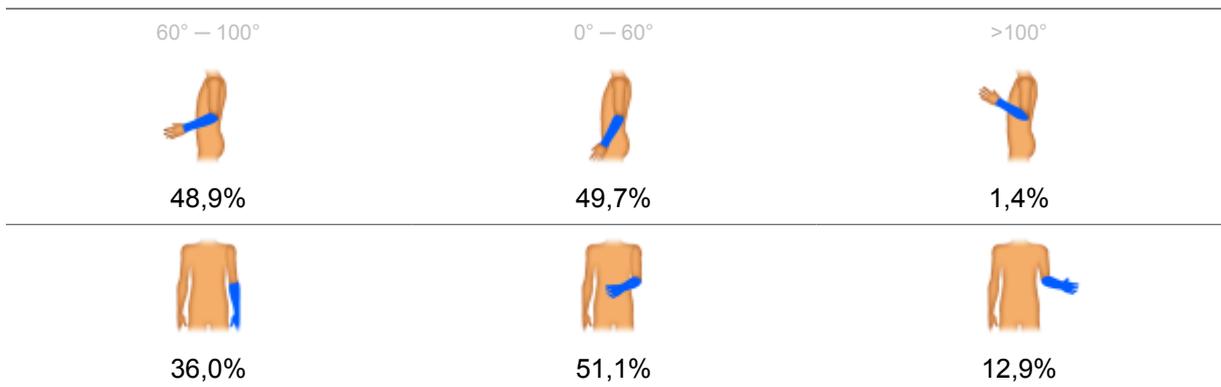
Time interval:	0s – 2m 18s
Load:	2kg or less
Physical work:	Non-exacting
Evaluated arm:	Left and right arm
Trunk support:	No
Left arm support:	No
Right arm support:	No

Left Arm

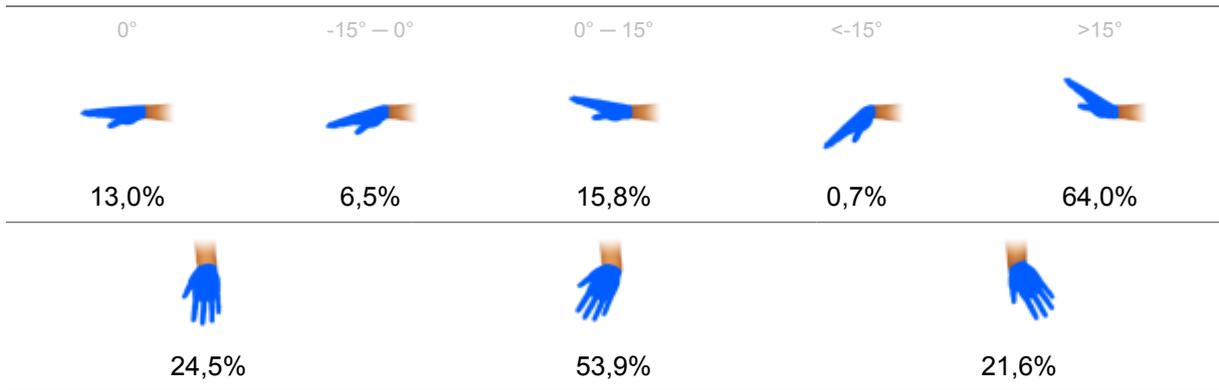
Left Upper Arm



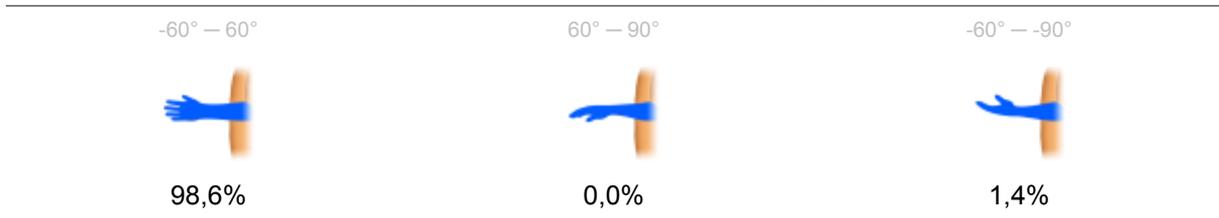
Left Forearm



Left Wrist

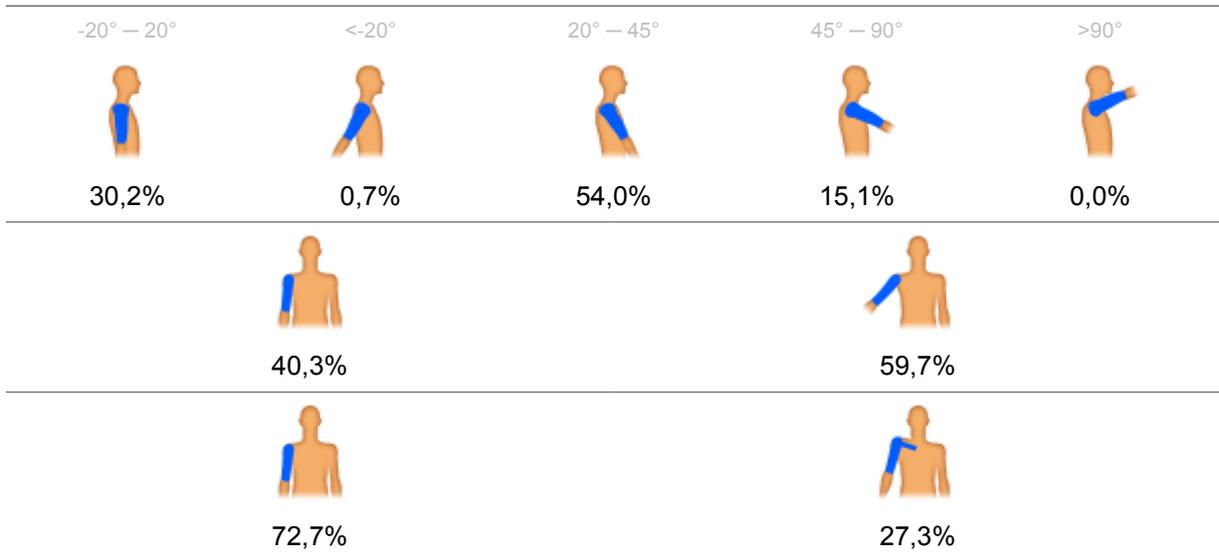


Left Wrist Twist

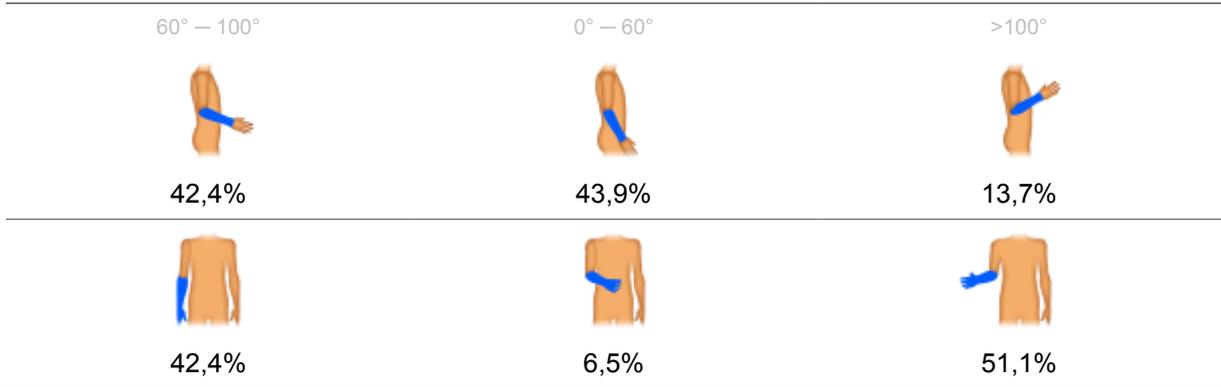


Right Arm

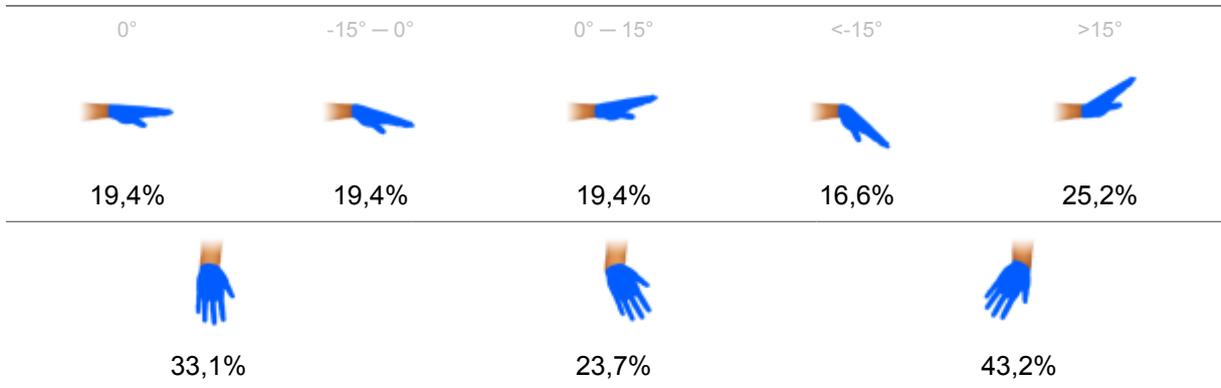
Right Upper Arm



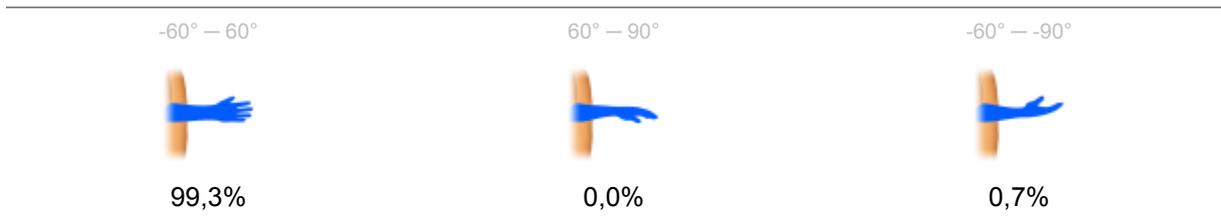
Right Forearm



Right Wrist

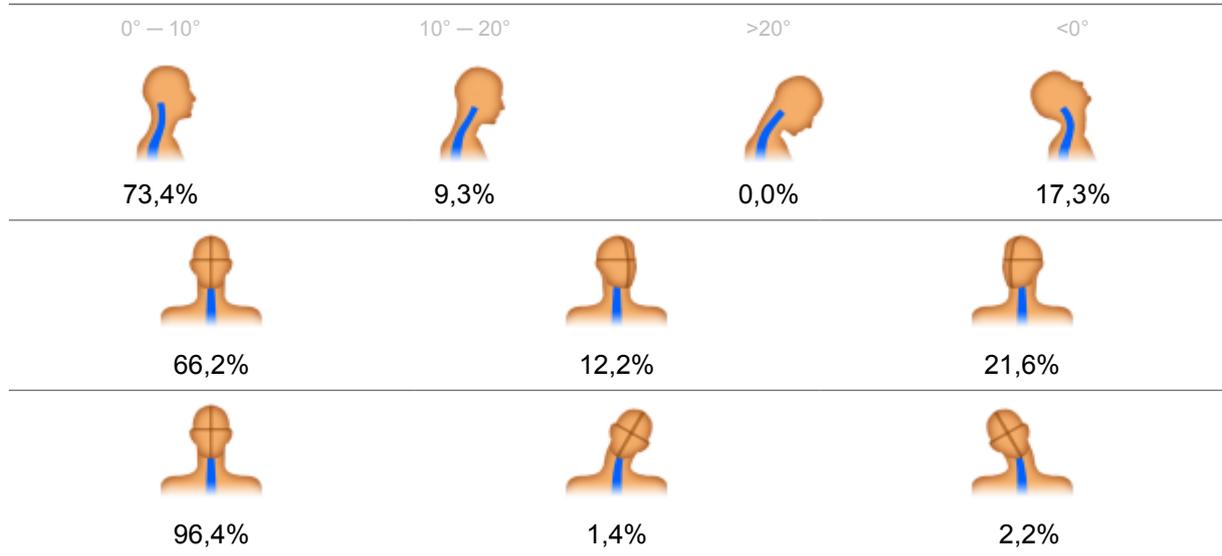


Right Wrist Twist

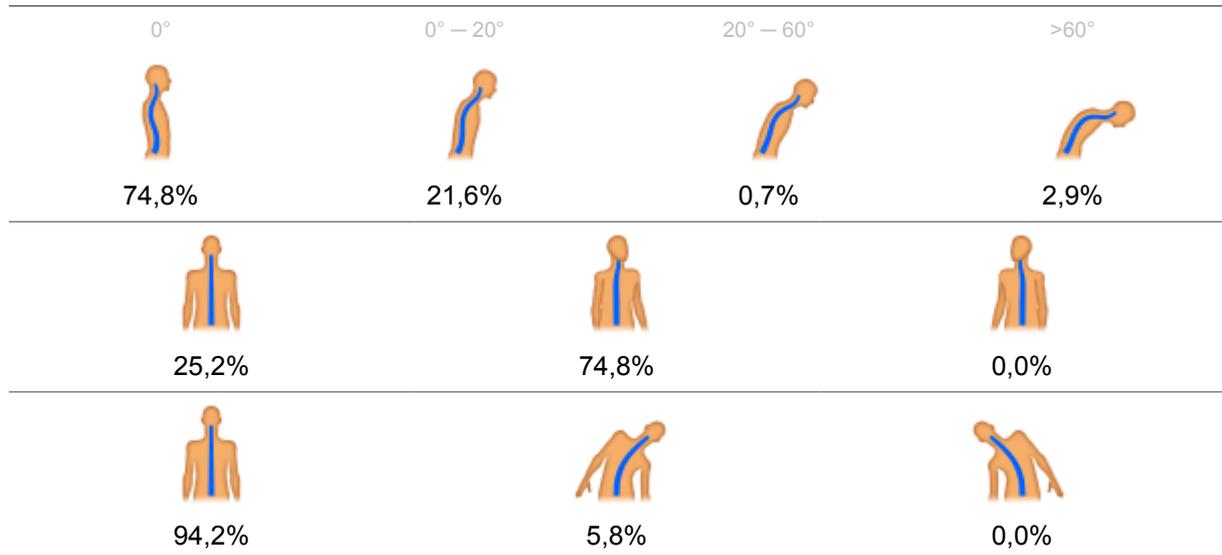


Neck, Trunk, Legs

Neck



Trunk



Legs



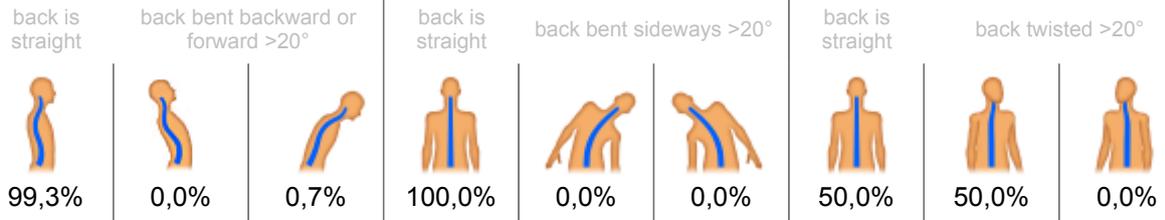
Time interval:

0s — 2m 18s 192ms

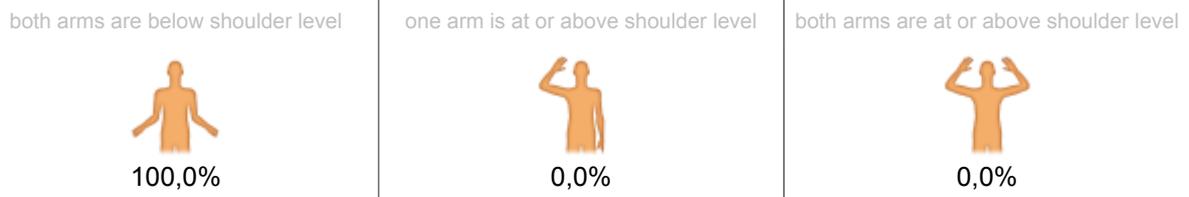
Load:

< 10 kg

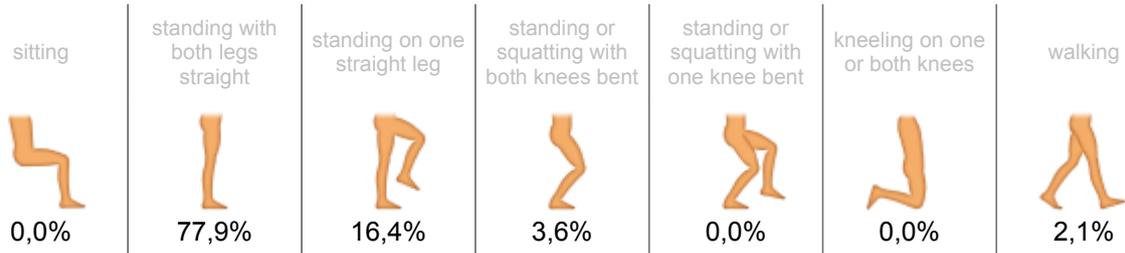
Back



Upper Limbs



Lower Limbs



Start time: 0s
 End time: 2m 18s
 Supports: None

Not acceptable

	Critical Postures	Average Angle	Starting Time	Holding Time
1	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	19°	0s 800ms	21s
2	Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	20°	1s 300ms	29s 700ms
3	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	19°	22s 100ms	5s
4	Asymmetric trunk posture (axial rotation) for more than 4s	15°	26s 900ms	8s 500ms
5	Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	17°	32s 100ms	13s
6	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	14°	35s 200ms	6s 700ms
7	Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	15°	45s 400ms	14s 200ms
8	Asymmetric trunk posture (axial rotation) for more than 4s	25°	53s 500ms	12s 700ms
9	Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	17°	1m 0s 100ms	29s 600ms
10	Asymmetric trunk posture (axial rotation) for more than 4s	30°	1m 6s 600ms	27s 900ms
11	Left wrist ulnar abduction is >30° for more than 4s	-46°	1m 10s 900ms	4s 900ms
12	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	19°	1m 13s 500ms	6s 400ms
13	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	17°	1m 20s 800ms	15s 800ms
14	Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	20°	1m 31s 600ms	9s 600ms
15	Asymmetric trunk posture (axial rotation) for more than 4s	30°	1m 34s 800ms	30s 100ms
16	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	20°	1m 37s 700ms	6s 900ms

17	Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	12°	1m 44s 900ms	7s 800ms
18	Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	11°	1m 53s 500ms	5s 800ms
19	Asymmetric neck posture (axial rotation) for more than 4s	18°	1m 53s 800ms	6s 500ms
20	Right upper arm elevation is >60° for more than 4s	68°	1m 54s 200ms	5s 200ms
21	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	23°	1m 59s 300ms	8s
22	Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	19°	1m 59s 600ms	16s 300ms
23	Asymmetric trunk posture (axial rotation) for more than 4s	38°	2m 5s 300ms	4s 800ms
24	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	16°	2m 7s 600ms	4s 500ms
25	Asymmetric trunk posture (axial rotation) for more than 4s	35°	2m 10s 300ms	7s 700ms
26	Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	19°	2m 12s 300ms	5s 700ms

All Evaluated Tests	Passed
Trunk inclination is >60° while the trunk is not supported for more than 4s	Y
Trunk inclination is 20°– 60° while the trunk is not supported for more time than accepted	Y
Trunk inclination is <0° while the trunk is not supported for more than 4s	Y
Trunk inclination is >60° while the trunk is supported for more than 4s	Y
Asymmetric trunk posture (axial rotation) for more than 4s	N
Asymmetric trunk posture (lateral flexion) for more than 4s	Y
Convex lumbar spine posture for more than 4s	Y
Head inclination is <0° while the head is not supported for more than 4s	Y
Head inclination is 25°– 85° while the trunk is supported for more time than accepted	Y
Head inclination is >85° for more than 4s	Y
Neck flexion is >25° for more than 4s	Y
Neck flexion is <0° for more than 4s	Y
Asymmetric neck posture (axial rotation) for more than 4s	N
Asymmetric neck posture (lateral flexion) for more than 4s	Y
Left upper arm retroflexion for more than 4s	Y
Right upper arm retroflexion for more than 4s	Y
Left upper arm adduction for more than 4s	Y

Right upper arm adduction for more than 4s	Y
Left upper arm external rotation is >90° for more than 4s	Y
Right upper arm external rotation is >90° for more than 4s	Y
Left upper arm elevation is 20°– 60° while not supported for more time than accepted	Y
Right upper arm elevation is 20°– 60° while not supported for more time than accepted	Y
Left upper arm elevation is >60° for more than 4s	Y
Right upper arm elevation is >60° for more than 4s	N
Left shoulder is raised for more than 4s	Y
Right shoulder is raised for more than 4s	Y
Left elbow flexion is >150° for more than 4s	Y
Right elbow flexion is >150° for more than 4s	Y
Left elbow extension is >10° for more than 4s	Y
Right elbow extension is >10° for more than 4s	Y
Left forearm pronation is >90° for more than 4s	Y
Right forearm pronation is >90° for more than 4s	Y
Left forearm supination is >60° for more than 4s	Y
Right forearm supination is >60° for more than 4s	Y
Left wrist palmar flexion is >90° for more than 4s	Y
Right wrist palmar flexion is >90° for more than 4s	Y
Left wrist dorsal extension is >90° for more than 4s	Y
Right wrist dorsal extension is >90° for more than 4s	Y
Left wrist radial abduction is >20° for more than 4s	Y
Right wrist radial abduction is >20° for more than 4s	Y
Left wrist ulnar abduction is >30° for more than 4s	N
Right wrist ulnar abduction is >30° for more than 4s	Y
Left knee flexion is >40° while standing and the bottom is rested for more than 4s	Y
Right knee flexion is >40° while standing and the bottom is rested for more than 4s	Y
Left knee flexion is >0° while standing (bottom is not rested) for more than 4s	N
Right knee flexion is >0° while standing (bottom is not rested) for more than 4s	N
Left knee angle is >135° while sitting (without backward inclined trunk) for more than 4s	Y
Right knee angle is >135° while sitting (without backward inclined trunk) for more than 4s	Y
Left knee angle is <90° while sitting for more than 4s	Y
Right knee angle is <90° while sitting for more than 4s	Y

Left ankle dorsiflexion is $>20^\circ$ for more than 4s	Y
Right ankle dorsiflexion is $>20^\circ$ for more than 4s	Y
Left ankle planar flexion is $>50^\circ$ for more than 4s	Y
Right ankle planar flexion is $>50^\circ$ for more than 4s	Y

Start time: 0s
 End time: 2m 18s
 Supports: None

Not acceptable

	Critical Postures	Maximum Frequency	Starting Time	Holding Time
1	Left elbow extension is $>10^\circ$ occurs with a frequency $\geq 2/\text{min}$	2/min	0s	1s 500ms
2	Right knee flexion is $>0^\circ$ while standing (bottom not rested) occurs with a frequency $\geq 2/\text{min}$	11/min	0s 700ms	2m 17s 300ms
3	Asymmetric trunk posture (axial rotation) occurs with a frequency $\geq 2/\text{min}$	25/min	1s	2m 17s
4	Left ankle dorsiflexion is $>20^\circ$ occurs with a frequency $\geq 2/\text{min}$	3/min	1s 300ms	23s 300ms
5	Left upper arm adduction occurs with a frequency $\geq 2/\text{min}$	15/min	1s 500ms	2m 16s 500ms
6	Right upper arm elevation is $20^\circ - 60^\circ$ occurs with a frequency $\geq 10/\text{min}$	16/min	1s 900ms	1m 24s 200ms
7	Left upper arm retroflexion occurs with a frequency $\geq 2/\text{min}$	2/min	3s 300ms	10s 200ms
8	Left wrist radial abduction $>20^\circ$ occurs with a frequency $\geq 2/\text{min}$	8/min	3s 500ms	2m 9s 600ms
9	Left upper arm elevation is $20^\circ - 60^\circ$ occurs with a frequency $\geq 10/\text{min}$	20/min	9s 100ms	2m 5s
10	Asymmetric trunk posture (lateral flexion) occurs with a frequency $\geq 2/\text{min}$	16/min	13s 500ms	2m 4s 500ms
11	Right upper arm retroflexion occurs with a frequency $\geq 2/\text{min}$	10/min	14s 900ms	1m 24s 600ms
12	Neck flexion is $<0^\circ$ occurs with a frequency $\geq 2/\text{min}$	5/min	15s 600ms	1m 23s 800ms
13	Right shoulder raising occurs with a frequency $\geq 2/\text{min}$	13/min	18s 200ms	1m 53s 200ms
14	Right upper arm elevation is $>60^\circ$ occurs with a frequency $\geq 2/\text{min}$	16/min	18s 300ms	1m 53s 800ms
15	Right forearm supination is $>60^\circ$ occurs with a frequency $\geq 2/\text{min}$	5/min	19s 800ms	1m 6s 600ms
16	Neck bending sideways occurs with a frequency $\geq 2/\text{min}$	6/min	20s 100ms	1m 51s 100ms

17	Right wrist radial abduction >20° occurs with a frequency >=2/min	3/min	26s 500ms	7s 900ms
18	Left upper arm elevation is >60° occurs with a frequency >=2/min	3/min	38s 300ms	51s 200ms
19	Left wrist ulnar abduction >30° occurs with a frequency >=2/min	9/min	43s	46s 800ms
20	Left shoulder raising occurs with a frequency >=2/min	4/min	43s 200ms	1m 26s
21	Right wrist ulnar abduction >30° occurs with a frequency >=2/min	4/min	49s 600ms	46s 200ms
22	Trunk inclination is <0° while the trunk is not supported occurs with a frequency >=2/min	6/min	1m 24s 800ms	49s 300ms
23	Right upper arm adduction occurs with a frequency >=2/min	3/min	1m 31s 400ms	45s 100ms
24	Right wrist radial abduction >20° occurs with a frequency >=2/min	9/min	1m 48s 800ms	25s 200ms
25	Left elbow extension is >10° occurs with a frequency >=2/min	3/min	2m 16s 100ms	1s 900ms
26	Right elbow extension is >10° occurs with a frequency >=2/min	2/min	2m 16s 300ms	1s 700ms

All Evaluated Tests	Passed
Trunk inclination is >60° while the trunk is not supported occurs with a frequency >=2/min	Y
Trunk inclination is 20°— 60° while the trunk is not supported occurs with a frequency >=2/min	Y
Trunk inclination is <0° while the trunk is not supported occurs with a frequency >=2/min	N
Trunk inclination is >60° while the trunk is supported occurs with a frequency >=2/min	Y
Trunk inclination is 20°— 60° while the trunk is supported occurs with a frequency >=2/min	Y
Trunk inclination is <0° while the trunk is supported occurs with a frequency >=2/min	Y
Asymmetric trunk posture (axial rotation) occurs with a frequency >=2/min	N
Asymmetric trunk posture (lateral flexion) occurs with a frequency >=2/min	N
Convex lumbar spine posture occurs with a frequency >=2/min	Y
Neck flexion is <0° occurs with a frequency >=2/min	N
Neck flexion is >40° occurs with a frequency >=2/min	Y
Neck twisting >45° occurs with a frequency >=2/min	Y
Neck bending sideways occurs with a frequency >=2/min	N
Left upper arm retroflexion occurs with a frequency >=2/min	N
Right upper arm retroflexion occurs with a frequency >=2/min	N

Left upper arm adduction occurs with a frequency $\geq 2/\text{min}$	N
Right upper arm adduction occurs with a frequency $\geq 2/\text{min}$	N
Left upper arm elevation is $20^\circ - 60^\circ$ occurs with a frequency $\geq 10/\text{min}$	N
Right upper arm elevation is $20^\circ - 60^\circ$ occurs with a frequency $\geq 10/\text{min}$	N
Left upper arm elevation is $>60^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Right upper arm elevation is $>60^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Left shoulder raising occurs with a frequency $\geq 2/\text{min}$	N
Right shoulder raising occurs with a frequency $\geq 2/\text{min}$	N
Left elbow flexion is $>150^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Right elbow flexion is $>150^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Left elbow extension is $>10^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Right elbow extension is $>10^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Left forearm pronation is $>90^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Right forearm pronation is $>90^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Left forearm supination is $>60^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Right forearm supination is $>60^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Left wrist palmar flexion is $>90^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Right wrist palmar flexion is $>90^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Left wrist dorsal extension is $>90^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Right wrist dorsal extension is $>90^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Left wrist radial abduction $>20^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Right wrist radial abduction $>20^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Left wrist ulnar abduction $>30^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Right wrist ulnar abduction $>30^\circ$ occurs with a frequency $\geq 2/\text{min}$	N
Left knee flexion is $>40^\circ$ while standing and the bottom is rested occurs with a frequency $\geq 2/\text{min}$	Y
Right knee flexion is $>40^\circ$ while standing and the bottom is rested occurs with a frequency $\geq 2/\text{min}$	Y
Left knee flexion is $>0^\circ$ while standing (bottom not rested) occurs with a frequency $\geq 2/\text{min}$	Y
Right knee flexion is $>0^\circ$ while standing (bottom not rested) occurs with a frequency $\geq 2/\text{min}$	N
Left knee angle is $>135^\circ$ while sitting occurs with a frequency $\geq 2/\text{min}$	Y
Right knee angle is $>135^\circ$ while sitting occurs with a frequency $\geq 2/\text{min}$	Y
Left knee angle is $<90^\circ$ while sitting occurs with a frequency $\geq 2/\text{min}$	Y
Right knee angle is $<90^\circ$ while sitting occurs with a frequency $\geq 2/\text{min}$	Y
Left ankle dorsiflexion is $>20^\circ$ occurs with a frequency $\geq 2/\text{min}$	N

Right ankle dorsiflexion is $>20^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Left ankle planar flexion is $>50^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y
Right ankle planar flexion is $>50^\circ$ occurs with a frequency $\geq 2/\text{min}$	Y