Tool Selection Checklist

"NO" responses indicate potential problem areas, which should receive further investigation.

Tool Characteristics	Y	N	Comments
Posture			
Can you keep your wrist in a neutral (straight) position while using the tool? *Bend the tool, not the wrist.*			
Does the workplace layout and type of tool (pistol grip vs. in-line) allow for a neutral posture of the wrists, elbows, and shoulders?			
Does the tool allow adequate visibility of the work?			
Can you wrap your fingers around the handle so the thumb and forefinger slightly overlap? *Recommended Diameter: 30 – 45 mm (power grip), 5 – 12 mm (precision grip).*			
Force			
Are frequently used tools weighing more than 2.3 kg counterbalanced?			
Is the tool's centre of gravity close to the centre of the grip (i.e., balanced)?			
Can you squeeze the tool handles (e.g., pliers) comfortably? *Recommended grip span: 60 - 90 mm.*			
Does the tool handle extend beyond the palm? *Recommended Length: minimum 115 – 120 mm + 10 mm with glove use.*			
Is the tool handle comfortable to grip, free of deep grooves or sharp edges?			
Does the tool grip/handle prevent slipping during use?			
With larger/heavier tools, does the tool have two handles for better manipulation and easier handling?			
Does the tool have a trigger strip, rather than a trigger button? *Recommended Length: 51 mm for 2 to 3-finger activation.*			
Is the tool well maintained?			

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Tool Characteristics	Y	N	Comments
Repetition			
Are power tools used whenever possible?			
Does the tool mechanism reduce repetitive motions (e.g., pliers with spring return, ratchets)?			
Is the proper tool used for the task?			
Can the tool be used with either hand comfortably? *Tool should be symmetrical or easily altered.*			
Does each power tool have its own power source (i.e., to avoid switching connections frequently)?			
Vibration			
Are low vibration tools used? *Choose tools with an internal mechanism that minimizes vibration at the source.*			
Can the tool be adjusted to the lowest setting possible to reduce vibration?			
Does the tool's handle dampen exposure to vibration? *Choose handles that are covered with cork, rubber, plastic, or plastic bonded to steel.*			
Are vibration dampening gloves available for the operator?			
Cold			
Is the air exhaust vented away from the operator's hand?			
Is the tool's handle material non-porous, non-slip, and non-conductive?			
Can glossy paint or polished surfaces be avoided?			

References:

Canadian Centre for Occupational Health & Safety's infograms F02, G02.

Mital, A; Kilbom, A. (1992). Design, selection, and use of hand tools to alleviate trauma of the upper extremities. Part 2 – The scientific basis (knowledge base) for the guide. *International Journal of Industrial Ergonomics, 10*, 7-21.

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