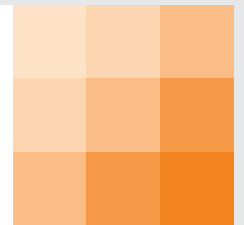


# Quick Exposure Check (QEC)



## QEC has been designed to:

- assess the changes in exposure to musculoskeletal risk factors of the back, shoulders and arms, hands and wrists, and neck before and after an ergonomic intervention
- involve the practitioner (i.e. the observer) who conducts the assessment, and the worker who has direct experience of the task
- indicate change in exposure scores following an intervention

The QEC Guide gives more detailed information about each question and the background to QEC.

Worker's name: \_\_\_\_\_

Worker's job title: \_\_\_\_\_

Task: \_\_\_\_\_

Assessment conducted by: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Action(s) required: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

For more information on the Quick Exposure Check contact:

**The Robens Centre for Health Ergonomics**  
**European Institute of Health and Medical Sciences**  
**University of Surrey, Guildford GU2 7TE**  
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## Observer's Assessment

### Back

**A When performing the task, is the back**  
(select worse case situation)

- A1  Almost neutral?  
 A2  Moderately flexed or twisted or side bent?  
 A3  Excessively flexed or twisted or side bent?

**B Select ONLY ONE of the two following task options:**

#### EITHER

For seated or standing stationary tasks. Does the back remain in a static position most of the time?

- B1  No  
 B2  Yes

#### OR

For lifting, pushing/pulling and carrying tasks (i.e. moving a load). Is the movement of the back

- B3  Infrequent (around 3 times per minute or less)?  
 B4  Frequent (around 8 times per minute)?  
 B5  Very frequent (around 12 times per minute or more)?

### Shoulder/Arm

**C When the task is performed, are the hands**  
(select worse case situation)

- C1  At or below waist height?  
 C2  At about chest height?  
 C3  At or above shoulder height?

**D Is the shoulder/arm movement**

- D1  Infrequent (some intermittent movement)?  
 D2  Frequent (regular movement with some pauses)?  
 D3  Very frequent (almost continuous movement)?

### Wrist/Hand

**E Is the task performed with**  
(select worse case situation)

- E1  An almost straight wrist?  
 E2  A deviated or bent wrist?

**F Are similar motion patterns repeated**

- F1  10 times per minute or less?  
 F2  11 to 20 times per minute?  
 F3  More than 20 times per minute?

### Neck

**G When performing the task, is the head/neck bent or twisted?**

- G1  No  
 G2  Yes, occasionally  
 G3  Yes, continuously

\* Additional details for L, P and Q if appropriate

## Worker's Assessment

### Workers

**H Is the maximum weight handled MANUALLY BY YOU in this task?**

- H1  Light (5 kg or less)  
 H2  Moderate (6 to 10 kg)  
 H3  Heavy (11 to 20kg)  
 H4  Very heavy (more than 20 kg)

**J On average, how much time do you spend per day on this task?**

- J1  Less than 2 hours  
 J2  2 to 4 hours  
 J3  More than 4 hours

**K When performing this task, is the maximum force level exerted by one hand?**

- K1  Low (e.g. less than 1 kg)  
 K2  Medium (e.g. 1 to 4 kg)  
 K3  High (e.g. more than 4 kg)

**L Is the visual demand of this task**

- L1  Low (almost no need to view fine details)?  
 \*L2  High (need to view some fine details)?

\* If High, please give details in the box below

**M At work do you drive a vehicle for**

- M1  Less than one hour per day or Never?  
 M2  Between 1 and 4 hours per day?  
 M3  More than 4 hours per day?

**N At work do you use vibrating tools for**

- N1  Less than one hour per day or Never?  
 N2  Between 1 and 4 hours per day?  
 N3  More than 4 hours per day?

**P Do you have difficulty keeping up with this work?**

- P1  Never  
 P2  Sometimes  
 \*P3  Often

\* If Often, please give details in the box below

**Q In general, how do you find this job**

- Q1  Not at all stressful?  
 Q2  Mildly stressful?  
 \*Q3  Moderately stressful?  
 \*Q4  Very stressful?

\* If Moderately or Very, please give details in the box below

\* L

\* P

\* Q

### Back

**Back Posture (A) & Weight (H)**

	A1	A2	A3
H1	2	4	6
H2	4	6	8
H3	6	8	10
H4	8	10	12

Score 1

**Back Posture (A) & Duration (J)**

	A1	A2	A3
J1	2	4	6
J2	4	6	8
J3	6	8	10

Score 2

**Duration (J) & Weight (H)**

	J1	J2	J3
H1	2	4	6
H2	4	6	8
H3	6	8	10
H4	8	10	12

Score 3

Now do **ONLY** 4 if static  
**OR** 5 and 6 if manual handling

**Static Posture (B) & Duration (J)**

	B1	B2
J1	2	4
J2	4	6
J3	6	8

Score 4

**Frequency (B) & Weight (H)**

	B3	B4	B5
H1	2	4	6
H2	4	6	8
H3	6	8	10
H4	8	10	12

Score 5

**Frequency (B) & Duration (J)**

	B3	B4	B5
J1	2	4	6
J2	4	6	8
J3	6	8	10

Score 6

**Total score for Back**  
Sum of scores 1 to 4 **OR**  
Scores 1 to 3 plus 5 and 6 \_\_\_\_\_

### Shoulder/Arm

**Height (C) & Weight (H)**

	C1	C2	C3
H1	2	4	6
H2	4	6	8
H3	6	8	10
H4	8	10	12

Score 1

**Height (C) & Duration (J)**

	C1	C2	C3
J1	2	4	6
J2	4	6	8
J3	6	8	10

Score 2

**Duration (J) & Weight (H)**

	J1	J2	J3
H1	2	4	6
H2	4	6	8
H3	6	8	10
H4	8	10	12

Score 3

**Frequency (D) & Weight (H)**

	D1	D2	D3
H1	2	4	6
H2	4	6	8
H3	6	8	10
H4	8	10	12

Score 4

**Frequency (D) & Duration (J)**

	D1	D2	D3
J1	2	4	6
J2	4	6	8
J3	6	8	10

Score 5

**Total score for Shoulder/Arm**  
Sum of Scores 1 to 5 \_\_\_\_\_

### Wrist/Hand

**Repeated Motion (F) & Force (K)**

	F1	F2	F3
K1	2	4	6
K2	4	6	8
K3	6	8	10

Score 1

**Repeated Motion (F) & Duration (J)**

	F1	F2	F3
J1	2	4	6
J2	4	6	8
J3	6	8	10

Score 2

**Duration (J) & Force (K)**

	J1	J2	J3
K1	2	4	6
K2	4	6	8
K3	6	8	10

Score 3

**Wrist Posture (E) & Force (K)**

	E1	E2
K1	2	4
K2	4	6
K3	6	8

Score 4

**Wrist Posture (E) & Duration (J)**

	E1	E2
J1	2	4
J2	4	6
J3	6	8

Score 5

**Total score for Wrist/Hand**  
Sum of Scores 1 to 5 \_\_\_\_\_

### Neck

**Neck Posture (G) & Duration (J)**

	G1	G2	G3
J1	2	4	6
J2	4	6	8
J3	6	8	10

Score 1

**Visual Demand (L) & Duration (J)**

	L1	L2
J1	2	4
J2	4	6
J3	6	8

Score 2

**Total score for Neck**  
Sum of Scores 1 to 2 \_\_\_\_\_

### Driving

M1	M2	M3
1	4	9

**Total for Driving** \_\_\_\_\_

### Vibration

N1	N2	N3
1	4	9

**Total for Vibration** \_\_\_\_\_

### Work pace

P1	P2	P3
1	4	9

**Total for Work pace** \_\_\_\_\_

### Stress

Q1	Q2	Q3	Q4
1	4	9	16

**Total for Stress** \_\_\_\_\_

# Interpreting the scores

## Exposure scores for body areas

The total score for each body area is determined from the interactions between the exposure levels for the relevant risk factors (see table below), and their subsequent addition.

It is important to take note of which interactions contribute most to the overall score for each body area.

The exposure scores for the back, shoulder/arm, wrist/hand and neck have been categorised into 4 exposure categories: Low, Moderate, High or Very High. Even if the exposure score is Low, it is important to note that one or two interactions may be contributing disproportionately to the score (i.e. a score of 8 or more). For Moderate, High and Very High scores, there are likely to be several interactions that should be identified and reduced. It is also possible that one or two interactions are at the highest levels (i.e. 10 or 12) of exposure. These should be addressed urgently to reduce the level of exposure for these factors.

These interactions should be monitored and reviewed as injury to the body could occur if exposure continues.

Where scores are Moderate or High, or Very High, the level of exposure should be reduced.

## Important Risk Factors

Back	Wrist/hand	Neck	Shoulder/arm
• load weight	• force	• duration	• load weight
• duration	• duration	• posture	• duration
• frequency of movement	• frequency of movement	• visual demand	• task height
• posture	• posture		• frequency of movement

## Exposure Level

Score	Low	Moderate	High	Very High
<b>Back (static)</b>	8-15	16-22	23-29	29-40
<b>Back (moving)</b>	10-20	21-30	31-40	41-56
<b>Shoulder/ arm</b>	10-20	21-30	31-40	41-56
<b>Wrist/ hand</b>	10-20	21-30	31-40	41-46
<b>Neck</b>	4-6	8-10	12-14	16-18