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Rapid Upper Limb Assessment (RULA) Method

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.

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What is RULA

- RULA is a quick survey method for use in ergonomic investigations of workplaces where MSDs are reported.
- RULA is a screening tool that assesses biomechanical and postural loading on the whole body.
- RULA focuses on the neck, trunk and upper limbs, and is ideal for sedentary workers e.g. computer workplaces.
- RULA has been validated on groups of computer users and sewing machine operators.
- RULA is quick and easy to complete.
- RULA scores indicate the level of intervention required to reduce MSD risks.
- RULA compliments other ergonomic methods.

<http://www.ergonomics.co.uk/Rule/ErgoIndex.html>

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1. Observing and selecting the posture(s) to assess

- RULA assesses postural loading at a specific moment in the work cycle. It is important to assess the highest risk posture being adopted. Selecting the appropriate stage of the work cycle for assessment requires some previous observation.
- The highest risk posture for analysis may be chosen based on the duration of the posture (e.g. longest held) or the degree of postural deviation (e.g. worst posture).
- Right or left sides of the body can be assessed independently.
- For long work cycles posture can be assessed at regular intervals.
- When assessments are taken at set intervals over the working period the proportion of time spent in the various postures should also be evaluated.

<http://www.ergonomics.co.uk/Rule/ErgoIndex.html>

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2. Scoring and recording the posture

- Decide on the stage of the work cycle to be assessed
- Decide whether the left, right or both upper arms are to be assessed.
- Score the posture of each body part using the RULA worksheet.
- Review the scoring and make any adjustments if required.
- Use the tables to calculate the grand RULA score.

<http://www.ergonomics.co.uk/Rule/ErgoIndex.html>

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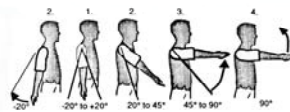
3. Action Level

- Compare the grand RULA score to the Action Level List to determine the risks.
- Review the body segment scores for any undesirable postural deviations that need correction.
- Review possibilities for further ergonomic actions to improve posture where necessary, and thereby reduce risks.
- If changes are made, evaluate their success by performing additional RULA evaluations.

<http://www.ergonomics.co.uk/Rule/ErgoIndex.html>

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RULA: Upper Arms

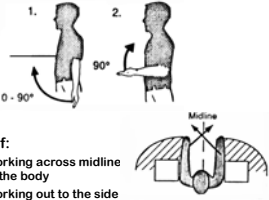


- ADD 1 if:**
- Shoulder is raised
- ADD 1 if:**
- Upper arm is abducted
- SUBTRACT 1**
- If leaning or supporting the weight of the arm

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.
Graphics source: K. Laaser, 1998, Cornell University

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RULA: Lower Arms



1. 2.

0 - 90° 90°

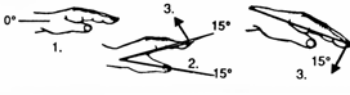
ADD 1 if:

- Working across midline of the body
- Working out to the side of the body

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.
Graphics source: K. Laesser, 1996, Cornell University

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RULA: Wrist posture



0° 1. 2. 3. 15° 15°

ADD 1 if:

- Wrist is bent away from midline

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.
Graphics source: K. Laesser, 1996, Cornell University

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RULA: Wrist Twist

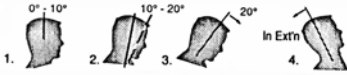
1. Mainly in mid-range of twist

2. At or near end of twisting range

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.

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RULA: Neck



1. 2. 3. 4.

ADD 1 if:

- Neck is twisting

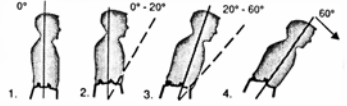
ADD 1 if:

- Neck is side-bending

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.
Graphics source: K. Laesser, 1996, Cornell University

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RULA: Trunk



1. 2. 3. 4.

ADD 1 if:

- Trunk is twisting

ADD 1 if:

- Trunk is side-bending

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.
Graphics source: K. Laesser, 1996, Cornell University

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RULA: Legs

1. Legs and feet are well supported and in an evenly balanced posture.

2. Legs and feet are NOT well supported and/or NOT in an evenly balanced posture.

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.

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RULA: Muscle Use Score

- **RAISE THE SCORE by 1 if the posture is:**
 - Mainly static, e.g. held for longer than 1 minute
 - Repeated more than 4 times per minute

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.

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RULA: FORCES or LOAD Score

0.	1.	2.	3.
No resistance or less than 5 lb. (2 kg) intermittent load force	5-20 lb (2-10 kg) intermittent load or force	5-20 lb (2-10 kg) static or repeated load or force	More than 20 lb. (10kg) static or repeated loads or forces. Shock or forces with rapid build-up.

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.

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RULA Score Sheet

A

Upper arm

Lower arm

Wrist

Wrist twist

Posture score A

B

Neck

Trunk

Legs

Posture score A

Muscle use

Force

SCORE A

Grand Score
Use Table C

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.
Graphics source: K. Laeser, 1998, Cornell University

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Table A: Upper Limb Posture Score									
UPPER ARM	LOWER ARM	WRIST							
		1		2		3		4	
		WRIST TWIST		WRIST TWIST		WRIST TWIST		WRIST TWIST	
1	1	1	2	2	2	2	2	3	3
	2	2	2	2	2	3	3	3	3
	3	2	3	2	3	3	3	4	4
2	1	2	2	2	3	3	3	4	4
	2	3	2	3	3	3	3	4	4
	3	2	3	3	3	3	4	4	5
3	1	2	3	3	3	4	4	5	5
	2	2	3	3	4	4	4	5	5
	3	3	3	3	4	4	4	5	5
4	1	3	4	4	4	4	4	5	5
	2	3	4	4	4	4	4	5	5
	3	3	4	4	5	5	5	6	6
5	1	5	5	5	5	5	5	6	7
	2	5	6	6	6	6	7	7	7
	3	6	6	6	7	7	7	7	8
6	1	7	7	7	7	7	8	8	9
	2	7	8	8	8	8	9	9	9
	3	9	9	9	9	9	9	9	9

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.

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Table B: Neck, Trunk, Legs Posture Score													
NECK POSTURE SCORE	TRUNK POSTURE SCORE												
	1	2	3	4	5	6							
	LEGS	LEGS	LEGS	LEGS	LEGS	LEGS							
	1	2	1	2	1	2	1	2	1	2	1	2	
1	1	2	1	2	2	3	3	4	4	4	4	4	
2	1	2	2	2	3	4	4	5	5	5	5	5	
3	2	2	2	3	3	4	4	5	5	5	6	6	
4	2	3	2	3	3	4	4	5	5	6	6	6	
5	3	4	4	4	4	5	5	6	6	6	6	6	

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.

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Table C: Grand Score Table															
TABLE C		FINAL SCORE B (NECK, TRUNK, LEG)							Action level	Score	Action				
		1	2	3	4	5	6	7							
FINAL SCORE B (UPPER LIMB SCORE)	1	1	2	3	3	4	5	5	1	1 or 2	Acceptable posture.				
	2	2	2	3	4	4	5	5	2	3 or 4	Further investigation needed: changes may be required.				
	3	3	3	3	4	4	5	6	3	5 or 6	Investigation and changes needed soon.				
	4	3	3	3	4	5	6	6	4	7	Investigation and changes required immediately.				
	5	4	4	4	5	6	7	7							
	6	4	4	5	6	6	7	7							
	7	5	5	6	6	7	7	7							
	8*	5	5	6	7	7	7	7							

RULA Source: McAtamney, L. and Corlett, E.N. (1993) Applied Ergonomics, 24 (2), 91-9.
