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PHYSICAL DEMANDS DESCRIPTION HANDBOOK

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W W W . O H C O W . O N . C A





Ohcow.on.ca PDD toolkit COVID-19 RESOURCES About Services Reversals Occupational Health Clinics for Ontario Workers Inc.

NEWS & EVENTS - APPS, TOOLS & CALCULATORS - VIEW ALL RESOURCES -

PREVENTION THROUGH INTERVENTION

Dedicated to the Identification and Prevention of Work-Related Injuries and Illnesses

Quick Links

OH-PODS OHCOW PODCASTS

ANNUAL REPORT

Covid-19



Events Calendar



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SEARCH

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Physical Demands Description (PDD) Toolkit*

BLOG POST

A Handbook and Template for Completing Physical Demands Descriptions A document that objectively captures and describes the physical demands that are required to perform a particular job.



Physical Demands Description (PDD) Toolkit

PAGE

/ho Uses PDD Information A PDD can...

scroll down



PDD Handbook

The PDD Handbook offers all the background information presented above along with the printed versions of the required forms for completing a PDD.



Physical Demands Description Handbook

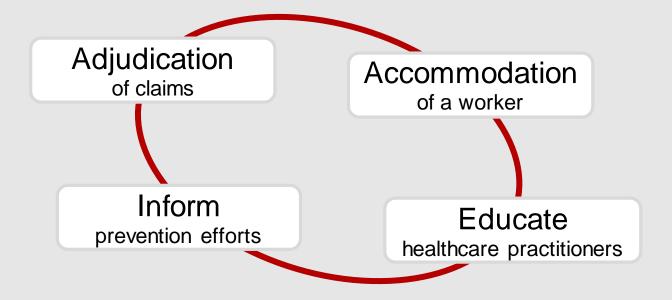
PDD Tool

The Excel-based $\mbox{{\bf PDD Tool}}$ is meant to accompany the Handbook as it provides dynamic forms for completing PDDs.

DOWNLOAD THE TOOL

What is a PDD

A Physical Demands Description is simply a detailed, objective description of the physical aspects of a particular job.



What is a PDD

A Physical Demands Description is simply a detailed, objective description of the physical aspects of a particular job.

How PDD Information is Used

Adjudication of Claims – PDDs can be used by insurance providers (particularly the WSIB in Ontario) to assist in the determination or work-relatedness or cause of injury in the adjudication of claims. There are limitations to the use of information for this purpose.

Accommodation of a Worker – PDDs can be used as a reference to provide employers with specific information about jobs to quickly and effectively accommodate workers in jobs that are within prescribed physical restrictions by a healthcare practitioner. This should not be mistaken for simply matching restrictions and PDDs. A PDD does not eliminate the possibility of accommodating a restriction through modifications to the current process.

Educate Treating Healthcare Practitioners – PDDs can provide treating healthcare practitioners with an accurate understanding of the tasks their patients are required to perform in their occupations. This can help in creating an effective treatment plan that considers the potential impact of work and may help them return to work more quickly, but also safely.

Inform Prevention Efforts – PDDs can be used to guide further investigation into potential hazards or risk of injury. Workplaces can use the PDD observation and data collection process to flag potential hazardous tasks that require analysis or further investigation. It may result in ergonomic improvements such as process modifications or design changes that prevent future injuries.

Cautioned Uses of PDD Information

Job Matching to Restrictions – Using PDDs as the sole source of information for matching workers with restrictions to potential jobs is very problematic. There may be ways that a job or specific tasks could be modified in order to accommodate a worker with an impairment that are not captured in a PDD. It should be used as only one source of information in a larger process.

Risk Assessment – PDDs themselves are not an assessment or measure of risk. They can inform where further investigation is needed, but should not be used as a determination of risk.

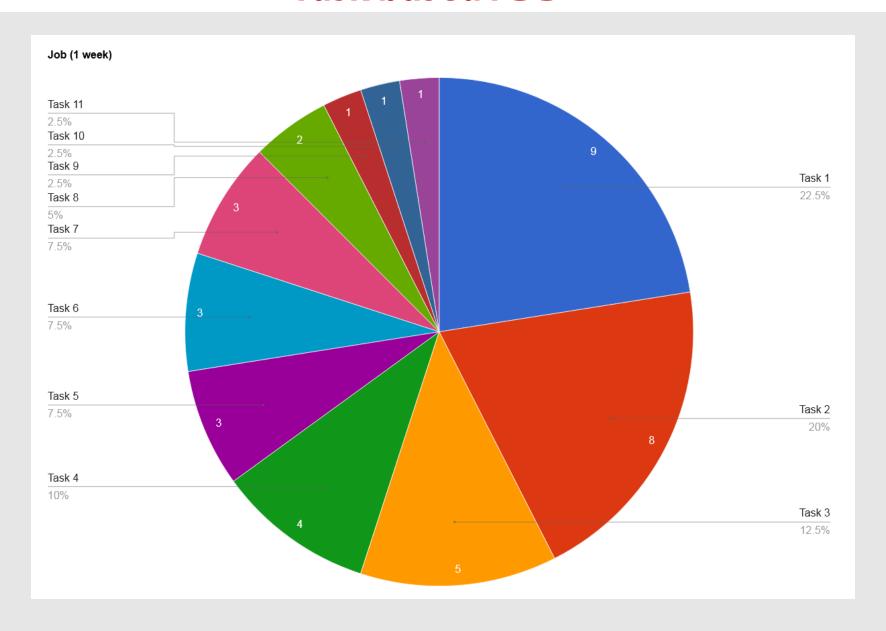
Body Postures – PDDs cannot be used to identify specific body postures for a task. Every worker is different and therefore it is impossible to document a common posture such as angle of back flexion or shoulder abduction. Stature, arm length, etc. can all have an impact on a worker's posture.

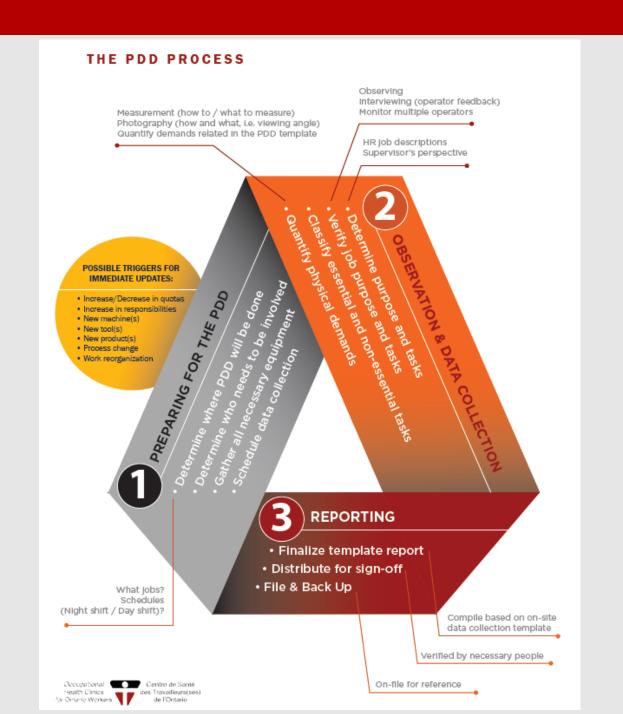


Is there any potential advantage to our PDD template?

- More detailed, quantitative documentation
- Direct inputs into risk assessment tools
- Consistent documentation for all tasks
- Doesn't encourage the use of posture descriptors

Task based PDD





Determine where PDDs are required

List all Jobs	Existing PDD	Date completed	Up-to -date	Needs PDD	Comments	Date of new PDD
Reception				√		
Inspector	✓	Jul 2004		√		
Welder	✓	Jul 2004	✓			
Machinist	✓	May 2008	✓			
Team Leader				✓		
Salesperson				√	Outside sales	
Accountant				✓		
Forklift Driver	√	May 2008	√		Route change	
Assembler 'c'				√		
Mechanic				√		
Painter	√	Aug 2014	√			

Determine who needs to be involved

COMMON PEOPLE INVOLVED

- Workers Performing the Job
- Supervisors
- Managers
- ▶ HR

- Union
- ▶ JHSC
 - Maintenance

Determine who collects the data

Outside Consultant

- Check credentials and experience

Inside Staff

 With the <u>right training</u>, staff within your workplace could create quality PDDs



Applied Ergonomics

Volume 54, May 2016, Pages 33-40



Evaluating the ability of novices to identify and quantify physical demand elements following an introductory education session: A pilot study

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- ^a School of Kinesiology and Health Studies, Queen's University, Canada
- ^b Occupational Health Clinics for Ontario Workers Inc., Ontario,
- ^c Department of Kinesiology, Faculty of Applied Health Sciences Waterloo, Kingston, Ontario, Canada

Highlights

- Students attended a 3-h introductory workshop on physical demands description.
- Participants were asked to identify and quantify physical demands in three case examples.
- Participants identified 80% of the physically demanding elements.
- Participants quantified key measures with more the 10% error from the criterion.
- Novices' have some limitations in their ability to accurately conduct PDDs.

Gather all necessary equipment

Outside Consultant

They will have their own

Inside Staff

May be possible to rent some equipment



Tape Measure ➤ Measure all heights, reaches and distances associated with tasks.



Camera

▶ Take pictures of each task as well as tools and working environment



Video Camera ▶ Record the overall job for task identification. frequency, etc



Force Gauge

Measure push, pull forces



Note Pad

▶ Take additional notes or observations



Scale

Weigh parts, tools and other objects



Stop Watch ▶ Time task or cycle length



Clip Board

Hold paper or data collection sheets



Pen/Pencil

Record measurements and notes



- **Other Tools:** Dynamometer to estimate grip force
 - Pinch Force Gauge to estimate pinch force

Force Gauge





Schedule data collection dates

CONSIDERATIONS

- Are necessary people available?
- When is the highest workload?
- When is the lowest workload?
- Is there a difference in workload between days/shifts?
- Are there variations in staffing levels?
- Will all tasks be performed during observation and data collection?

OBSERVATION & DATA COLLECTION

Determine job purpose & the tasks

Human Resource's job description or other documents

Verify job purpose & the tasks

Verify through direct observation AND discussion with worker & supervisor

Quantify physical demands of each verified task

- Measure & document all physical aspects of each verified task...
- Force of push Weight carried
 Distance of walk Frequency of tr
- Frequency of transfer
- Duration of task... Reach distance to tool

Classify essential & non-essential tasks *

An important step

ESSENTIAL

Tasks or duties that are deemed to be very important, necessary or vital to the job or service. Other synonyms include: critical, fundamental, integral, crucial, indispensable or imperative.

NON-ESSENTIAL

Tasks or duties that are not an integral part of the job or service; they may be shared by other workers within the organization. Other synonyms include: peripheral, accessory, incidental, or supplementary.

There is little guidance on how to distinguish between essential duties and others. In one Tribunal decision, the word "essential" was defined as follows:

"Essential" means that which is "needed to make a thing what it is; very important; necessary" -Synonyms are "indispensable, requisite, vital." Thus, peripheral or incidental, non-core or non-essential aspects of a job are not pertinent to a determination under [s. 17(1)].[36]

OHRC website

Job	Essential Function	Non-Essential Function
Cafeteria Worker	Serve customers	Unload supply truck
Auto Mechanic	Fix cars	Speak with customers
Receptionist	Answer incoming calls	Hand deliver phone messages
Airline Pilot	Land plane	Greet passengers
Teacher	Teach students	Play sports with students
Bus Driver	Drive bus	Clean trash from bus
Assembler	Assemble product	Sweep area

Task (essential)

Elements

- 1. 4.
- 2. 5.
- 3. 6.

Job

Task (essential)

Elements

- 1. 4.
- 2. 5.
- 3. 6.

Elements 1.

4.

Task (essential)

- 2. 5.
 - 3. 6.

Task (non-essential)

Elements

- 1. 3.
- 2. 4.

Task (non-essential)

Elements

- 1. 3.
- 2. 4.



- Force gauge or scale
- Multiple measures should be average
- Also report maximum



- Multiple measures should be average
- Smooth push/pull movements
- Report avg. & max force



Frequency



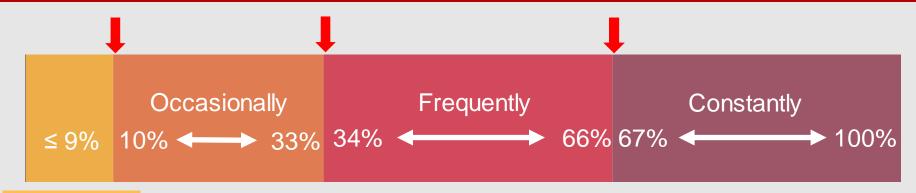
Duration

- Count how many times task is completed
- Rate per min, hour, or shift
- Taking video is useful here
- Duration to complete a single task
- Use an average if it varies between task
- Taking video is useful here



Distance

- Height typically measured from the floor
- Reach measured from a physical barrier
- Start to end point of walk, carry, crawl, etc.



Minimally

N O F C	Not required Minimal Occasional Frequent Constant	= :	ADING Activity 0-10% o 10-33% 34-66% 67-100%	of work of work of wo of wo of wo	t perfo k day rk day rk day ork da	y		
	FUNCTION	a spre	PH	YSIC	AL D	EMAN	IDS	COMMENTS
			N	M	0	F	С	l sai
Mob	ility	12 2 th 1	31,150	anti-	10.50	200	10 - E	Michael State State
Sittir				×				On most floors, will spend most of standing/walking - occasionally sit

I have also obtained a physical demands analysis (PDA) for your job from your employer. According to the PDA, you are required to lift above shoulder minimally at most, lift from waist to shoulder occasionally at most, and reach above shoulder minimally. Based on the PDA as well as your own description of your job, I am unable to establish significant overhead or repetitive shoulder activities compatible with a right shoulder injury.



Distance - A tape measure will be used to collect the distances for heights, reaches and distances.

Height – Must be measured as an absolute value. This is most typically measured from the floor height. Depending on the work environment, there may be other structures that height could be measured from such as platforms, staircases, etc.

Reach – Must be measured based on the work environment, not the individual. All reach distances must be measured from a physical barrier such as a table or railing.

Distance - Measured from start point to end point. This could be for walking, carrying, crawling, etc.

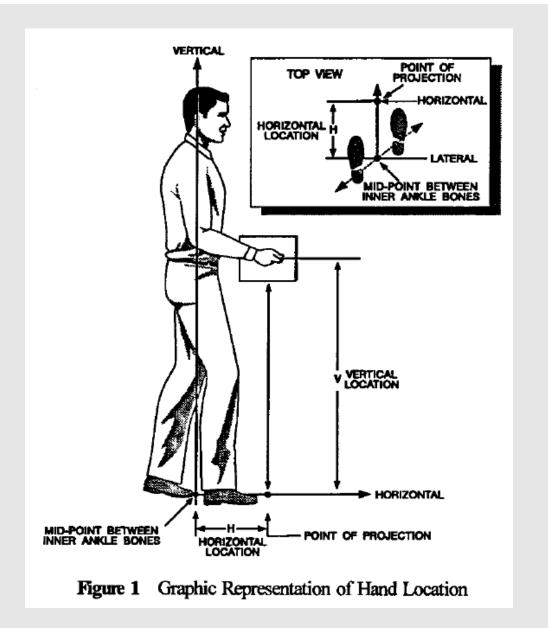
APPLICATIONS MANUAL FOR THE REVISED NIOSH LIFTING EQUATION

Thomas R. Waters, Ph.D. Vern Putz-Anderson, Ph.D. Arun Garg, Ph.D.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES Public Health Service

Centers for Disease Control and Prevention National Institute for Occupational Safety and Health Division of Biomedical and Behavioral Science Cincinnati, Ohio 45226

January 1994



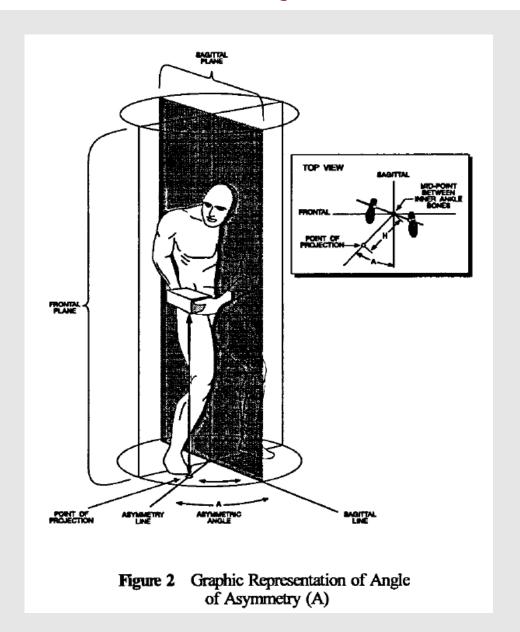
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January 1994



Environmental Factors to Document

There are many factors that can affect the physical demands of a task. It may be important to identify and document these types of factors in the PDD. Be sure to provide an appropriate amount of detail in order to understand why the environmental factor is important to the performance of the task.

Examples:



GOOD PHOTO VS. BAD PHOTO

90 DEGREES TO WORKER ✓ 90 Degree View of Worker X 90 Degree View of Worker ✓ Task Clearly Visible X Task Clearly Visible **CLEARLY VISIBLE WORKER** ✓ 90 Degree View of Worker ✓ Task Clearly Visible X Task Clearly Visible ✓ Minimal Background X Minimal Background MINIMIZE UNECESSARY BACKGROUND ✓ 90 Degree View of Worker X 90 Degree View of Worker ✓ Task Clearly Visible ✓ Minimal Background X Minimal Background

DOCUMENTING TOOLS USED BY WORKER



Identify brand & model

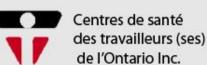


Measure the weight



Take a photo





APPENDIX: PDD TEMPLATE PHYSICAL DEMANDS DESCRIPTION | Job Title: _ Date: Date Completed by: Name of Observer Department: Department Name Verified by: Worker Representative e.g., 8:00AM - 5:00PM Work Hours: Management Representative Schedule: e.g., Monday - Friday PPE: Shift: e.g., 'Nights', 'A' Personal Protective Equipment used Description of the Job: Describe the overall purpose of the job here **Summary of Essential Tasks** TASK NAME **FREQUENCY TOTAL DURATION** % OF WORK TIME 1. 2. 3. 4. 5. 6. **Summary of Non-Essential Tasks TASK NAME** FREQUENCY **TOTAL DURATION** % OF WORK TIME 1. 2. 3. Environmental Factors (Check all that apply) □ Indoor Rugged Terrain □ Cold ■ Vibration □ Gas/Fumes ■ Slippery □ Outdoor Weather □ Dry Dark □ Traffic ■ Magnetic Fields ☐ Flat Surface □ Hot Wet Bright ■ Biological Agents □ Congested Area ■ Noise □ Chemicals □ Other **Summary of Tools & Equipment** TOOL/EQUIPMENT MAKE MODEL WEIGHT **DIMENSIONS** 1. 2.

Photographs of Tools & Equipment

3.

Physical Demand Task Details

1. Task Name	Task Duration										
	Time	Description &	Description of the task and environmental factors (what, where, how, etc.)								
INSERT PHOTO OF TASK	Task Frequency	Comments									
	Frequency										
Task Elements	Measure 1	Measure 2	Measure 3	Measure 4	Measure 5	Measure 6	Measure 7				
Element 1											
	Measure 2	Measure 2	Measure 3	Measure 4		Measure 6	Measure 7				
Element 2											
	Measure 2	Measure 2	Measure 3	Measure 4	Measure 5	Measure 6	Measure 7				
Element 3											
	Measure 2	Measure 2	Measure 3	Measure 4	Measure 5	Measure 6	Measure 7				
Element n											

2. Task Name INSERT PHOTO OF TASK	Task Duration Time Task Frequency Frequency	Description & Comments	Description of the task and environmental factors (what, where, how, etc.)						
Task Elements	Measure 1	Measure 2	Measure 3	Measure 4	Measure 5	Measure 6	Measure 7		
Element 1									
	Measure 2	Measure 2	Measure 3	Measure 4	Measure 5	Measure 6	Measure 7		
Element 2									
	Measure 2	Measure 2	Measure 3	Measure 4	Measure 5	Measure 6	Measure 7		
Element 3									
	Measure 2	Measure 2		Measure 4	Measure 5	Measure 6	Measure 7		
Element n									

PHYSICAL DEMAND TASK ELEMENTS

Physical Demand Element	Measures to Document in the PDD									
Lift/Lower	Frequency	Weight	Start Height	End Height	Hand(s) Used	Reach	Grip Type			
Carry	Frequency	Weight	Height	Distance	Hand(s) Used	Reach	Grip Type			
Push	Frequency	Average Force	Max Force	Height	Distance	Hand(s) Used	Grip Type			
Pull	Frequency	Average Force	Max Force	Height	Distance	Hand(s) Used	Grip Type			
Reach	Frequency	Height	Distance	Hand(s) Used						
Grip	Frequency	Force	Height	Direction	Hand(s) Used	Reach	Grip Type			



GRIP > Seizing, grasping, holding, turning, or otherwise working with the hands. Fingers are simply an extension of the hand.

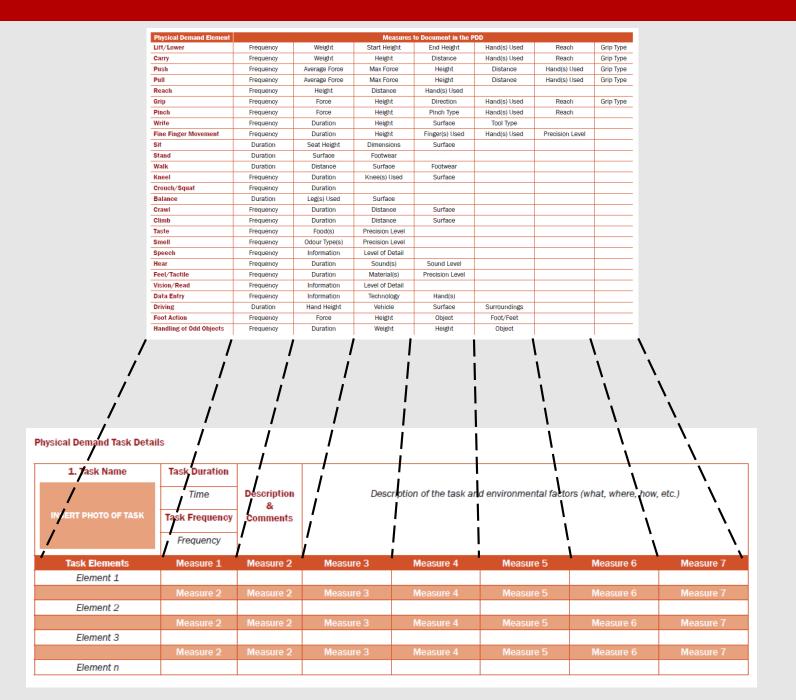
Important Items to Document:

- ✓ Description of the gripping task (what, where, how)
- ✓ Type of grip used
- Direction of turning or manipulation (if applicable)
- ✓ Whether left, right or both hands were used
- ✓ Height of the hand(s) during the task
- ✓ Reach distance required (if applicable)

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Smell	Frequency	Odour Type(s)	Precision Level			
Speech	Frequency	Information	Level of Detail			
Hear	Frequency	Duration	Sound(s)	Sound Level		
Feel/Tactile	Frequency	Duration	Material(s)	Precision Level		
Vision/Read	Frequency	Information	Level of Detail			
Data Entry	Frequency	Information	Technology	Hand(s)		
Driving	Duration	Hand Height	Vehicle	Surface	Surroundings	
Foot Action	Frequency	Force	Height	Object	Foot/Feet	
Handling of Odd Objects	Frequency	Duration	Weight	Height	Object	
				I .		

PHYSICAL DEMAND TASK ELEMENTS





Physical Demand Element	Measures to Document in the PDD								
Sit	Duration	Seat Height	Dimensio <u>n</u> s	Surface					
Driving	Duration	Hand Height	Vehicle	Surface	Surroundings				
Foot Action	Frequency	Force	Height	Object	Foot/Feet				

1. Driving Loader	Task Duration									
1	5-15 minutes per material	The worker will move sand and stone from storage lots on the plant yard to an underground hopper that funnels materials								
	Task Frequency	onto a coi	onto a conveyor belt.							
	12 – 15 times per shift									
Task Element 1	Duration	Seat Height	Dimensions	Surface						
Sit	5-15 minutes	55-65 cm	45 x 45 x 12 cm	Cushioned	1					
Task Element 2	Duration	Hand Height	Vehicle	Surface	Surroundings					
Driving	5-15 minutes	80 – 85 cm	Front-End Loader	Loose Gravel	Other Vehicles					
Task Element 2	Frequency	Force	Height	Object	Foot/Feet					
Foot Action	10 times per minute	25-28 kg	15 cm	Accelerator / Break	Both					

REPORTING

Finalize PDD Document

- Does it contain enough useful information for an outsider to understand the situation?
- Additional photos can be added to extra pages.

Distribute for Approval & Sign-off

- Send to everyone who was involved in preparation phase.
- Final opportunity for people to review, verify accuracy, and comment.

File & Backup

 Locked file formats such as .pdf may help to control PDD content.

FUTURE CONSIDERATIONS

Timeline for Review & Updates

- Ideally, have all PDDs reviewed annually

POSSIBLE TRIGGERS FOR IMMEDIATE UPDATES:

- ▶ New machine(s)
- ▶ New tool(s)
- New product(s)
- ▶ Process change
- Work reorganization
- Increase/Decrease in quotas
- Increase in responsibilities

Use of Data for MDS Prevention

- If the right data is collected, it may be useful in certain risk assessment tools i.e. NIOSH Lifting Equation, Liberty Mutual Tables.

CONTACT OHCOW

OHCOW services are available to anyone with a possible occupational health problem

Call us toll-free at:

1-877-817-0336

E-mail us at:

ask@ohcow.on.ca

