

# A Step-by-Step Guide to REBA



# A Step-by-Step Guide to Rapid Entire Body Assessment

The Rapid Entire Body Assessment (REBA) was developed to “rapidly” evaluate risk of musculoskeletal disorders (MSD) associated with certain job tasks.

## REBA Employee Assessment Worksheet

Task Name: \_\_\_\_\_

Date: \_\_\_\_\_

### A. Neck, Trunk and Leg Analysis

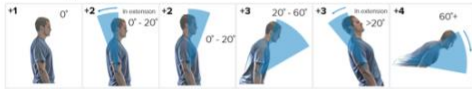
#### Step 1: Locate Neck Position



Step 1a: Adjust...  
If neck is twisted: +1  
If neck is side bending: +1

Neck Score

#### Step 2: Locate Trunk Position



Step 2a: Adjust...  
If trunk is twisted: +1  
If trunk is side bending: +1

Trunk Score

#### Step 3: Legs



Adjust:

Leg Score

#### Step 4: Look-up Posture Score in Table A

Using values from steps 1-3 above, locate score in Table A

Posture Score A

#### Step 5: Add Force/Load Score

If load < 11 lbs.: +0  
If load 11 to 22 lbs.: +1  
If load > 22 lbs.: +2

Adjust: If shock or rapid build up of force: add +1

Force / Load Score

#### Step 6: Score A, Find Row in Table C

Add values from steps 4 & 5 to obtain Score A. Find Row in Table C.

Score A

#### Scoring

1 = Negligible Risk  
2-3 = Low Risk. Change may be needed.  
4-7 = Medium Risk. Further Investigate. Change Soon.  
8-10 = High Risk. Investigate and Implement Change  
11+ = Very High Risk. Implement Change

### Scores

Table A		Neck											
		1				2				3			
Legs		1	2	3	4	1	2	3	4	1	2	3	4
Trunk Posture Score	1	1	2	3	4	1	2	3	4	3	3	5	6
	2	2	3	4	5	3	4	5	6	4	5	6	7
	3	2	4	5	6	4	5	6	7	5	6	7	8
	4	3	5	6	7	5	6	7	8	6	7	8	9
5		4	6	7	8	6	7	8	9	7	8	9	9

### B. Arm and Wrist Analysis

#### Step 7: Locate Upper Arm Position:



Step 7a: Adjust...  
If shoulder is raised: +1  
If upper arm is abducted: +1  
If arm is supported or person is leaning: -1

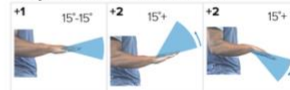
Upper Arm Score

#### Step 8: Locate Lower Arm Position:



Lower Arm Score

#### Step 9: Locate Wrist Position:



Wrist Score

Step 9a: Adjust...  
If wrist is bent from midline or twisted: Add +1

#### Step 10: Look-up Posture Score in Table B

Using values from steps 7-9 above, locate score in Table B

Posture Score B

#### Step 11: Add Coupling Score

Well fitting Handle and mid range power grip, **good: +0**  
Acceptable but not ideal hand hold or coupling acceptable with another body part, **fair: +1**  
Hand hold not acceptable but possible, **poor: +2**  
No handles, awkward, unsafe with any body part, **Unacceptable: +3**

Coupling Score

#### Step 12: Score B, Find Column in Table C

Add values from steps 10 & 11 to obtain Score B. Find column in Table C and match with Score A in row from step 6 to obtain Table C Score.

Score B

#### Step 13: Activity Score

+1 1 or more body parts are held for longer than 1 minute (static)  
+1 Repeated small range actions (more than 4x per minute)  
+1 Action causes rapid large range changes in postures or unstable base

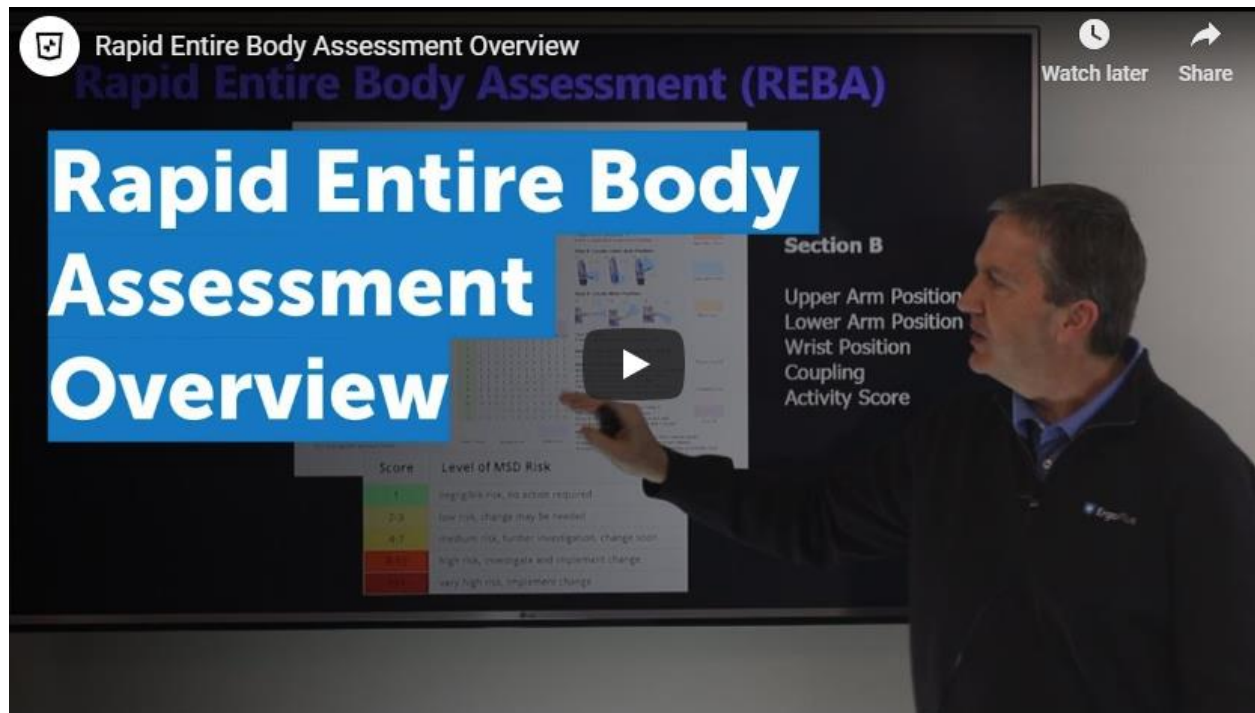
Score A	Table C											
	Score B						Score B					
1	1	1	1	2	3	3	4	5	6	7	7	7
2	1	2	2	3	4	4	5	6	6	7	7	8
3	2	3	3	3	4	5	6	7	7	8	8	8
4	3	4	4	4	5	6	7	8	8	9	9	9
5	4	4	4	5	6	7	8	8	9	9	9	9
6	6	6	6	7	8	8	9	9	10	10	10	10
7	7	7	7	8	9	9	9	10	10	11	11	11
8	8	8	8	9	10	10	10	10	10	11	11	11
9	9	9	9	10	10	10	11	11	11	12	12	12
10	10	10	10	11	11	11	12	12	12	12	12	12
11	11	11	11	12	12	12	12	12	12	12	12	12
12	12	12	12	12	12	12	12	12	12	12	12	12

Table C Score + Activity Score = REBA Score



The REBA tool uses a systematic process to evaluate both upper and lower parts of the musculoskeletal system for biomechanical and MSD risks associated with the job task being evaluated.

A single page worksheet (above) can be used to evaluate required or selected body posture, forceful exertions, type of movement or action, repetition, and coupling.



REBA was developed with the following objectives in mind:

- 1) To provide a simple postural analysis system sensitive to musculoskeletal risks in a variety of tasks.
- 2) To divide the body into segments to evaluate individually with reference to postures and movement planes.
- 3) To provide a scoring system for muscle activity caused by static, dynamic, rapid changing or unstable postures.



- 4) To consider coupling as an important variable in the handling of loads.
- 5) To give an action level output with an indication of urgency.
- 6) To provide a user-friendly assessment tool that requires minimal time, effort, and equipment.

REBA Limitations:

1. Does not consider the duration of the task, available recovery time, or evaluate hand-arm vibration risk.
2. Only allows the evaluator to assess one employee's worst-case posture at one point in time, requiring the use of representative postures.
3. Requires separate assessment of right and left sides of the body, although in most cases you will be able to quickly determine which side of the body has the greatest exposure to MSD risk.

Score	Level of MSD Risk
1	negligible risk, no action required
2-3	low risk, change may be needed
4-7	medium risk, further investigation, change soon
8-10	high risk, investigate and implement change
11+	very high risk, implement change

The output of the REBA assessment tool is the final REBA Score, which is a single score that represents the level of MSD risk for the job task being evaluated. The



minimum REBA Score = 1, and the maximum REBA Score = 15. Outlined in the above chart are the REBA level of MSD risk descriptions and cut points.



# ErgoPlus REBA Calculator

## Rapid Entire Body Assessment (REBA)

### Select Neck Position



### Neck Adjustments

Select one if applicable



### Select Trunk Position



### Trunk Adjustments

Select one if applicable



### Select Leg Position



### Leg Adjustments

Select one if applicable



### Force/Load

Force/Load

+22 lbs

Check box if there is a shock force, load out of force, or sudden exertion is required.

### Select Upper Arm Position



### Upper Arm Adjustments

Select all that apply



### Select Lower Arm Position



### Select Wrist Position



### Wrist Adjustments

Select one if applicable



### Coupling

Coupling

Yes

### Activity Score

Check any that apply

Are one or more body parts held for longer than one minute (static)?

Are there repeated large motions (more than 45°/second)?

Is there action that causes large angle changes in posture / unstable base?

**CALCULATE**

## RESULTS

### Risk

Risk Index

3.00

### Assessment Results

REBA Score

12.00



We have developed a cloud-based REBA calculator as a part of our ErgoPlus Industrial platform that can be used to efficiently conduct an assessment, calculate the score and save your results. Simply select the appropriate body segment positions/postures, load force, coupling, and activity to calculate the REBA score and risk index. The ErgoPlus REBA web-based calculator is shown above and you can also check out the application here:

[ErgoPlus Industrial](#)

## Using REBA

### Getting Ready

The evaluator should prepare for the assessment by interviewing the worker being evaluated to gain an understanding of the job tasks and demands and observing the worker's movements and postures during several work cycles. Selection of the postures to be evaluated should be based on 1) the most difficult postures and work tasks (based on worker interview and initial observation), 2) the posture sustained for the longest period of time, or 3) the posture where the highest force loads occur. The REBA can be conducted quickly, so multiple positions and tasks within the work cycle can usually be evaluated without a significant time/effort cost. When using REBA, only the right or left side is assessed at a time. After interviewing and observing the worker, the evaluator can determine if only one arm should be evaluated, or if an assessment is needed for both sides.

### Determine Body Position Selections





The REBA assessment requires that you determine postural angles of six different body positions. In most cases, you will be able to determine the body position angle in the field as you observe the task. However, we find that it's very helpful to take pictures or video of the task being performed from several angles if possible. You can then display the pictures on your computer monitor and use a goniometer (as pictured on left) or an overlaid transparent protractor image (as pictured on right) to measure the body segment angles. These methods are both very quick and easy and will give you the assurance that you've obtained the correct body position angles for the assessment.

## Using the REBA – Example

### Neck, Trunk and Leg Analysis







Neck:

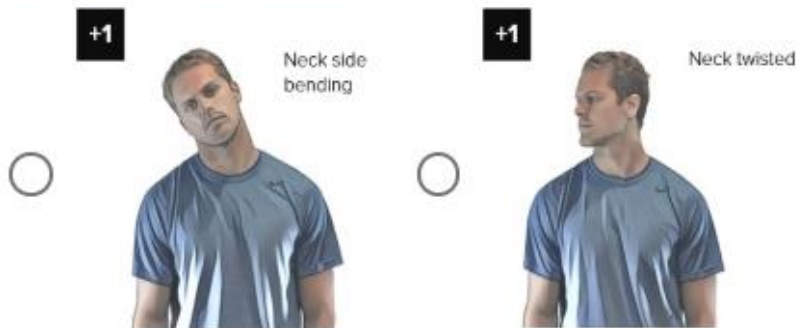


## Select Neck Position



## Neck Adjustments

Select one if applicable.



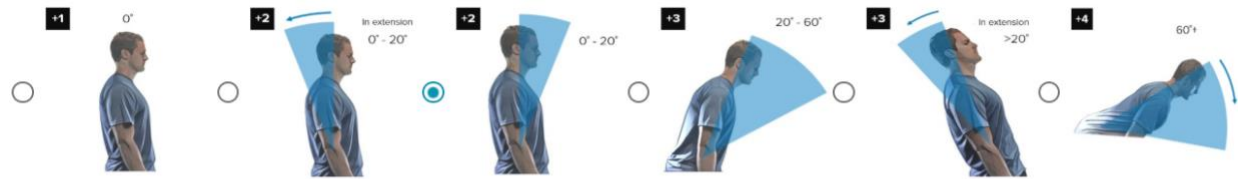
The neck position score will be between 1-3. The score is based on the degree of neck flexion or extension, along with any adjustment for neck twisting or side bending (lateral flexion). Neck flexion is movement of the chin towards the chest from a neutral neck position. Neck extension is moving the chin away from the chest (backwards) from a neutral neck position.

In this example, neck flexion is less than 20 degrees. There is no twisting or side bending required, so no selection is made under neck adjustments.

Trunk:



### Select Trunk Position



### Trunk Adjustments

Select one if applicable.



The trunk position score will be between 1-5. The score is based on the degree of trunk flexion or extension, along with any adjustment for twisting or side bending (lateral flexion) of the trunk/back. Trunk flexion is defined as anterior (forward) movement of the trunk in the sagittal plane (think toe touching). Trunk extension is defined as posterior (backward) movement of the trunk in the sagittal plane.

In this example, trunk flexion is less than 20 degrees. When viewed from behind, the trunk was in a side bending position so the side bending adjustment is selected.

Leg:



## Select Leg Position



## Leg Adjustments

Select one if applicable.



The leg position score will be between 1-4. The score is based on bilateral or unilateral weight bearing on the legs, along with any adjustment for the degree of knee flexion. Knee flexion is defined as bending or decreasing the angle between the femur and tibia bones of the limb at the knee joint.

In this example, there is bilateral weight bearing on the legs. Because the knees are not flexed, no leg adjustment is applicable.

## Force/Load Analysis:



## Force/Load

Force/Load  
11 - 22 lbs. ▼

Check box if there is shock force, rapid buildup of force, or sudden exertion is required.

The Force/Load score will be between 0-2. For this selection you will need to determine the load or force required to perform the task. Often, you can obtain the weight of the load from company production or shipping records. If necessary, use the nearest scale in the facility or a force measurement gauge to determine the exact weight of any load being moved or lifted.

In this example, the load being lifted is 11-22 lbs. There is no shock force, rapid buildup of force, or sudden exertion required by this task.

## Upper Arm, Lower Arm & Wrist Analysis





Upper arm:

Select Upper Arm Position



Upper Arm Adjustments

Select all that apply.



The upper arm position score will be between 1-6. The score is based on the degree of shoulder flexion or extension, along with any adjustment for the shoulder being raised and/or abducted. Shoulder flexion is defined as anterior movement of the upper arm in the sagittal plane (forward reaching). Shoulder extension is defined as posterior movement of the upper arm in the sagittal plane (backward reaching). Shoulder abduction is defined as sideways movement of the upper arm away from the body.

In this example, the right upper arm is raised more than 90 degrees for a score of +4. Two adjustments are added because the shoulder is raised (+1) and the upper arm is abducted (+1).

Lower Arm:

### Select Lower Arm Position



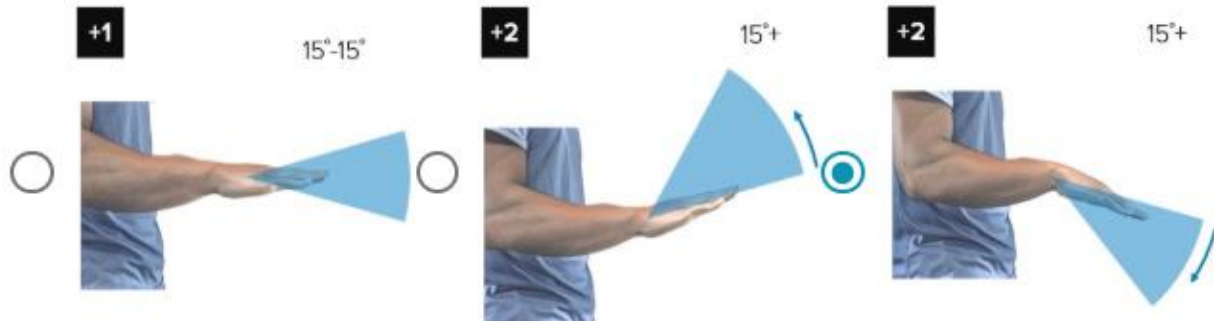
The lower arm position score will be 1 or 2. The score is based on the degree of elbow flexion or bending.

In this example, the elbow is flexed less than 60 degrees.



Wrist Position:

### Select Wrist Position



### Wrist Adjustments

Select one if applicable.



The wrist position score will be 1-3. The score is based on the degree of wrist flexion or extension, along with an adjustment of +1 for wrist deviation or twisting.

In this example, the wrist is flexed more than 15 degrees. The wrist is also twisted, so under wrist adjustments select wrist twisted for an adjustment of +1.

### Coupling Analysis





## Coupling

Coupling  
Fair ▼

The coupling score will be between 0-3. Select Good when there's a well-fitting handle with mid-range power grip, Fair when acceptable but not ideal hand hold or coupling acceptable with another body part, Poor when and hold not acceptable but possible, and Unacceptable if no handles, awkward, and unsafe with any body part.

In this example, the coupling was determined to be Fair.

## Activity Score

### Activity Score

Check any that apply.

- Are one or more body parts held for longer than one minute (static)?
- Are there repeated range actions (more than 4x/minute)?
- Is there action that causes large range changes in posture / unstable base?

**CALCULATE**

The activity score will be either 0 or 1, as the criteria are mutually exclusive.

In this example, repeated small range actions (more than 4x per minute) are required.



## Calculate Results

### RESULTS

#### Risk

<b>Risk Index</b>	<b>2.25</b>
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#### Assessment Results

<b>REBA Score</b>	<b>9.00</b>
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After all entries are selected, press the calculate button for the results of the assessment. The ErgoPlus REBA calculator will display the Risk Index and the overall REBA score. The REBA score represents the level of MSD risk for the job task being evaluated. The minimum REBA Score = 1, and the maximum REBA Score = 15. The design goal for the REBA assessment is a score of 4. The Risk Index answers the question... "How significant is the risk?" A Risk Index value of 1.0 or less indicates a nominal risk to healthy employees. A Risk Index greater than 1.0 denotes that the task is high risk for some fraction of the population. As the Risk Index increases, the level of MSD risk increases correspondingly. Therefore, the goal is to design job tasks to accomplish a Risk Index of 1.0 or lower.

In this example, the final REBA score of 9 and a risk index of 2.25 indicates high risk and calls for further investigation with engineering and/or work method changes to reduce or eliminate MSD risk.





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