



Rodgers Muscle Fatigue Analysis

| | | | |
|----------|-------|-------------|-------|
| Date: | _____ | Task: | _____ |
| Company: | _____ | Supervisor: | _____ |
| Dept: | _____ | Evaluator: | _____ |

| Table A | Effort Level (If the effort cannot be exerted by most people, enter 4 for Effort) | | | Scores | | | Overall Priority | Overall Priority Matrix | | | |
|---|--|---|--|-----------|--------------|-----------------------|------------------|-------------------------|-------|----------|-------|
| | Region | Light (1) | Moderate (2) | Heavy (3) | Effort Level | Cont. Effort Duration | | Effort Frequency | Low | Moderate | High |
| | | | | | See Table A | See Table B | | | | | |
| Neck | Neutral neck: head turned partly to side; back forward slightly; back leaning forward 0-20 degrees | Head turned to side; head fully back; head forward about 20 degrees | Same as moderate but with force or weight; head stretched forward (chin tucked into chest) | | | | | 1-1-1 | 1-2-3 | 2-2-3 | 3-2-3 |
| Shoulders | Neutral arms; arms slightly away from sides; arms extended with some support | Arms away from body, no support; working overhead or behind | Exerting forces or holding weight with arms away from body or overhead | Right | | | | 1-1-2 | 1-3-2 | 3-1-3 | 3-3-1 |
| | | | | Left | | | | 1-1-3 | 2-1-3 | 3-2-1 | 3-3-2 |
| Back | Standing; sitting with lumbar support; leaning to side or bending slightly; 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 | Right | | | | 2-1-1 | 2-2-2 | 3-2-2 | or |
| | | | | Left | | | | 1-2-1 | 2-3-1 | | 4-x-x |
| Arms/ Elbows | Neutral; arms away from body; no load; light forces lifting near body; no twisting | Rotating arm while exerting moderate force | High forces exerted with rotation; lifting with arms extended | Right | | | | 2-1-2 | 2-3-2 | | x-4-x |
| | | | | Left | | | | 3-1-1 | 3-1-2 | | x-x-4 |
| Wrists/ Hands/ Fingers | Light forces or weights handled close to body; straight wrists; comfortable power grips | Grips with wide or narrow span; moderate wrist angles, especially flexion; use of gloves with moderate forces | Pinch grips; strong wrist angles; slippery surfaces | Right | | | | 1-2-2 | | | |
| | | | | Left | | | | 1-3-1 | | | |
| 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 forces while pulling or lifting; crouching while exerting force | Right | | | | 2-2-1 | | | |
| | | | | 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 forces while pulling or lifting; crouching while exerting force | Right | | | | | | | |
| | | | | Left | | | | | | | |
| Note: Level of fatigue increases as you move down each column or to the right | | | | | | | | NOTES: | | | |

| Table B | Score = 1 | Score = 2 | Score = 3 | Score = 4 |
|----------------------------|-----------|-------------|--------------|------------|
| Continuous Effort Duration | < 6 s | 6 - 20 s | 20 - 30 s | > 30 s |
| Effort Frequency | < 1 / min | 1 - 5 / min | 6 - 15 / min | > 15 / min |

Reference: Rodgers, Suzanne H. (1992). A functional job evaluation technique. *Occupational Medicine: State of the Art Reviews*. 7(4):679-711.
Rodgers, Suzanne H.(1988). Job evaluation in worker fitness determination. *Occupational Medicine: State of the Art Reviews*. 3(2): 219-239.