

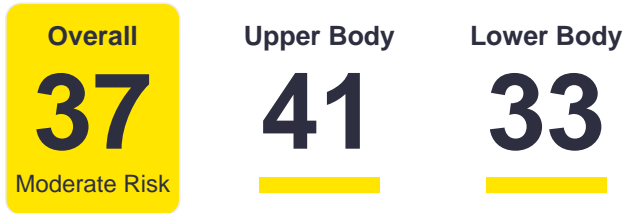
Name: Suhel Miah  
Date: Mar-27-2025

Organization: Cardinus UK  
Video ID: Pulling desk pedestal (24865\_risk)

Height: 157 cm

ASSESSMENT OVERVIEW

Ergonomic Risk Score

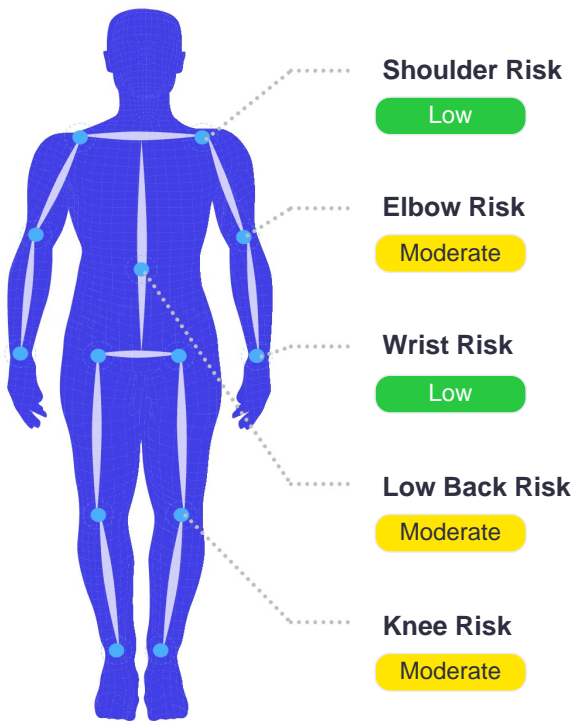


Activated Analyses

3motionAI Risk Scores  
REBA Assessment  
RAPP Assessment

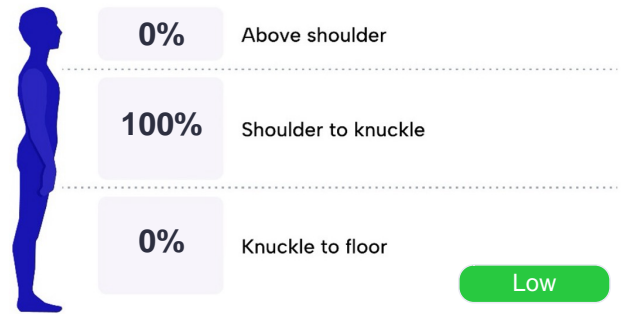
Joint Posture Risk

Low - Moderate - High

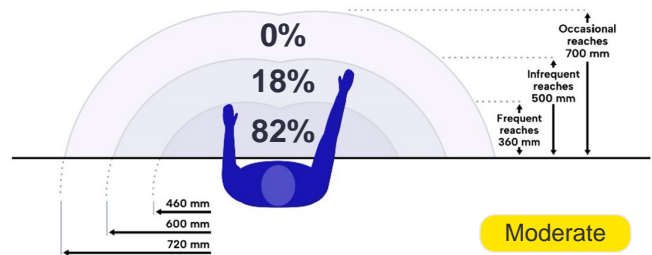


Reach Envelope

Hand Height Distribution



Reach Distance Distribution



! Recommendations to Reduce Risk

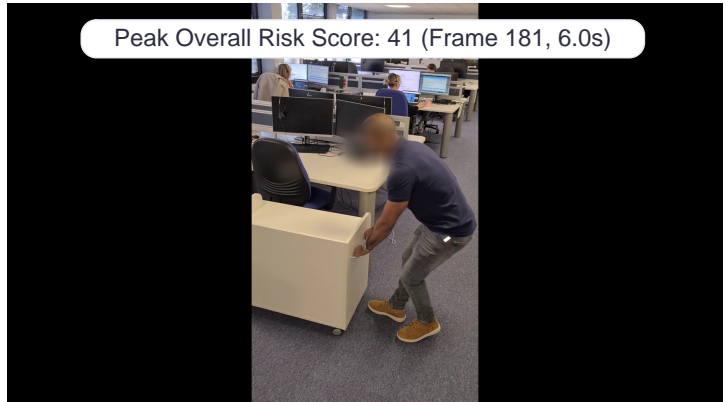
Your analysis showed moderate overall risk (particularly for the upper body) with the low back as the riskiest joint. Consider raising the work location to limit low back flexion and reduce the risk level.

ERGONOMIC RISK SCORE

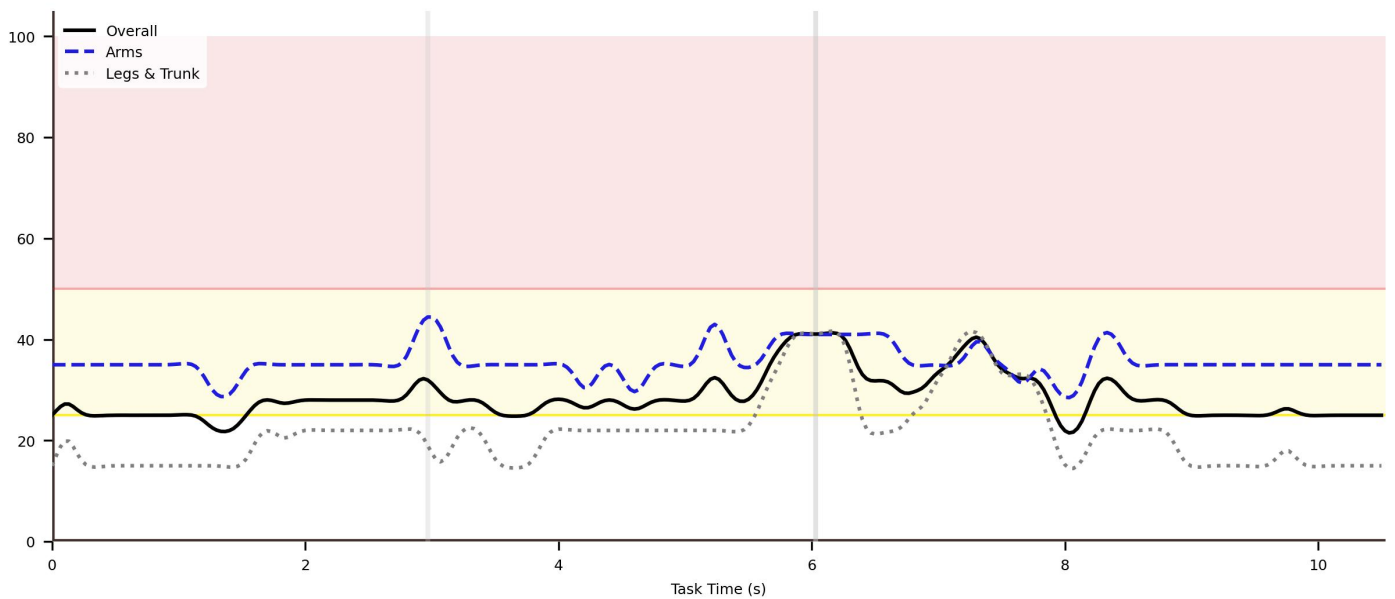
Overall  
**37**  
Medium Risk

Upper Body  
**41**

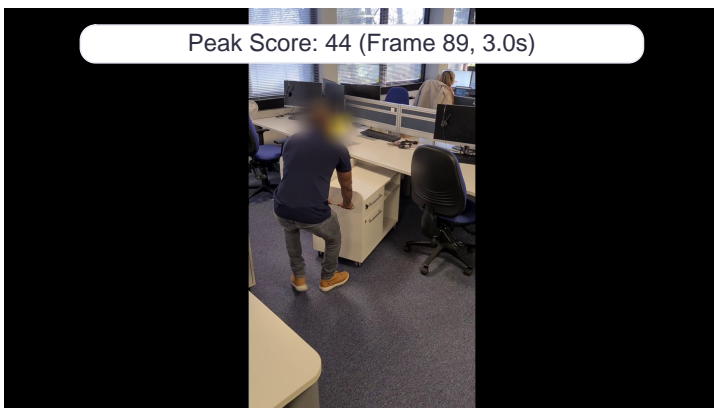
Lower Body  
**33**



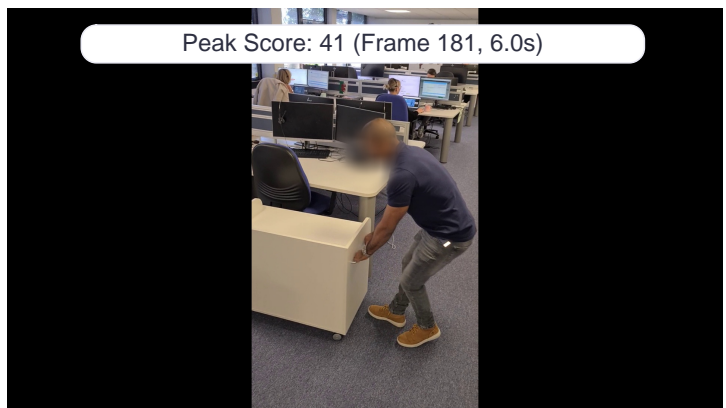
The "Risk Score" indicates muscular or soft tissue injury risk based on joint postures, reach envelope, hand load, task frequency, and joint loads.



Upper Body



Lower Body



The Upper Body "Risk Score" targets injury risk related to the neck, shoulders, elbows, and wrists. These joints are most affected by reaching and work above the shoulders.

The Lower Body "Risk Score" targets injury risk related to the low back and knees. These body regions are most affected by working close to ground level.

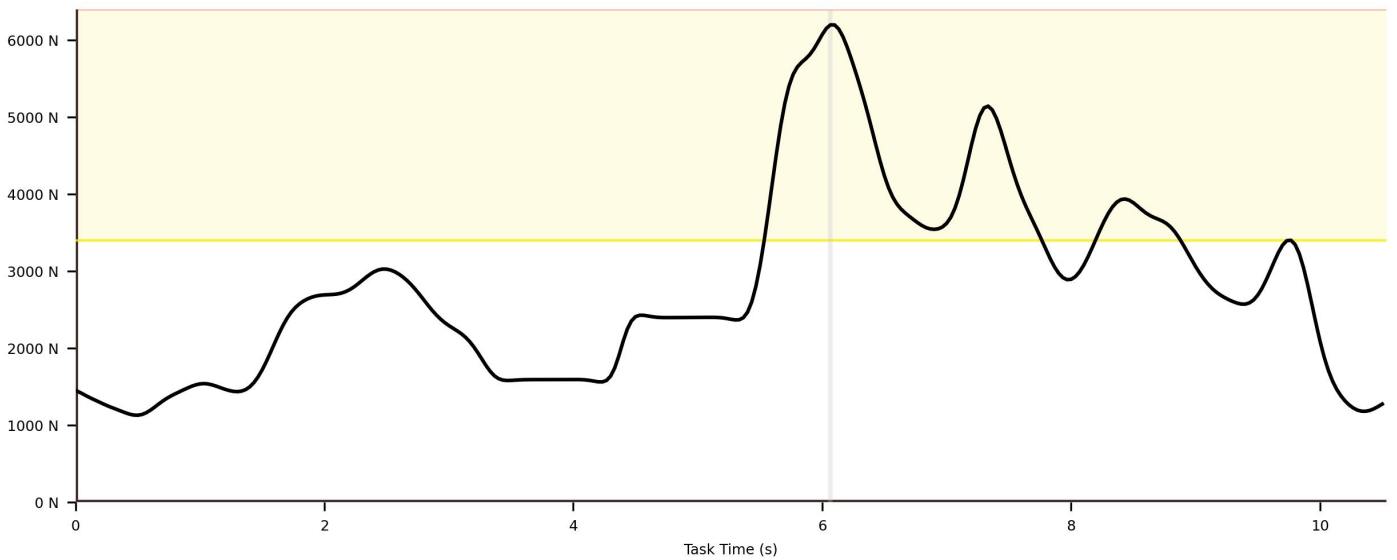
JOINT KINETICS

<b>Compression</b>	<b>LB Moment</b>	<b>SH Moment</b>
<b>4988</b>	<b>200</b>	<b>27</b>
N	N.m	N.m

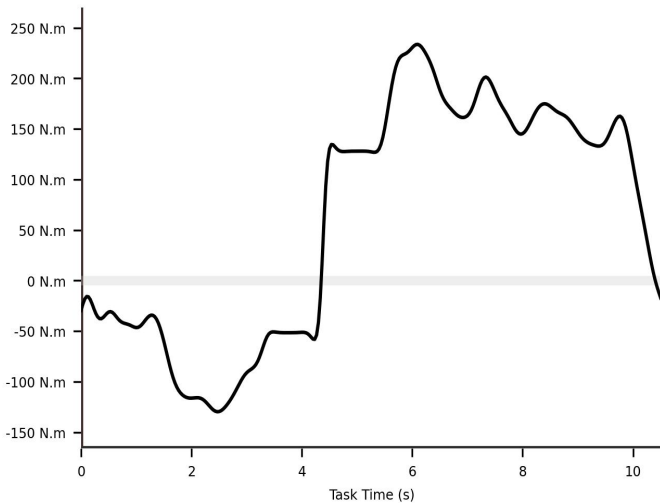


To limit low back (LB) disorders, NIOSH recommends compression below 3400 N (765 lb) for any single activity. Exceeding 6400 N (1440 lb) presents a significant hazard.

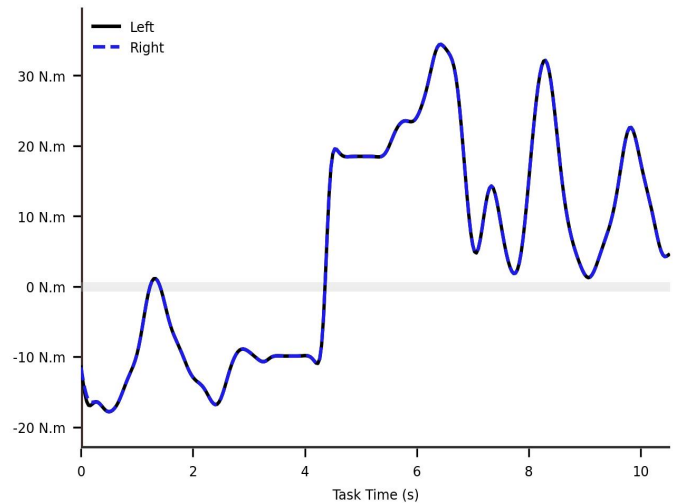
Low Back (LB) Compression



Low Back (LB) Moment



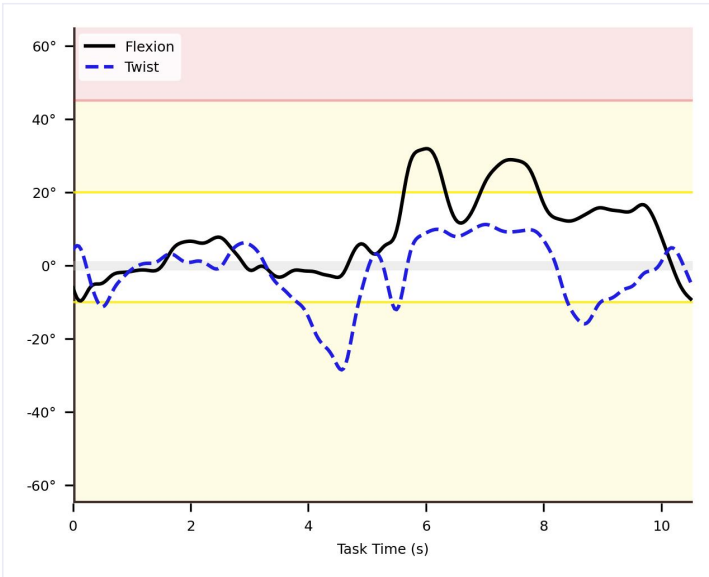
Shoulder (SH) Moment



## JOINT KINEMATICS

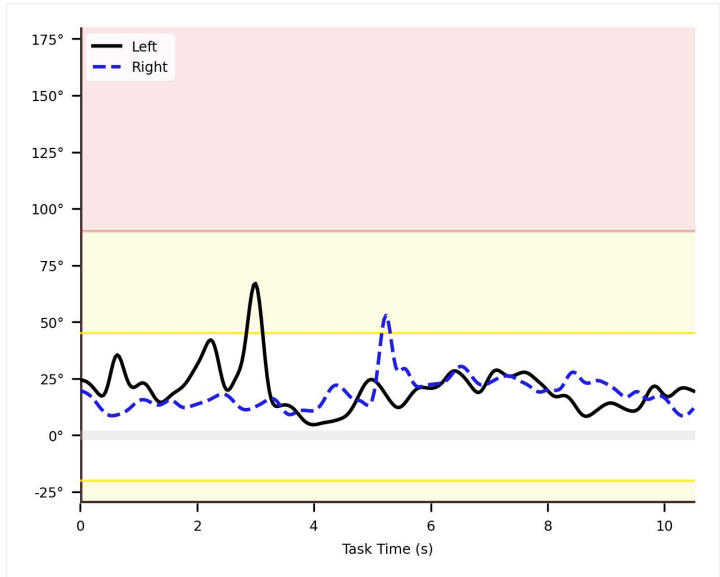
The 3motionAI system uses advanced computer vision and artificial intelligence (AI) to track human body motion. It creates a detailed, scaled 3D body model, which is used to calculate 3D joint angles. Research shows that injury risk is minimized when joints are in a neutral posture, while extreme postures can increase the likelihood of injury.

### Low Back Angles



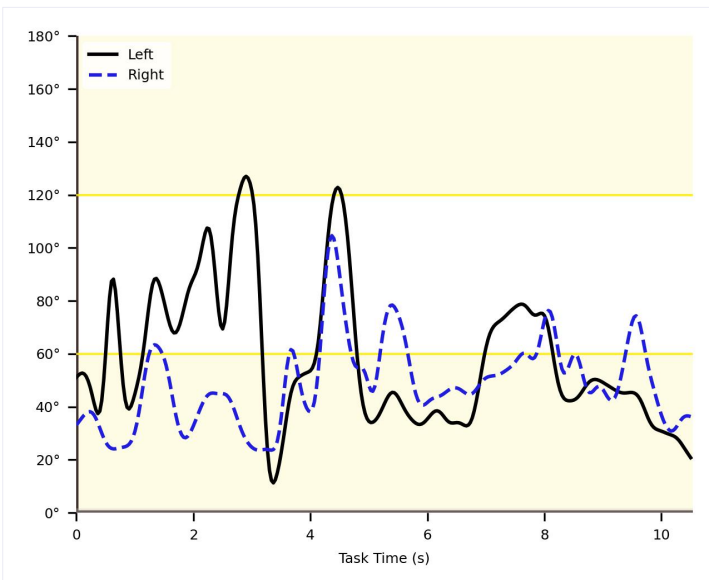
EXTENSION (<-10°)	█	0%
NEUTRAL (-10-20°)	█	84%
MODERATE FLEXION (20-45°)	█	16%
SEVERE FLEXION (>45°)	█	0%

### Shoulder Elevation Angles



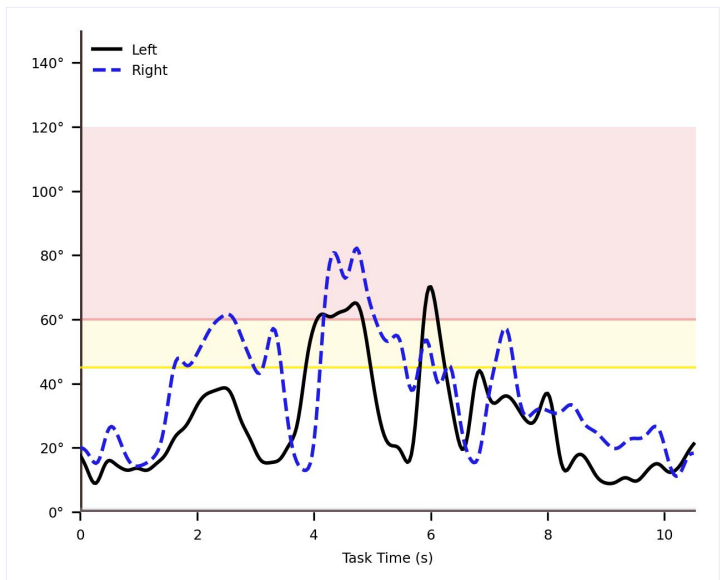
NEUTRAL (0-45°)	█	97% / 98%
MODERATE ELEVATION (45-90°)	█	3% / 2%
SEVERE ELEVATION (>90°)	█	0% / 0%

### Elbow Flexion Angles



EXTENSION (<60°)	█	61% / 80%
NEUTRAL (60-120°)	█	36% / 20%
FLEXION (>120°)	█	3% / 0%

### Knee Flexion Angles



NEUTRAL (0-45°)	█	85% / 64%
MILD FLEXION (45-60°)	█	5% / 25%
SEVERE FLEXION (60-120°)	█	10% / 11%

## RAPID ENTIRE BODY ASSESSMENT (REBA)

Scoring outcomes based on Rapid Entire Body Assessment (REBA), Highnett & McAtamney, Applied Ergonomics 31 (2000), 201-205.

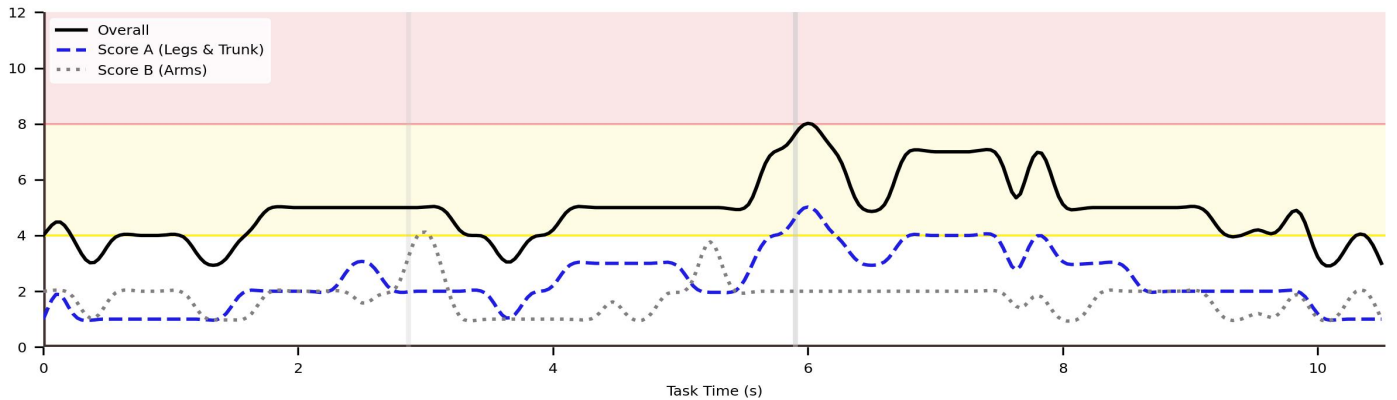
1: Negligible Risk

4-7: Medium Risk. Further investigate and change soon.

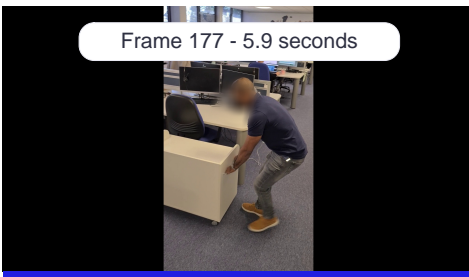
11+: Very High Risk. Implement change.

2-3: Low Risk. Change may be needed.

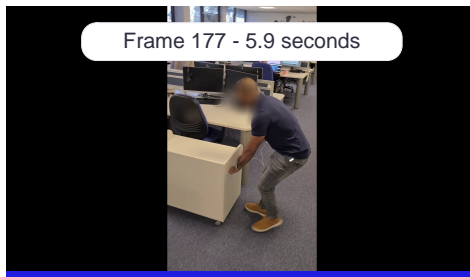
8-10: High Risk. Investigate and implement change.



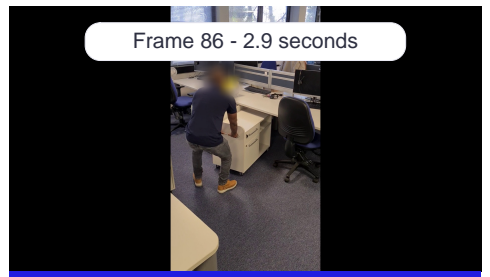
### Peak Overall REBA Score



### Peak A Score (Legs & Trunk)



### Peak B Score (Arms)



	Posture	Adjust	Score
NECK	1	0	1
TRUNK	3	0	3
LEGS	1	2	3
UPPER ARM	2	0	2
LOWER ARM	2	-	2
WRIST	1	0	1

	Posture	Adjust	Score
NECK	1	0	1
TRUNK	3	0	3
LEGS	1	2	3
UPPER ARM	2	0	2
LOWER ARM	2	-	2
WRIST	1	0	1

	Posture	Adjust	Score
NECK	1	0	1
TRUNK	1	0	1
LEGS	1	1	2
UPPER ARM	3	0	3
LOWER ARM	2	-	2
WRIST	1	0	1

LOAD	COUPLING	ACTIVITY
2	0	1
15.0 KG	Good	10.0 / MIN

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2	0	1
15.0 KG	Good	10.0 / MIN

LOAD	COUPLING	ACTIVITY
2	0	1
15.0 KG	Good	10.0 / MIN

A SCORE	B SCORE	OVERALL
5	2	8

A SCORE	B SCORE	OVERALL
5	2	8

A SCORE	B SCORE	OVERALL
2	4	5

RISK ASSESSMENT OF PUSHING AND PULLING (RAPP) - WHEELED LOAD

Risk Assessment of Pushing and Pulling (RAPP) Tool

This tool aids in assessing key risks in manual pushing and pulling tasks requiring whole-body effort, such as moving loaded trolleys or hauling loads. Used alongside the Manual Handling Assessment Charts (MAC), it helps identify high-risk activities and evaluate the effectiveness of risk-reduction measures for workplace health and safety.

COLOR INDEX



Low Risk



Moderate Risk



High Risk



Unacceptable Risk

RISK FACTOR (Wheeled Load)

RISK LEVEL

SCORE

Type of equipment / load weight  
15.0 kg load

Progress bar with 8 empty segments

0

Posture  
Torso is flexed or twisted with low hand position

Progress bar with 6 segments, 3 filled (Moderate Risk)

3

Hand grip  
Good grip with adequate handles

Progress bar with 2 empty segments

0

Work pattern  
Non-repetitive with pace set by worker

Progress bar with 3 empty segments

0

Travel distance  
10 m or less

Progress bar with 3 empty segments

0

Condition of equipment  
Equipment is in a good state or repair

Progress bar with 4 empty segments

0

Floor surface  
Good floor surface

Progress bar with 4 empty segments

0

Obstacles along the route  
No obstacles and flat route

Progress bar with 3 empty segments

0

Other factors  
No other factors present

Progress bar with 2 empty segments

0

TOTAL SCORE:

3



Action Your Risk Data

Review the color and numerical scores, focusing on amber and red risks. Modify tasks to reduce these risks and prioritize actions by addressing the task with the highest total score first.