

WORKPLACE ERGONOMIC RISK ASSESSMENT (WERA)

PHYSICAL RISK FACTOR	RISK LEVEL			SCORING SYSTEM															
	LOW	MEDIUM	HIGH																
1. Shoulder	1a. Posture Shoulders in neutral position Light movement with more pauses Hands at about the waist level	Shoulder is moderate bent up Moderate movement with some pauses Hands at about the chest level	Shoulder is extreme bent up Heavy movement with no rest Hands at above the chest level	<table border="1"> <tr><th colspan="3">1a. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 1</p>	1a. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
	1a. POSTURE																		
Risk Level	LOW	HIGH																	
LOW	2	4																	
MED	3	5																	
HIGH	4	6																	
1b. Repetition	Wrist in a neutral position 0-10 times per minute	Wrists are moderate bent up or bent down 11-20 times per minute	Wrists are extreme bent up or bent down with twisting Over 20 times per minute	<table border="1"> <tr><th colspan="3">2a. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 2</p>	2a. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
2a. POSTURE																			
Risk Level	LOW	HIGH																	
LOW	2	4																	
MED	3	5																	
HIGH	4	6																	
2. Wrist	2a. Posture	Wrists are moderate bent up or bent down 11-20 times per minute	Wrists are extreme bent up or bent down with twisting Over 20 times per minute	<table border="1"> <tr><th colspan="3">2b. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 2</p>	2b. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
	2b. POSTURE																		
Risk Level	LOW	HIGH																	
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MED	3	5																	
HIGH	4	6																	
2b. Repetition	0-10 times per minute	11-20 times per minute	Over 20 times per minute	<table border="1"> <tr><th colspan="3">3a. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 3</p>	3a. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
3a. POSTURE																			
Risk Level	LOW	HIGH																	
LOW	2	4																	
MED	3	5																	
HIGH	4	6																	
3. Back	3a. Posture	Back in neutral position 0-3 times per minute	Back is moderate bent forward 4-8 times per minute	<table border="1"> <tr><th colspan="3">3b. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 3</p>	3b. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
	3b. POSTURE																		
Risk Level	LOW	HIGH																	
LOW	2	4																	
MED	3	5																	
HIGH	4	6																	
3b. Repetition	0-3 times per minute	4-8 times per minute	9-12 times per minute	<table border="1"> <tr><th colspan="3">4a. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 4</p>	4a. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
4a. POSTURE																			
Risk Level	LOW	HIGH																	
LOW	2	4																	
MED	3	5																	
HIGH	4	6																	
4. Neck	4a. Posture	Neck in neutral position with little bent forward Light movement with more pauses	Neck is moderate bent forward Moderate movement with some pauses	<table border="1"> <tr><th colspan="3">4b. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 4</p>	4b. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
	4b. POSTURE																		
Risk Level	LOW	HIGH																	
LOW	2	4																	
MED	3	5																	
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4b. Repetition	Light movement with more pauses	Moderate movement with some pauses	Heavy movement with no rest	<table border="1"> <tr><th colspan="3">5a. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 5</p>	5a. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
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Risk Level	LOW	HIGH																	
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5. Leg	5a. Posture	Legs in neutral position OR sitting with feet are flat on floor / foot rest.	Legs are moderate bent forward OR sitting with feet are bent on floor	<table border="1"> <tr><th colspan="3">9. DURATION</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 5</p>	9. DURATION			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
9. DURATION																			
Risk Level	LOW	HIGH																	
LOW	2	4																	
MED	3	5																	
HIGH	4	6																	
5a. Posture	Legs in neutral position OR sitting with feet are flat on floor / foot rest.	Legs are moderate bent forward OR sitting with feet are bent on floor	Legs are extreme bent forward OR sitting with feet do not touch floor.	<table border="1"> <tr><th colspan="3">5a. POSTURE</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 5</p>	5a. POSTURE			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
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PHYSICAL RISK FACTOR	RISK LEVEL			SCORING SYSTEM															
	LOW	MEDIUM	HIGH																
6. Forceful	Lifting the load 0-5kg	Lifting the load 5-10kg	Lifting the load > 10kg	<table border="1"> <tr><th colspan="3">6. FORCEFUL</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 6</p>	6. FORCEFUL			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
	6. FORCEFUL																		
Risk Level	LOW	HIGH																	
LOW	2	4																	
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7. Vibration	Using of vibration tool Never used of vibration tool OR Used vibration tool < 1hrs per day	Occasional used of vibration tool WITH 1-4hrs per day	Constant used of vibration tool WITH >4hrs per day	<table border="1"> <tr><th colspan="3">7. VIBRATION</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 7</p>	7. VIBRATION			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
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Risk Level	LOW	HIGH																	
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8. Contact stress	Using of tool handle Or wearing hand gloves Soft/round shape of tool handle OR Using a full cover of hand gloves	Hard/sharp shape of tool handle OR Using a half cover of hand gloves	No/Without of tool handle OR Never used hand gloves	<table border="1"> <tr><th colspan="3">8. CONTACT STRESS</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 8</p>	8. CONTACT STRESS			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
	8. CONTACT STRESS																		
Risk Level	LOW	HIGH																	
LOW	2	4																	
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9. Task duration	Task-hr/day < 2hrs per day	2-4hrs per day	> 4hrs per day	<table border="1"> <tr><th colspan="3">9. TASK DURATION</th></tr> <tr><td>Risk Level</td><td>LOW</td><td>HIGH</td></tr> <tr><td>LOW</td><td>2</td><td>4</td></tr> <tr><td>MED</td><td>3</td><td>5</td></tr> <tr><td>HIGH</td><td>4</td><td>6</td></tr> </table> <p>Score 9</p>	9. TASK DURATION			Risk Level	LOW	HIGH	LOW	2	4	MED	3	5	HIGH	4	6
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FINAL SCORE				<table border="1"> <tr><th colspan="3">Action Level</th></tr> <tr><td>Risk Level</td><td>Final Score</td><td>Action</td></tr> <tr><td>LOW</td><td>18-27</td><td>Task is acceptable</td></tr> <tr><td>MED</td><td>28-44</td><td>Task is need to further investigate & required change</td></tr> <tr><td>HIGH</td><td>45-54</td><td>Task is not accepted, immediately change</td></tr> </table>	Action Level			Risk Level	Final Score	Action	LOW	18-27	Task is acceptable	MED	28-44	Task is need to further investigate & required change	HIGH	45-54	Task is not accepted, immediately change
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LOW	18-27	Task is acceptable																	
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HIGH	45-54	Task is not accepted, immediately change																	
Job/Task : _____				Tick (v)															
Date : _____																			
Observer : _____																			

based on WERA: An observational tool develop to investigate the physical risk factor associated with WMSDs, Mohd Nasrull Abdul Rahman, Mat Rebi Abdul Rani and Jafri Mohd Rohani, Journal of Human Ergology, 2011, 40(2), 19-36