

Rodgers Muscle Fatigue Analysis

Task Identification

Job	Analyst	Date / /		
Task	% Shift Time	Considered Difficult	Change Priority	

Notes:

Rogers Muscle Fatigue Analysis by Task

Region	Effort Level (If the effort cannot be exerted by most people, enter 4 for Effort and VH for Priority)			Scores		Priority (L, M, H or VH)
	Light -- 1	Moderate -- 2	Heavy -- 3	Effort	Dur.	
Neck	Head turned partly to side, back or slightly forward	Head turned to side; head fully back; head forward about 20°	Same as Moderate but with force or weight; head stretched forward			
Shoulders	Arms slightly away from sides; arms extended with some support	Arms away from body, no support; working overhead	Exerting forces or holding weight with arms away from body or overhead	Right		
				Left		
Back	Leaning to side or bending arching back	Bending forward; no load; lifting moderately heavy loads near body; working overhead	Lifting or exerting force while twisting; high force or load while bending			
Arms / Elbow	Arms away from body, no load; light forces lifting near body	Rotating arms while exerting moderate force	High forces exerted with rotation; lifting with arms extended	Right		
				Left		
Wrists / Hands / Fingers	Light forces or weights handled close to body; straight wrists; comfortable power grips	Grips with wide or narrow span; moderate risk angles, especially flexion; use of gloves with moderate forces	Pinch grips; strong wrist angles; slippery surfaces	Right		
				Left		
Legs / Knees	Standing, walking without bending or leaning; weight on both feet	Bending forward, leaning on table; weight on one side; pivoting while exerting force	Exerting high force while pulling or lifting; crouching while exerting force	Right		
				Left		
Ankles / Feet / Toes	Standing, walking without bending or leaning; weight on both feet	Bending forward, leaning on table; weight on one side; pivoting while exerting force	Exerting high force while pulling or lifting; crouching while exerting force	Right		
				Left		
Continuous Effort Duration	< 6 s 1	6 - 20 s 2	20 - 30 s 3	> 30 s 4 (Enter VH for Priority)		
Effort Frequency	< 1 / min 1	1 - 5 / min 2	> 5 - 15 / min 3	> 15 / min 4 (Enter VH for Priority)		

Scoring

The following table ranks the combinations of scores in increasing potential for fatigue, and, thereby, in increasing priority for change.

The least fatiguing combinations are at the top left side of the table and the highest are at the end of the list on the right side of the table.

When a solution is chosen to improve the work, it is important to rate the new task with the same tool to be sure the fatigue has been dropped to a lower level.

Low (L)		Moderate (M)		High (H)	Very High (VH)
111	131	123	222	223	323
112	211	132	231	313	331
113	212	213	312	321	332
121	221	232		322	4xx, x4x, xx4*
122	311				

*A category of 4 for Effort Level, Continuous Effort Duration or Frequency is automatically Very High (VH)

