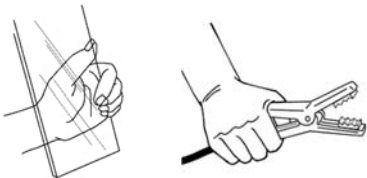
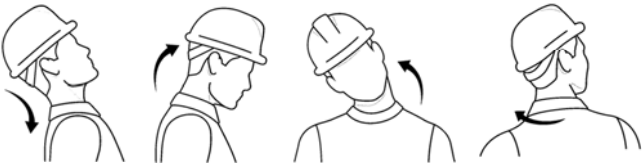
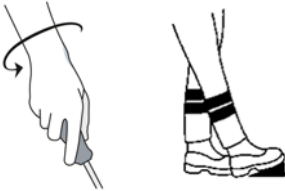
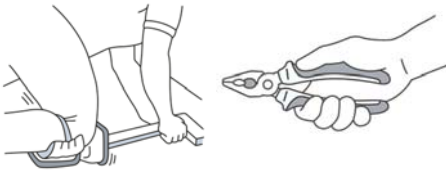
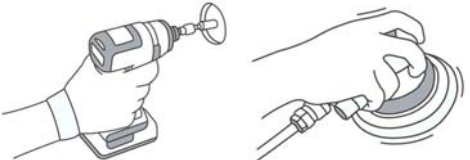


Physical Hazards Identification Checklist

Excessive Force				
Gripping		Lifting and Lowering		Pushing and pulling
 Is there pinching of objects with the thumb or strong gripping with the hand? ☐		 Is there heavy, awkward or frequent lifting? ☐		 Is there heavy pushing or pulling? ☐
Awkward Postures				
 Is there neck bending or twisting? ☐			 Is there wrist bending? ☐	
 Is there back bending or twisting? ☐		 Is there squatting or kneeling? ☐		 Are elbows extended away from the body or are the hands above the head? ☐
Is there walking over rough, uneven, sloping or slippery surfaces? ☐ 	Is there climbing on stairs, ladders, or equipment? ☐ 	Is there standing in one spot for a period of time? ☐ 	Is there sitting with no backrest? ☐ 	
High Repetition Motions			Contact Stress	
Are repetitive movements performed every few seconds? ☐ 			Is the knee or hand used as a hammer, or is there leaning onto sharp edges? ☐ 	
Whole Body Vibration			Hand-Arm Vibration	
Is there sitting or standing on vibrating ground, vehicles or operating equipment? ☐ 			Are vibrating tools used? ☐ 	

MSD Compounding Factors

The following factors, in addition to magnitude, frequency and duration, can increase or reduce the risk associated with an MSD hazard.

Grip • Grip too narrow or too wide • Slipperiness of object • Wrist posture • Contact stress in the hand • Glove style and fit • Vibration • Handles or cut-outs Lifting/Carrying • Weight of the object • Lifting or carrying posture • Unilateral vs. bilateral • Hand coupling • Twisting • Climbing • Stability of load • Restricted space • Ground surface Pushing/Pulling • Upper body vs. whole body activity • Hand height • Direction of force (up, down, forward, backward, sideways) • Unilateral vs. bilateral • Grip • Wheel design, maintenance and size • Ground surface terrain, slope, etc. • Coefficient of friction between footwear and ground • Space to maneuver • Restricted space Stationary Standing • Ground Surface – Concrete Floors – Metal Surfaces (scaffolds, ladders) – Rough, Uneven or Sloped Surfaces – Soft Surfaces • Footwear • Vibration • Additional weight being carried on body	Static Sitting • Poor chair design • Sitting with no back rest Repetitive Actions • Repetition + awkward postures = bad • Repetition + forceful exertions = bad • Repetition + forceful exertions + awkward postures = very, very bad Walking • Ground surface – Concrete Floors – Metal Surfaces (scaffolds, ladders) – Rough, Slippery or Sloped Surfaces – Soft Surfaces • Type of footwear • Vibration • Pace required Segmental/ Hand-Arm Vibration • Gloves • Temperature • Grip force • Acceleration Whole Body Vibration • Independent cab suspension (good) • Air suspension system (good) • Enclosed suspension system (good) • Shock isolation (secondary springs) (good) • Pneumatic tires (good) • Battery driven (good) • Vertical vibration above 30 Hertz (good) • Vertical stiffness/dampness of seat vs. operator weight • Road/floor surface • Operating duration Contact Stress • Gloves • Hardness or sharpness of item
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