

Rapid Upper Limb Assessment (RULA)

The figure shows a worksheet consisting of 15 steps from which an overall attitude (the so-called RULA score) can be derived.

A. Arm and Wrist Analysis
Step 1: Locate Upper Arm Position:

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

Step 2: Locate Lower Arm Position:

Step 2a: Adjust...
 If either arm is working across midline or out to side of body: Add +1

Step 3: Locate Wrist Position:

Step 3a: Adjust...
 If wrist is bent from midline: Add +1

Step 4: Wrist Twist:
 If wrist is twisted in mid-range: +1
 If wrist is at or near end of range: +2

Step 5: Look-up Posture Score in Table A:
 Using values from steps 1-4 above, locate score in Table A

Step 6: Add Muscle Use Score
 If posture mainly static (i.e. held >10 minutes), Or if action repeated occurs 4x per minute: +1

Step 7: Add Force/Load Score
 If load < 4.4 lbs. (intermittent): +0
 If load < 4.4 to 22 lbs. (static or repeated): +1
 If load < 4.4 to 22 lbs. (static or repeated): +2
 If more than 22 lbs. or repeated or shocks: +3

Step 8: Find Row in Table C
 Add values from steps 5-7 to obtain Wrist and Arm Score. Find row in Table C.

Table A

Upper Arm	Lower Arm	Wrist Score			
		Wrist Twist	Wrist Twist	Wrist Twist	Wrist Twist
1	1	1	2	2	3
2	2	2	3	3	4
3	3	3	4	4	5
4	4	4	5	5	6
5	5	5	6	6	7
6	6	6	7	7	8

Table C

Wrist, Arm Score	Neck, Trunk, Leg Score						
	1	2	3	4	5	6	7+
1	1	2	3	4	5	6	7
2	2	3	4	5	6	7	8
3	3	4	5	6	7	8	9
4	4	5	6	7	8	9	10
5	5	6	7	8	9	10	11
6	6	7	8	9	10	11	12
7	7	8	9	10	11	12	13
8+	8	9	10	11	12	13	14

Scoring: (final score from Table C)
 1-2 = acceptable posture
 3-4 = further investigations, change may be needed
 5-6 = further investigations, change soon
 7 = investigate and implement change

B. Neck, Trunk and Leg Analysis
Step 9: Locate Neck Position:

Step 9a: Adjust...
 If neck is twisted: +1
 If neck is side bending: +1

Step 10: Locate Trunk Position:

Step 10a: Adjust...
 If trunk is twisted: +1
 If trunk is side bending: +1

Step 11: Legs:
 If legs and feet are supported: +1
 If not: +2

Table B: Trunk Posture Score

Neck Posture Score	Trunk Posture Score					
	Legs	Legs	Legs	Legs	Legs	Legs
1	1	2	3	4	5	6
2	2	3	4	5	6	7
3	3	4	5	6	7	8
4	4	5	6	7	8	9
5	5	6	7	8	9	10
6	6	7	8	9	10	11

Step 12: Look-up Posture Score in Table B:
 Using values from steps 9-11 above, locate score in Table B

Step 13: Add Muscle Use Score
 If posture mainly static (i.e. held <10 minutes), Or if action repeated occurs 4x per minute: +1

Step 14: Add Force/Load Score
 If load < 4.4 lbs. (intermittent): +0
 If load < 4.4 to 22 lbs. (intermittent): +1
 If load < 4.4 to 22 lbs. (static or repeated): +2
 If more than 22 lbs. or repeated or shocks: +3

Step 15: Find Column in Table C
 Add values from steps 12-14 to obtain Neck, Trunk and Leg Score. Find Column in Table C.

Neck Score

Trunk Score

Leg Score

Posture Score A
 +
Muscle Use Score
 +
Force / Load Score
 =
Wrist & Arm Score

Neck, Trunk, Leg Score
 =
Force / Load Score

RULA Score

Figure S1. The Rapid Upper Limb Assessment (RULA) worksheet.⁴⁹

How the RULA assessment works, in detail, using the worksheet is described by Maurer-Grubinger et al.⁴⁹

At the end, an overall score is read off a table for the right and left sides of the body; this assesses the ergonomic risk according to the following categorisations⁴¹:

- Score 1-2: "Posture is acceptable if it is not maintained or repeated for long periods".
- Score 3-4: "Further investigation is needed and changes may be required".
- Score 5-6: "Investigation and changes are required soon".
- Score 7: "Investigation and changes are required immediately".