

Name: Suhel Miah

Organization: Cardinus UK

Height: 157 cm

Date: Mar-27-2025

Video ID: Pushing desk pedestal (24861_risk)

ASSESSMENT OVERVIEW

Ergonomic Risk Score

Overall

47

Moderate Risk

Upper Body

50

Lower Body

44

Activated Analyses

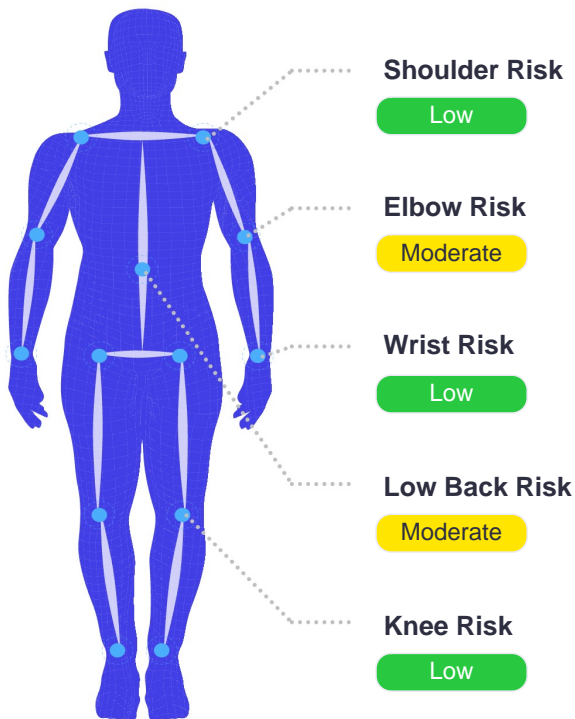
3motionAI Risk Scores

REBA Assessment

RAPP Assessment

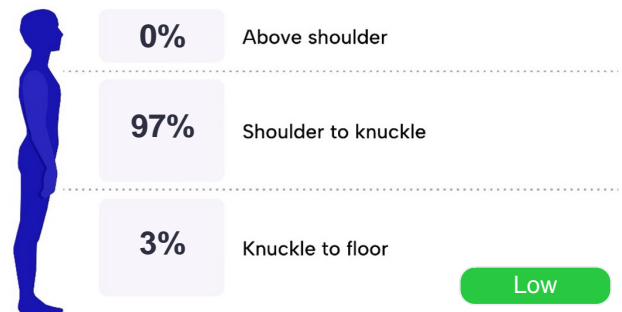
Joint Posture Risk

Low - Moderate - High

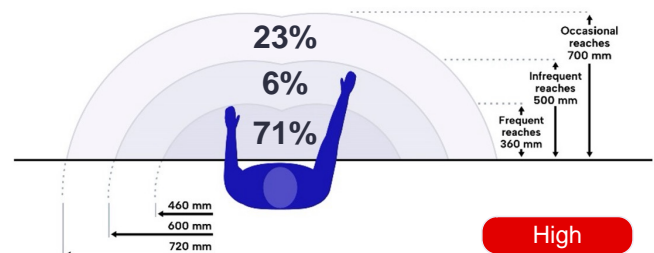


Reach Envelope

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.

v4.2.363

ERGONOMIC RISK SCORE

Overall

47

Medium Risk

Upper Body

50

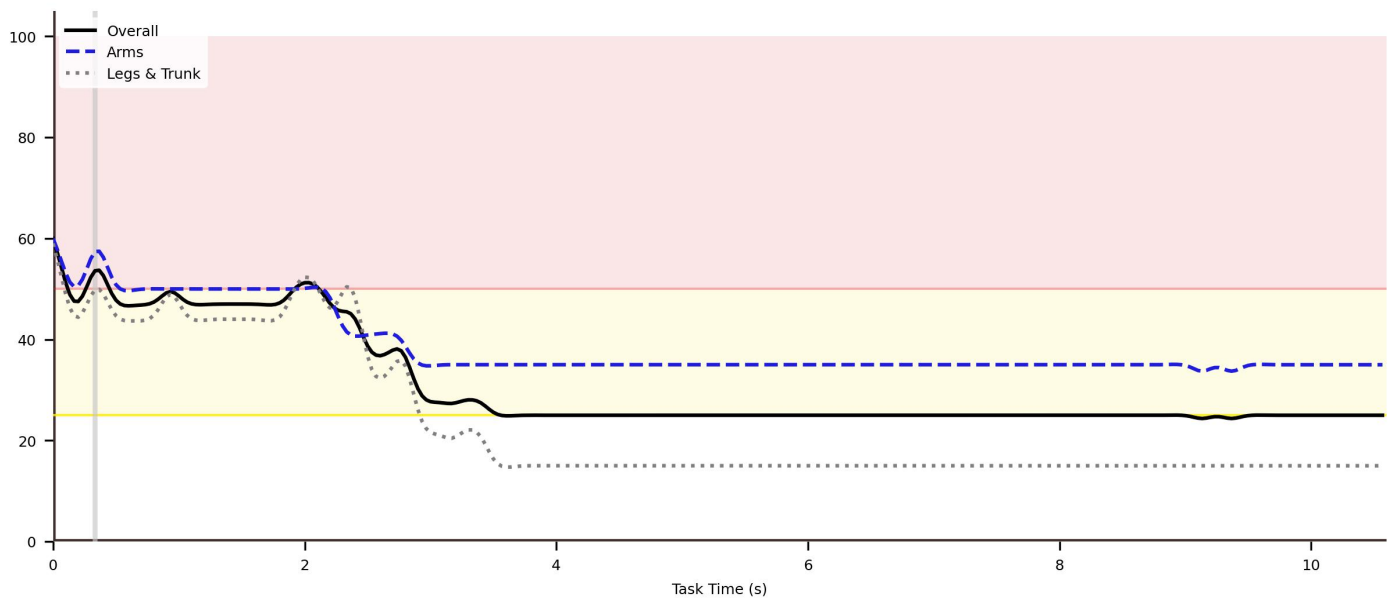
Lower Body

44

Peak Overall Risk Score: 53 (Frame 10, 0.3s)



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

Peak Score: 57 (Frame 10, 0.3s)



Lower Body

Peak Score: 49 (Frame 10, 0.3s)



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

Compression

11721

N

LB Moment

245

N.m

SH Moment

39

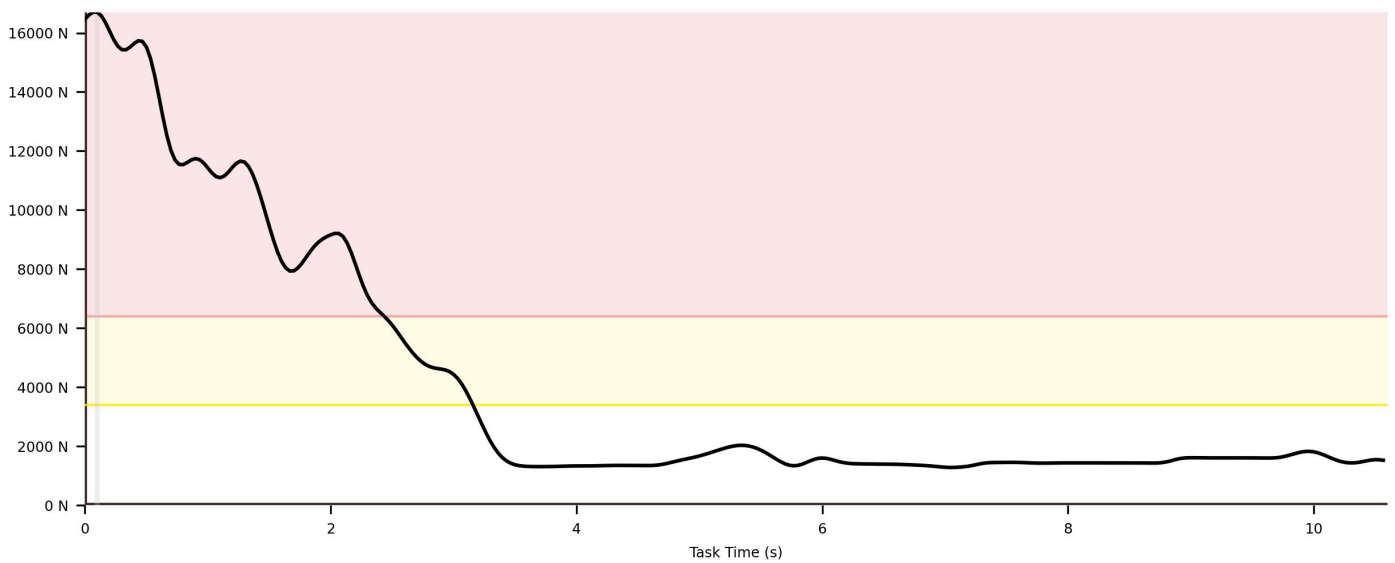
N.m

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.

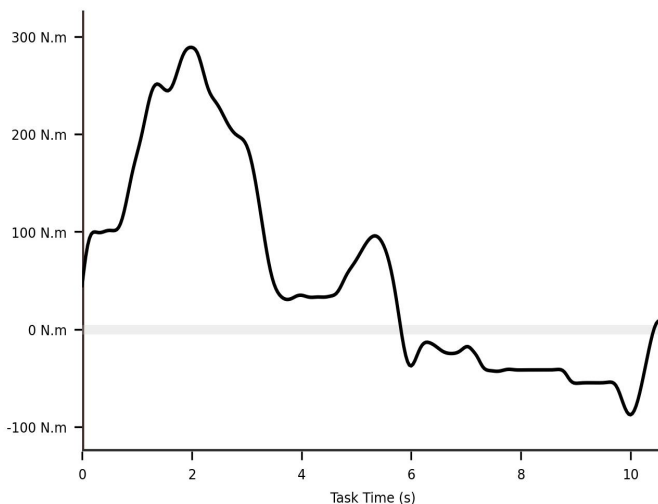
Peak LB Compression: 16700 N (Frame 3, 0.1s)



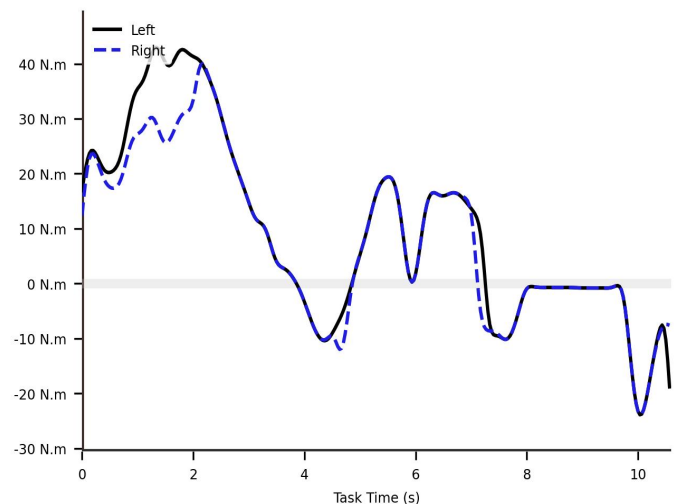
Low Back (LB) Compression



Low Back (LB) Moment



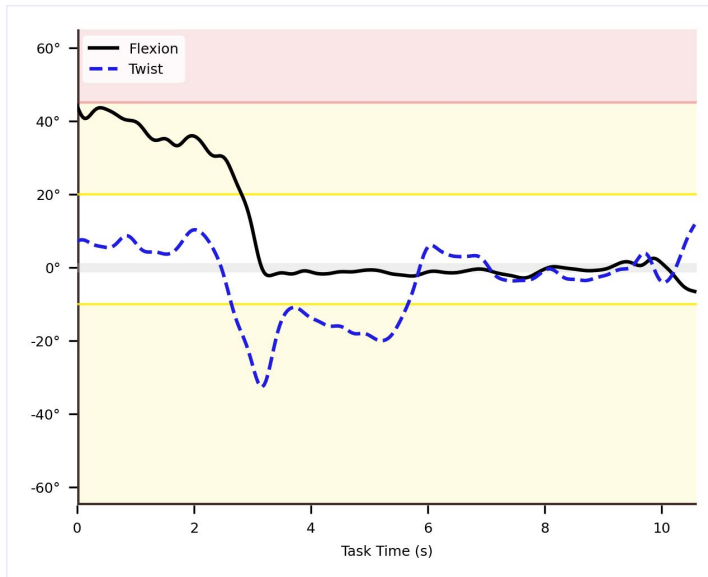
Shoulder (SH) Moment



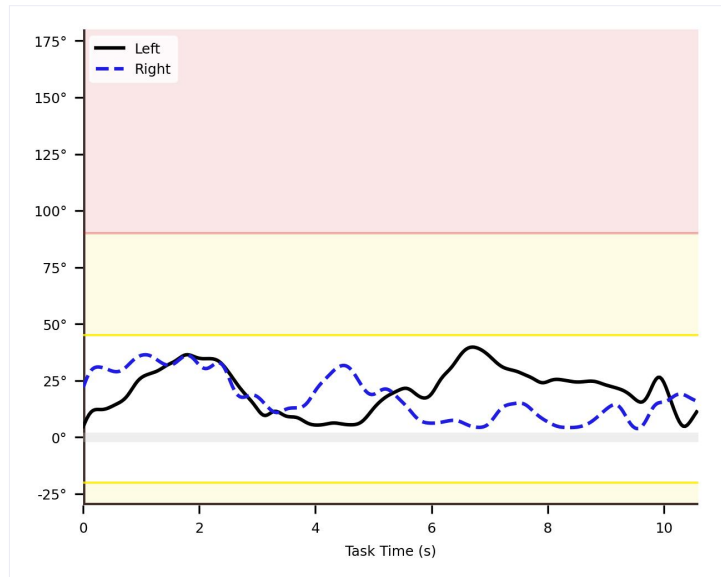
JOINT KINEMATICS

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.

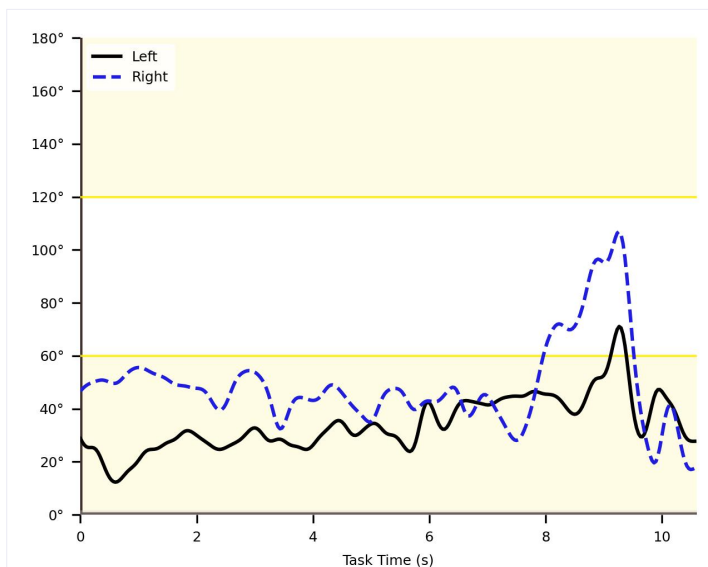
Low Back Angles



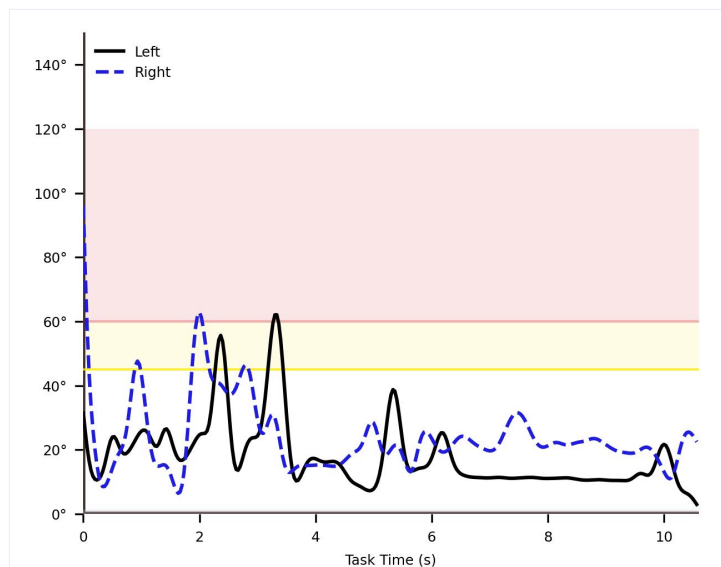
Shoulder Elevation Angles



Elbow Flexion Angles



Knee Flexion Angles



RAPID ENTIRE BODY ASSESSMENT (REBA)

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

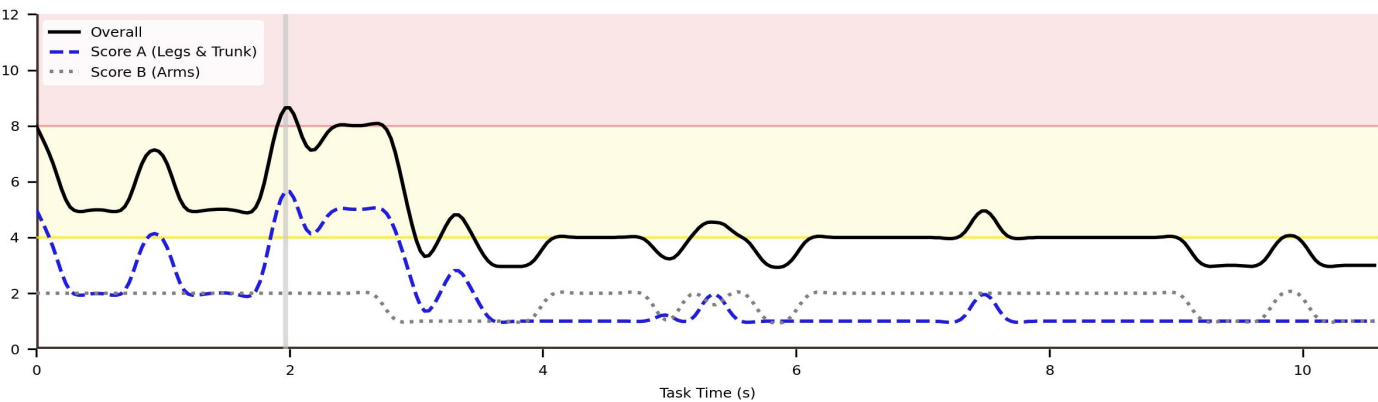
1: Negligible Risk

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

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

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

11+: Very High Risk. Implement change.



Peak Overall REBA Score

Peak A Score (Legs & Trunk)

Peak B Score (Arms)

Frame 59 - 2.0 seconds

Frame 59 - 2.0 seconds

Frame 59 - 2.0 seconds

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

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

A SCORE	B SCORE	OVERALL
6	2	9

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

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

A SCORE	B SCORE	OVERALL
6	2	9

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

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

A SCORE	B SCORE	OVERALL
6	2	9

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

☐☐☐☐☐☐☐☐

0

Posture
Torso is flexed or twisted with low hand position

☒☒☒☐☐☐

3

Hand grip
Good grip with adequate handles

☐☐☐☐☐☐

0

Work pattern
Non-repetitive with pace set by worker

☐☐☐

0

Travel distance
10 m or less

☐☐☐

0

Condition of equipment
Equipment is in a good state or repair

☐☐☐☐

0

Floor surface
Good floor surface

☐☐☐☐

0

Obstacles along the route
No obstacles and flat route

☐☐☐

0

Other factors
No other factors present

☐☐

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.