

## Section 2: The Effort Criterion

### According to the *Equal Wages Guidelines, 1986*:

*Effort:*

5. *For the purposes of subsection 11(2) of the Act, intellectual and physical effort shall be considered in assessing the effort required in the performance of work.*
6. *For the purposes of section 5, intellectual and physical effort may be compared.*

### General Tips for Selecting Creating and Adapting Factors Relating to the Effort Criterion

Ensure that factors:

- fit (i.e., are appropriate to) the Effort criterion
- are able to differentiate jobs
- do not overlap with others
- are clearly written
- are not gender-biased
- reflect what is valued in the organization
- measure job content

**Effort:**

- refers to the demands placed on employees and the effects of the demands in terms of mental and physical energy required by the job
- should relate to physical or mental forces and effects
- usually includes variables such as: frequency, duration, exertion, strain, demand, control and predictability because these variables help in measuring the amount of effort required of employees

Inappropriate variables include importance and complexity. Intellectual effort is equated with concentration on analytical work.

## How to Recognize or Identify an Effort Factor

A job requirement that causes fatigue or is draining for employees, is usually considered an effort factor.

<b>Criterion 2: Effort</b>	
<b>Component A:</b>	<b>Component B:</b>
<b>Intellectual Effort</b>	<b>Physical Effort</b>
Sample Factors Concentration Versatility Creativity with Constraints	Sample Factors Physical Effort Physical Movement Working Position

## A Summary of the Effort Factors that Follow

### Component A: Intellectual Effort

#### 1. Concentration

This factor measures all forms of concentration — including visual, aural (concentrated listening), focused thinking. The variables for this factor are intensity and duration of the demands for concentration.

#### 2. Versatility

This factor measures the amount of versatility or flexibility jobs demand and the effort required to meet these demands. The two variables are the variety of roles that are required by a job and the other measures the timing or pattern associated with performing the roles, i.e., whether multiple roles must be performed at the same time or sequentially.

#### 3. Creativity With Constraints

This factor measures the mental demand required to create within constraints. All jobs require some degree of creativity. The two variables relating to this factor are the extent of problems or challenges requiring creativity and the degree of constraints which have to be considered.

### Component B: Physical Effort

#### 1. Physical Effort

This factor measures the physical effort required to perform the job. The variables relating to this factor are the degree of physical energy required and the frequency/duration of the demands.

#### 2. Physical Movement

This factor measures the physical effort caused by the degree of physical movement required in jobs. The variables for this factor are the degree of exertion involved in the movements or physical tasks required and the frequency of the requirements for physical exertion.

#### 3. Working Position

This factor measures the degree to which the physical position that employees must work in causes fatigue or difficulty. Physical working position is measured according to two variables — degree of discomfort or awkwardness of the working positions, and the duration involved.

## Concentration Notes For Evaluators

This factor relates to the Intellectual Effort component because concentration requires varying degrees of mental effort, depending on the duration and intensity of the concentration.

Many tasks can be mentally taxing. Often these tasks can go unnoticed or unappreciated because we take them for granted. As with other factors, employee attributes are not to be considered. For example, some people are more susceptible to headaches than others, and some people tire more easily in performing their work. In discussing concentration, consider visual (watching, reading), aural (listening) and thinking (problem solving, reviewing) effort.

### Variables

#### 1. Degree of Intensity

When measuring jobs according to this variable, it may be helpful to consider the image of “thinking hard”. Some jobs require very focused attention to tasks, while others require less-focused attention. Some jobs require employees to stay focused because they do not get second chances. For example, court clerks recording verbatim testimony must stay more focused than secretaries using a dictaphone to transcribe material. Unlike court clerks, secretaries can stop and start the dictaphone and replay passages if necessary. Equipment-operator and quality-control jobs may require focused attention on, for example, the flow of products, but their supervisory jobs do not generally require the same degree of focused attention.

Intensity also usually increases as the need to apprehend or understand something through the senses increases. Intensity might increase for a number of reasons — for example, the need for precision; the real-time nature of the task, i.e., if no second chances are possible; or the subtlety of the phenomena being observed. Intensity, therefore, can be thought of as the requirement to listen or think “harder” or focus more.

In assessing the degree of intensity, it may also be necessary to look at the environment — is concentration required in a noisy environment where one must listen or think in a more focused way and shut out other stimuli such as sights and sounds?

### Sample Definitions

- *Limited*: Allows for variety. Must pay attention, but can remain somewhat superficial. Tasks do not require deep thought, and tasks allow second chances if something is missed the first time

- *Moderate*: More focused attention. May require more co-ordination of thought processes. May be required to watch for potential events or occurrences and take quick action if they occur.
- *Extreme*: Very focused attention. Required to perform a number of tasks at the same time, hearing, analysing and recording or some other combination of tasks that all require thinking and attention. Employees in jobs at this level often do not get second chances if they miss something the first time.

## 2. Duration

The length of time spent on tasks influences the degree of variety possible. Variety can be less tiresome than monotony (unless there is too much variety). The issue of duration refers to the time spent concentrating on individual tasks. In discussing the concentration factor, all employees concentrate for their full working period, but for varying lengths of time on each task. An example of long duration on one task could be data entry for the whole morning. The issue of choice must be considered in this factor. If employees can choose the length of time to concentrate on a task, long duration cannot be considered a job requirement.

### Sample Definitions

- *Short*: Less than 1/2 hour
- *Medium*: 1/2 to 2 hours
- *Long*: More than 2 hours

Time frames should be defined according to the organization's circumstances.

## Concentration Factor

This factor measures the extent to which jobs demand concentration on the part of employees. Concentration is not related to the level of the job in the hierarchy. Consider all forms of concentration including visual, aural (concentrated listening), focused thinking. The variables relating to this factor are intensity and duration.

Degree of Intensity	Duration		
	Short	Intermediate	Long
Limited	Level 1	Level 2	Level 3
Moderate	Level 2	Level 3	Level 4
Extreme	Level 2	Level 4	Level 5

### Level One

- Job requires minimal concentration.
- Job requires concentration of *limited* intensity and usually for periods of *short* duration.

### Level Two

- Job requires some concentration.
- Job may require concentration of *moderate* intensity for periods of *short* duration, or job may require concentration of *limited* intensity for periods of *intermediate* duration.

### Level Three

- Job requires moderate concentration.
- Job may require concentration of *extreme* intensity for periods of *short* duration, or job may require concentration of *moderate* intensity for periods of *intermediate* duration, or job may require concentration of *limited* intensity for periods of *long* duration.

### Level Four

- Job requires high concentration.
- Job may require concentration of *moderate* intensity for periods of *long* duration, or job may require concentration of *extreme* intensity for periods of *intermediate* duration.

### Level Five

- Job requires very high concentration.
- Job requires concentration of *extreme* intensity for periods of *long* duration.

## Concentration Questions for Job Information

All jobs require concentration to varying degrees. Mental energy may be drained when above-average concentration is required. The following questions are designed to determine the type of concentration your job demands and the frequency and duration of concentration required. Please note: “duration” refers to the time spent concentrating on specific tasks. This does not relate to the entire day’s work. This factor assumes that all employees are concentrating for their full working time, but on a variety of tasks and with breaks.

1. The following is a **sample** list of tasks that may require concentration:

### Focused thinking concentration:

- writing/creating, e.g., reports, presentations, budgets
- assessing, e.g., client needs, patients’ problems/solutions, behavioural elements
- designing/developing, e.g., new programs, policies, procedures

### Visual concentration (watching):

- checking, e.g., format, drawings, numbers, grammar, instrumentation
- reading, e.g., specifications, reports, manuals, correspondence
- inputting, e.g., data such as test results or budget reports or text such as letters, reports
- detecting differences, e.g., detecting product defects, format

### Aural concentration (listening):

- for language, e.g., transcribing, inputting text from audio tapes, taking information over the phone
- for sounds, e.g., for detecting equipment problems, or presence of
- emotion, e.g., to note mood or state of mind of patients or children

- a) Please indicate the typical duration of these demands, e.g., usually for short periods (1/2 hour) or long periods (more than 2 hours) or somewhere in between (mixed or intermediate — more than 1/2 hour, less than 2 hours). This question considers only job requirements. If you are not required to concentrate for a particular length of time, then it is not likely that long duration would apply.

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b) Please indicate the length of time that your job requires focused concentration on particular tasks:

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c) Describe the typical intensity of the concentration requirements. For example, do you have to engage in deep concentration? Do you have to think or listen “hard” or not? Do you get second chances if you miss something the first time? Is there variety to the day or monotony? Do the tasks require precision or observing subtle differences and so on? Try to describe the circumstances of the requirements for concentration and what it is about the requirements that is draining.

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d) Please describe concentration tasks or items and the duration and intensity of the requirements:

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## Versatility Notes for Evaluators

This factor relates to the Intellectual Effort component because it requires varying degrees of mental energy or effort to be versatile or flexible. This factor looks at the different types of roles that employees are required to perform in order to do their jobs in terms of two variables: the variety and the timing of roles.

### Variables

#### 1. Variety of Functions

This variable measures the degree of similarity or difference between the tasks or roles that jobs demand be performed. Some jobs require employees to wear a number of so-called “hats”. In some organizations, the combination of roles required in one job can be very different, while other jobs may demand that employees carry out a variety of more closely related roles. For example, one job may require clerical, medical, housekeeping and psychological roles to be performed, while other jobs may require the use of different maintenance equipment.

#### Sample Definitions

- *Single Function*: This requires only one hat to be worn, e.g., performing the same work all day long; jobs are often highly specialized and have enough work in one area such as data input, duplicating, operating equipment, taking orders or performing a skilled trade
- *Slightly Different*: Different roles from the same family, e.g., all filing, or all equipment operation or all accounting
- *Moderately Different*: Different family of roles such as training and quality control analysis
- *Very Different*: Different disciplines, for example, nurses may perform numerous roles relating to very different disciplines: psychology/social work — comforting, counselling; clerical — paper work, file management; medical — diagnosis, medication dispensing; housekeeping — cleaning patients and beds; teaching — hygiene, wound care; and more

#### 2. Timing of Functions

This variable measures the extent to which a job requires tasks or roles to be done concurrently or carried out sequentially, i.e., one at a time. Some jobs require many things to be done at the same time. This requirement for concurrency — sometimes called “demand loading” — demands that employees perform numerous functions at the same time (e.g., counting and quality assurance, interviewing patient for medical history and counselling them

through their crisis). Other jobs demand that employees be responsible for performing numerous roles whenever required.

**Sample Definitions**

- *Sequential*: Tasks are usually performed one at a time
- *Mixed*: No particular pattern to the timing
- *Simultaneous*: Tasks must often be performed at the same time

### Versatility Factor

This factor measures the amount of versatility/flexibility jobs require and the resulting effort. One variable looks at the variety of roles that are required by a job and the other measures the timing and pattern associated with carrying out the delivery, i.e., if multiple roles are performed at the same time or sequentially.

Timing of Functions	Variety of Functions			
	Single Function	Slightly Moderate	Moderately Different	Very Different
Sequentially	Level 1	Level 2	Level 3	Level 4
Mixed	Level 1	Level 3	Level 4	Level 5
Simultaneously	Level 1	Level 4	Level 5	Level 6

#### Level One

- Job requires little to no versatility/flexibility.
- Job requires employees to perform a *single role*.

#### Level Two

- Job requires some versatility/flexibility.
- Job may require more than one *slightly different* role to be performed on a temporary basis or on a rotating basis. In both cases, the roles are usually performed *sequentially*.

#### Level Three

- Job requires a moderate degree of versatility/flexibility.
- Job may require *slightly different* roles performed with a *mixed pattern* of delivery demands, or *moderately different* roles usually performed *sequentially* on a rotating basis.

#### Level Four

- Job requires a high degree of versatility/flexibility.
- Job may require *slightly different* roles usually performed *simultaneously*, or *moderately different* roles performed according to a *mixed pattern* of delivery, or *very different* roles usually performed *sequentially*.

**Level Five**

- Job requires a significant degree of versatility/flexibility.
- Job may require *moderately different* roles usually performed *simultaneously*, or *very different* roles performed according to a *mixed* pattern of delivery.

**Level Six**

- Job requires a very significant degree of versatility/flexibility.
- Job requires *very different* roles performed *simultaneously*.

## Versatility Questions for Job Information

In some jobs, employees must be versatile. Employees may be required to wear a number of functional hats either all the time as an inherent part of the job, or on a rotational basis. The following questions are designed to determine the type and degree of versatility/flexibility required in your job and how the roles are usually performed - one at a time or at the same time. Some examples of more than one role being performed at a time: counting and quality assurance, recording medical history and consoling patient, serving passengers and doing safety checks.

1. a) Are you required to provide back-up for other jobs?  yes  no

b) If yes, list the jobs you fill in for, as well as the frequency and duration of the back-up:

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2. a) The following is a **sample** list of roles that your job might require you to carry out:

accounting for receivables

accounting for payables

advising

analyzing data

assembly

bathing

benefits administration

billing

bookkeeping

carpentry

cataloguing

cleaning

clerical

co-ordinating the work of others

co-ordinating meetings

collections

comforting

computer operations

consulting with others

consumer relations

cooking

co-ordinating travel

cost accounting

counselling

credit analysis

customer service

customs administration

data entry

delivery

designing art work

dispatching	pricing
editing	producing
equipment operation	production control
equipment set-up	purchasing/buying
estimating	quality assurance
expediting	receiving
facilitating	reception/switchboard
filing	refunds
health and safety	researching
information gathering	reservations
information systems	sales
inspecting	scheduling
inventory control	search and rescue
investigating	secretarial
loading/unloading	security
locating lost items	serving
machine maintenance	shipping
material handling	storing
mediating	surveying
monitoring	teaching
navigating	testifying
negotiating	ticketing
order processing	training
payroll	transporting
planning	weighing
welding	

This list is given as examples. Please check all the functions required in your job. Check as many as appropriate, and add any that are not listed.

b) If you indicated multiple roles, are you required to perform those roles:

- one at a time (sequentially)
- at the same time (simultaneously, e.g., count and check quality at the same time)
- some of each/no pattern

Please describe:

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c) Do the roles change:

- according to a predictable routine
- without warning
- some of each

Please describe the circumstances for role changes:

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3. a) Are you required to operate more than one piece of equipment?  yes  no

b) If yes, please list them:

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c) Are you required to operate more than one piece of equipment:

- one at a time (sequentially)
- at the same time (simultaneously, e.g., telephone and word processor)
- some of each/no pattern

Please describe the circumstances of multiple equipment operation:

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## Creativity with Constraints Notes for Evaluators

This factor relates to the Intellectual Effort component. All jobs have some demand for creativity, but the degree of constraints and the degree of the creativity required will vary between jobs. This factor is considered an Effort factor, because it is measuring the mental drain of the creativity demands, not the ability required or the impact of the results.

This factor should consider constraints of all types including pre-existing structures/walls/spaces, laws, departmental or organizational policies, resources, staff hours, equipment sophistication, product pricing limits (the limits of the consumer), organizational politics, hierarchical relationships, imbalance of power or authority in relation to the tasks required.

This factor considers an aspect of the job that an employee may not encounter daily or even regularly. It should, however, be considered if it is definitely part of the job requirements. This factor does not measure frequency. It does not measure individual capability; as with all other factors, it is only capturing job requirements.

Solutions to problems may be quite apparent if one could eliminate the constraints. However, there is a drain of mental energy because of the greater effort required to be creative within the constraints. For example, solutions to many legal problems may be obvious if one had the luxury to start from scratch. It is, however, the challenge of solving problems within existing frameworks that requires higher creativity.

### Variables

#### 1. Degree of Constraints

This variable measures the limitations placed upon a job that impede creative thought and subsequent action. Limitations, therefore, act to make creativity more difficult and energy-consuming. Evaluators should focus on the nature of these constraints to understand their limiting effects.

#### Sample Definitions

- *Minimal*: Usually inconveniences that hamper but do not usually prevent creativity
- *Moderate*: Usually organizational issues such as resource shortages or timing problems that are more likely to cause delays than permanent blocks
- *Extensive*: Usually significant barriers that prevent easy solutions and require high creativity to find alternatives because barriers will not change

## 2. Extent of Problems/Challenges

This variable measures the extent or dimensions of problems and challenges that must be dealt with. The need for novel approaches or ingenuity in dealing with them is usually linked to the nature of the problems and challenges themselves.

### Sample Definitions

- *Minimal*: Small problems, challenges that may require minor adjustment of situation or a change of perspective
- *Moderate*: Big problems that require specific solutions that are not readily available
- *Extreme*: Fundamental problems that require very big changes

### Creativity with Constraints Factor

This factor measures the mental demand required to create within constraints. All jobs require some degree of creativity. The two variables relating to this factor are the extent of problems or challenges requiring creativity and the degree of constraint which has to be considered.

Extent of Problems or Challenges	Degree of Constraint		
	Short	Intermediate	Long
	Minimal	Moderate	Extensive
Minor	Level 1	Level 2	Level 3
Moderate	Level 2	Level 3	Level 4
Major	Level 2	Level 4	Level 5

#### Level One

- Job requires minimal creativity.
- Job presents *minor* problems or challenges and has *minimal constraints* to restrict solutions.

#### Level Two

- Job requires some creativity.
- Job may present *moderate* problems or challenges and have *minimal constraints* to work within, or *minor* problems or challenges with *moderate constraints* to observe and work within.

#### Level Three

- Job requires moderate creativity.
- Job may present *major* problems or challenges with *minimal constraints*, or *moderate* problems or challenges with *moderate constraints*, or *minor* problems or challenges with *extensive constraints* to observe and work within.

#### Level Four

- Job requires significant creativity.
- Job may present *major* problems or challenges with *moderate constraints*, or *moderate* problems or challenges with *extensive constraints* to observe and work within.

#### Level Five

- Job requires very significant creativity.
- Job presents *major* problems or challenges and has *extensive constraints* to observe and work within.

## **Creativity with Constraints Questions for Job Information**

This factor measures the job requirements for creativity from the perspective of the mental demand on employees. This factor assumes that all employees work hard in their jobs and does not measure the individual effort or the performance of one's duties, but rather the design of work and the circumstances constraining or restricting originality in any way.

1. The following are **sample** statements regarding creativity:
  - Job requires designing additions to pre-existing buildings to accommodate expansions and working within the constraints of the land space, pre-existing building characteristics including plumbing, heating and ventilation problems, and the look of the pre-existing building. There are building code restrictions and client needs which may clash and various other constraints such as budget, product availability, weather conditions and labour availability.
  - Job entails performing research and control studies in search of cures for various diseases. Numerous constraints exist, including environmental considerations, funding, subject availability, risks to subjects which must always be kept to a minimum, and time pressures.
  - Job requires arranging meetings between numerous people from a variety of locations, with numerous constraints or challenges. The following are the usual challenges: conflicting schedules, a variety of travel, dietary and accommodation requirements.
  - Job involves mediating disputes between parties where settlements must comply with legal requirements, satisfy the various stakeholders and be accomplished within tight time constraints
  - Job requires convincing children to alter their behaviour — , e.g., hitting other children or breaking things — while staying within legal and contractual constraints; not impinging on parental rights to raise children according to their standards of care, e.g., children may not be properly fed or get enough sleep or have a routine.

Please describe the nature of the problems or challenges that are presented in your job, the creativity requirements to solve those challenges and the constraints that may inhibit or block solutions:

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## Physical Effort Notes For Evaluators

When considering this factor, a number of issues should be kept in mind. The term itself conjures up images of sweating bodies and flexing of muscle to fulfil the job requirements. This image is often reinforced by the assumption that heavy lifting is always involved in physically demanding jobs. We generally associate this factor with male jobs because of this image.

The frequency or duration of physical demands can often be as important in defining the level of physical effort demanded as the weight to be lifted or the degree of exertion required each time an employee carries out a task. For example, lifting a two-pound item is not particularly demanding, but lifting two-pound items continuously all day would be.

Sitting for long periods is another example of the level of demand the task being secondary to duration. Jobs that require employees to remain in their seats all day except for breaks are physically draining in a way that is often overlooked because the body needs variety of movement. A helpful analogy would be a very long plane ride where passengers are physically drained because of the restricted movement.

### Variables

This factor looks at two variables: the frequency or duration of a task, and the level of demand. It ignores the individual's level of physical fitness. All employees are assumed to be physically fit enough to perform the job duties. As appropriate, use either the frequency or duration scales.

### 1. Frequency/Duration

- a) **Frequency:** Refers to how often or the proportion of time that physical exertion is required.

#### Sample Definitions

- *Occasionally:* Less than 30% of the year (30% = approx. 2 hours/day, 10 1/2 hours/week, 4 months/year)
- *Frequently:* Between 31% and 50% of the year (50% = approx. 3.5 hours/day, 18 hours/week, 6 months/year)
- *Continuously:* More than 50% of the year

b) **Duration:** Refers to the length of time that physical exertion is required.

#### Sample Definitions

- *Short:* Less than 1/2 hour
- *Medium:* 1/2 to 2 hours
- *Long:* More than 2 hours

Use either exertion or position scale or both.

## 2. Degree of Exertion/Type of Position

a) **Degree of exertion:** Refers to the extent of physical effort required in the job, however that effort is applied. Applications include lifting and moving objects or people.

#### Sample Definitions

- *Slight:* Minimal weight that does not require any muscle strain or lifting moving objects/beings
- *Moderate:* Average weight requiring some muscle strain or moving big/awkward objects/beings
- *Significant:* High weight requiring extreme muscle strain or moving very big/difficult objects/beings

b) **Type of position:** Refers to both the effort required to maintain or achieve a position or posture, and to carry out physical motions.

#### Sample Definitions

- *Slightly Uncomfortable:* Not necessarily noticeable but not perfect position
- *Awkward:* Noticeable but required to perform tasks; includes bending/moving unusually
- *Very Uncomfortable:* Very bothersome, maybe even painful but necessary to perform tasks; includes bodily contortions or twisting uncomfortably

Note: Where both exertion and position are being measured, the more demanding is used in establishing an evaluation of the job.

## Physical Effort Factor

This factor measures the physical effort required to perform the job. The variables associated with it are the degree of physical energy required and the frequency and duration of the physical demands. This factor considers any and all causes and forces that contribute to physical fatigue. However, it ignores physical fitness. It measures only the relative levels of physical effort different jobs require.

Frequency/ Duration	Degree of Exertion/Type of Position		
	Slight/Slightly Uncomfortable	Moderate/ Awkward	Significant/ Very Uncomfortable
Minor	Level 1	Level 2	Level 3
Moderate	Level 2	Level 3	Level 4
Major	Level 3	Level 4	Level 5

### Level One

- Job requires little to no physical effort.
- Job may *occasionally* require *slight* physical exertion, or for employees to remain for periods of *short* duration in a *slightly* uncomfortable position.

### Level Two

- Job requires some physical effort.
- Job may *occasionally* require *slight* physical exertion or work for periods of *moderate* duration in a *slightly uncomfortable* position, or *occasionally* require physical tasks which demand a *moderate* level of physical energy for periods of *short* duration working in an *awkward* position.

### Level Three

- Job requires moderate physical effort.
- Job may *continuously* require *slight* physical exertion or work for periods of *long* duration in a *slightly uncomfortable* position, or *frequently* require *moderate* physical tasks or work for periods of *moderate* duration in an *awkward* position, or *occasionally* require *significant* physical exertion or work for periods of *short* duration in a *very uncomfortable* position.



**Level Four**

- Job requires significant physical effort.
- Job may *continuously* require *moderate* physical exertion or work for periods of *long* duration in an *awkward* position or *frequently* require *significant* physical exertion or work for periods of *moderate* duration in a *very uncomfortable* position.

**Level Five**

- Job requires very significant physical effort.
- Job *continuously* requires *significant* physical exertion or work for periods of *long* duration in a *very uncomfortable* position.

## Physical Effort Questions for Job Information

All jobs require some kind of physical effort. Jobs may involve any number of different tasks that entail physical effort. Examples include: lifting boxes, children, equipment, or patients; pushing such things as beds, equipment, strollers, material carts, vacuum cleaners or dish trolleys; walking up and down corridors; climbing up and down ladders; or carrying chemical drums, food trays or squirming children. Other physical requirements include stretching to either clean walls or windows, or paint ceilings. Some jobs might also require bending, stooping or crouching for tasks such as bathing people, fixing equipment or filing documents. Note that some jobs involve working without being able to move around or change positions to any great extent. Such jobs can be fatiguing simply because of the lack of opportunity to move. Examples include jobs that require sitting at a computer terminal all day, in a car or on a horse, standing at a ticket wicket all day or operating a piece of equipment without being able to take breaks or change activity when desired. The following questions are designed to determine the kinds of demands in your job which draw on physical energy.

1. Indicate which of the following physical movements are required in your job:

	Frequently	Continuously
lifting/carrying	<input type="checkbox"/>	<input type="checkbox"/>
pulling/pushing	<input type="checkbox"/>	<input type="checkbox"/>
sitting	<input type="checkbox"/>	<input type="checkbox"/>
standing	<input type="checkbox"/>	<input type="checkbox"/>
walking/patrolling	<input type="checkbox"/>	<input type="checkbox"/>
climbing ladders or stairs	<input type="checkbox"/>	<input type="checkbox"/>
bending/stooping/ crouching	<input type="checkbox"/>	<input type="checkbox"/>
stretching	<input type="checkbox"/>	<input type="checkbox"/>
riding — a horse or bicycle	<input type="checkbox"/>	<input type="checkbox"/>

Please describe the circumstances:

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2. If you are required to: lift/carry, push/pull objects, how heavy are they, and how often are you required to do so?

	Never/Rarely	Occasionally	Frequently
less than 2 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 to 5 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 to 15 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15 to 25 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
more than 25 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please describe the requirements. List items that you lift, describing their size and shape, and any particular characteristics (e.g., breakable, squirmy). Describe any tools or devices that are used to help lift, carry, lever, pull or push items:

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3. Please indicate which of the following describes your working position:

	Occasionally	Frequently	Continuously
Comfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Awkward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very uncomfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please describe the circumstances of the working positions indicated:

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4. a) Are you restricted in movement, e.g., are you required to sit or stand for long periods?

yes  no

b) If yes, describe the circumstances:

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5. a) Does your job involve repetitive movements, e.g., typing?  yes  no

b) If yes, describe:

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6. Please describe any other job requirements that demand physical effort:

## Physical Movement Notes for Evaluators

This factor relates to Physical Effort. It measures the extent to which the tasks required in jobs involve physical movement and, therefore, physical effort. In applying this factor, do not consider physical strength or fitness. This factor considers only the varying degrees of physical movement a job requires. The committee should discuss the varying types of physical movements discussed in the questionnaire to ensure everyone has the same perception of the movements and the exertion required. For example, lifting a heavy box compared to climbing ladders or crouching to file documents. Assume all of these movements require physical effort; the question becomes which ones require a high degree of exertion and why, and which ones require a low degree and why.

When considering exertion, do not assume that sweat is the only sign of exertion. Many physical movements are done slowly but are quite taxing — even though the employee is not likely to sweat doing them. Sweating is also a personal response — some may and some may not sweat in the same circumstances; the committee must, therefore, focus on the requirements associated with the job, not on the varying responses of individual employees to exertion.

### Variables

#### 1. Frequency

For description of this variable, see “Physical Effort” factor.

#### Sample Definitions

- *Occasionally*: Less than 30% of the year (30% = approx. 2 hours/day, 10 1/2 hours/week, 4 months/year)
- *Frequently*: Between 31% and 50% of the year (50% = approx. 3.5 hours/day, 18 hours/week, 6 months/year)
- *Continuously*: More than 50% of the year

#### 2. Degree of Exertion

This variable measures the extent to which both physical effort and movement of the body are required by the job. The full range of movement is considered in understanding effort and consequent fatigue. Moving other objects and people, as well as strain from repetitive movement must be identified. Weight, size and speed of movement are also considerations.

### Sample Definitions

- *Slight Lifting*: Minimal weight that does not require any muscle strain, or moving children, small animals or objects.
- *Moderate*: Average weight requiring muscle strain or moving big/awkward objects, people or animals.
- *Significant*: Lifting heavy weights requiring extreme muscle strain or moving very big/difficult objects, people or animals.

## Physical Movement Factor

This factor measures physical effort caused by the physical movement required in jobs. The variables are the degree of exertion required for the movements or physical tasks and the frequency of the requirement for physical exertion. This factor ignores physical fitness. It measures the relative levels of physical effort required in different jobs.

Frequency	Degree of Exertion		
	Slight	Moderate	Significant
Occasionally	Level 1	Level 2	Level 3
Frequently	Level 2	Level 3	Level 4
Continuously	Level 3	Level 4	Level 5

### Level One

- Job causes minimal fatigue due to physical movement requirements.
- Job may *occasionally* require *slight* exertion from employees, but this is a healthy amount of movement.

### Level Two

- Job causes some fatigue due to physical movement requirements.
- Job may *frequently* require *slight* exertion from employees, **or** *occasionally* require *moderate* exertion from employees.

### Level Three

- Job requires moderate physical effort.
- Job may *continuously* require *slight* exertion from employees, **or** *occasionally* require *moderate* exertion from employees, **or** *occasionally* require *significant* exertion from employees.

### Level Four

- Job requires significant physical effort.
- Job may *continuously* require *moderate* exertion from employees, **or** *frequently* require *significant* exertion from employees.

### Level Five

- Job requires very significant physical effort.
- Job *continuously* requires *significant* exertion from employees.

## Physical Movement Questions for Job Information

All jobs require some kind of physical movement. For example, jobs may require physical movement such as lifting boxes, children, equipment, or patients; pushing such things as beds, strollers, vacuum cleaners or dish trolleys; walking up and down corridors; climbing up and down ladders; or carrying food trays or squirming children. Other physical requirements include stretching to clean walls or windows or to paint ceilings. Some jobs might also require bending, stooping or crouching for tasks such as bathing people, fixing equipment or filing documents. The following questions are designed to determine the kinds of demands in your job which require physical movement.

1. Indicate which of the following physical movements are required in your job:

	Occasionally	Frequently	Continuously
lifting/carrying	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pulling/pushing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
walking/patrolling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
climbing — ladders or stairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bending/stooping/crouching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
stretching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
riding — a horse or bicycle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please describe the circumstances:

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2. If you are required to: lift/carry, push/pull objects, how heavy are they, and how often are you required to do so?

	Never/Rarely	Occasionally	Frequently
less than 2 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 to 5 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 to 15 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15 to 25 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
more than 25 kgs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please describe the requirements. List items, describing their size and shape, and any particular characteristics (e.g., breakable, squirmy) and describe any work aids that are used to help lift, carry, lever, pull or push items:

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3. a) Does your job involve repetitive movements, e.g., typing?  yes  no

b) If yes, describe:

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c) Are fast movements required?  Never/Rarely  Sometimes  Usually  Always

d) If you are ever required to perform fast movements, in what circumstances?

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4. Please describe any other job requirements that involve physical effort:

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## Working Position Notes for Evaluators

This factor relates to Physical Effort, but it focuses more on the lack of exertion or regular movement — both of which help keep the body physically comfortable. The committee should discuss different positions and their effects and try to determine the kinds of positions that are very uncomfortable (in a relative sense) and why, and those that are comfortable (in a relative sense) and why.

### Variables

#### 1. Degree of Discomfort or Awkwardness

This variable measures the degree to which the body is placed in positions that do not match its normal curves and bends, i.e., that are uncomfortable or awkward.

#### Sample Definitions

- *Slightly Uncomfortable*: Positions that are natural for the body, including sitting, standing, or
- *Moderately Uncomfortable*: May require flexing muscles or pushing the body to extend itself
- *Very Uncomfortable*: Positions requiring twisting or stretching the body in an unnatural manner, often requiring resisting gravity or the natural flow of the body

#### 2. Duration

Time spent in a position is a good variable to measure the effects on the body. Some positions can be easily managed for a short period; in fact, some positions are quite comfortable unless they are maintained for too long. It is the issue of everything in moderation. Even sitting for too long can be fatiguing.

#### Sample Definitions

- *Short*: Less than 1/2 hour
- *Medium*: 1/2 to 2 hours
- *Long*: More than 2 hours



## Working Position Factor

This factor relates to Physical Effort. It measures the degree to which the physical position that employees must work in causes fatigue or difficulty. This factor, like all others, measures job characteristics and ignores personal employee attributes. Physical position is measured according to two variables — awkwardness or discomfort of the working positions and the duration involved.

Degree of Comfort or Awkardness	Duration		
	Short	Moderate	Long
Slightly Uncomfortable	Level 1	Level 2	Level 3
Moderately Uncomfortable	Level 2	Level 3	Level 4
Very Uncomfortable	Level 3	Level 4	Level 5

### Level One

- Job’s working position causes minimal physical fatigue.
- Job may require employees to remain in a *slightly uncomfortable* position for periods of *short* duration.

### Level Two

- Job’s working position causes some degree of physical fatigue.
- Job may require employees to remain working in a *moderately uncomfortable* position for periods of *short* duration, or to remain working in a *slightly uncomfortable* position for periods of *moderate* duration.

### Level Three

- Job’s working position causes a moderate degree of physical fatigue.
- Job may require employees to work in a *very uncomfortable* position for periods of *short* duration, or to work in a *moderately uncomfortable* position for periods of *moderate* duration or to work in a *slightly uncomfortable* position for periods of *long* duration.

**Level Four**

- Job's working position causes a significant degree of physical fatigue.
- Job may require employees to work in a *very uncomfortable* position for periods of *moderate* duration, **or** to work in a *moderately uncomfortable* position for periods of *long* duration.

**Level Five**

- Job's working position causes a very significant degree of physical fatigue.
- Job requires employees to work in a *very uncomfortable* position for periods of *long* duration.

## Working Position Questions for Job Information

All jobs have working positions; some are less fatiguing than others. Physical fatigue might be caused by the job's working position such as sitting at a computer terminal all day without the opportunity to get up as desired, sitting in a car or on a horse; standing at a ticket wicket all day or operating a piece of equipment. The following questions are designed to determine the kinds of positions required in your job which cause fatigue.

1. Indicate which of the following working positions are required in your job:

	Occasionally	Frequently	Continuously
sitting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
standing (regular)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
standing (outstretched)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
kneeling (knees on floor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
lying down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
squatting (knees close but not on floor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
bent over	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please describe the circumstances:

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2. Please indicate which of the following describes your working position:

	Occasionally	Frequently	Continuously
Comfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Awkward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very uncomfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please describe how or why the position(s) is uncomfortable and the circumstances of the working positions indicated:

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3. a) Are you restricted in movement, e.g., required to sit or stand for long periods?

yes  no

b) If yes, describe the circumstances:

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