

## Moore-Garg Strain Index

The Strain Index was proposed by Moore and Garg as a means to assess jobs for risk of work-related musculoskeletal disorders (WRMSDs) of the distal upper extremities (hand, wrist, elbow).

Divide a job into tasks. For each task and for each hand, assess the six job risk factors by assigning it to a category. The following data sheet provides a format for this process. For each category, note the rating. The Strain Index is the product of the six ratings.

### *Reference*

J. Steven Moore and Arun Garg, The Strain Index: A proposed method to analyze jobs for risk of distal upper extremity disorders; *Am. Ind. Hyg. Assoc. J.* 56:443-458, 1995.

**Moore-Garg Strain Index**

Task	Analyst
	Date / /

<b>Strain Index</b>	Find rating for each risk factor and multiply them together.	SI < 3: Safe SI between 3 and 5: Uncertain SI between 5 and 7: Some Risk SI > 7: Hazardous		
<b>Risk Factor</b>	<b>Rating Criterion</b>	<b>Observation</b>	<b>Ratings</b>	<b>Left</b> <b>Right</b>
Intensity of Exertion [Borg Scale values in brackets]	Light	Barely noticeable or relaxed effort [0-2]	1	
	Somewhat Hard	Noticeable or definite effort [3]	3	
	Hard	Obvious effort; Unchanged expression [4-5]	6	
	Very Hard	Substantial effort; Changed expression [6-7]	9	
	Near Maximal	Uses shoulder or trunk for force [8-10]	13	
Duration of Exertion (% of Cycle)	< 10%		0.5	
	10-29%		1.0	
	30-49%		1.5	
	50-79%		2.0	
	> 80%		3.0	
Efforts Per Minute	< 4		0.5	
	4 - 8		1.0	
	9 - 14		1.5	
	15 - 19		2.0	
	> 20		3.0	
Hand/Wrist Posture	Very Good	Perfectly Neutral	1.0	
	Good	Near Neutral	1.0	
	Fair	Non-Neutral	1.5	
	Bad	Marked Deviation	2.0	
	Very Bad	Near Extreme	3.0	
Speed of Work	Very Slow	Extremely relaxed pace	1.0	
	Slow	Taking one's own time	1.0	
	Fair	Normal speed of motion	1.0	
	Fast	Rushed, but able to keep up	1.5	
	Very Fast	Rushed and barely/unable to keep up	2.0	
Duration of Task Per Day (hours)	<1		0.25	
	1 - 2		0.50	
	2 - 4		0.75	
	4 - 8		1.00	
	> 8		1.50	