Is this an **Ergonomic** Hand tool?

**You be the judge.**

### A. Know Your Job

Before you select a tool, think about the job you will be doing. Choose a tool that feels comfortable with a handle diameter in the range of 1 1/4 inches to 1 1/2 inches. For single-handle tools used for power tasks: Select a tool with a grip span that is at least 2 inches when fully closed and no more than 3 inches when fully open.

**Awkward Postures**

Select the tool that has the most "YES" answers. For example, avoid raising your shoulders and elbows. Relaxed shoulders are sometimes aligned with the placement of the work piece. Whenever possible, choose a tool that requires the least continuous force and can be used without awkward postures.

If you are sitting, stand. Instead, use a tool that fits within the work space.

Contact Pressure

The tool should be coated with a slip surface for high force: Select a tool that feels comfortable with a handle diameter of 1/4 inch to 1/2 inch.

**Power tasks:** Select a tool with handles that are spring-loaded to return the handles to the open position. A majority of the 18 hand tools evaluated in a study by Dababneh, Lowe, Krieg, and Waters (2004) for reliability in identifying the presence or absence of the basic ergonomic design features. Additional studies are being conducted to make appropriate revisions to the checklist criteria based on quantitative measures of musculoskeletal loading.

**Examples of Definitions**

- **Pinch Grip:** The hand grip that provides maximum precision and accuracy. The tool is shaped between the thumb and the fingertips.

**Best Tool Features**

- Fits the job you are doing.
- Does the work required on a long-handle tool. Use of a long-handle tool may cause awkward postures or harmful contact on your hand as you use more force.
- Use a tool that fits within the work space.

- **Awkward postures** make more demand on your body. In some cases, the placement of the work piece will affect your shoulder, elbow, wrist, hand, or back posture. Bending, stooping, twisting, and reaching, are examples of awkward postures. Instead, use a tool that fits within the work space.

- **Fits your hand**

**Examples of Definitions**

**D. Select The Tool - Tips for Selecting Hand**

Select a tool that fits within the work space. For double-handle tools used in a pinch, gripping, or cutting task: Select a tool that has a non-slip surface for better grip.

1. Select a tool with an adjuster that allows your hand to work with a straight wrist.
2. Select a tool that feels comfortable with a handle diameter of 1/4 inch to 1/2 inch.
3. Select a tool that is coated with a slip surface for high force: Select a tool that feels comfortable with a handle diameter of 1/4 inch to 1/2 inch.
4. Select a tool that fits within the work space. For double-handle tasks used for precision tasks: Select a tool with a grip span that is not less than 1 inch when fully closed and no more than 3 inches when fully open.
5. Select a tool that is coated with a slip surface for high force: Select a tool that feels comfortable with a handle diameter of 1/4 inch to 1/2 inch.
6. Select a tool that has a non-slip surface for better grip.
7. Select a tool that fits within the work space. For tasks requiring high force: Select a tool that is coated with a slip surface for high force: Select a tool that feels comfortable with a handle diameter of 1/4 inch to 1/2 inch.

**Use the Checklist - Select the tool that has the most "YES" answers**

You may order or download a copy of this in booklet form from Cal/OSHA or NIOSH:

**http://www.dir.ca.gov/dosh/puborder.asp**

**http://www.cdc.gov/niosh/pb01014.asp**

**http://www.cdc.gov/niosh/istc**

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**Introduction**

The California Occupational Safety and Health Administration (Cal/OSHA) and the National Institute for Occupational Safety and Health (NIOSH) joined efforts to develop a "Easy Ergonomics", a tool that can be used against the widest part of your hand. The tool is designed to reduce physical strain. The right tool can help you reduce your risk of injury, such as carpal tunnel syndrome, tendinitis, or muscle strain.

In the Dababneh, et al (2004) study, a planning framework tool was used to evaluate the tool's effectiveness in reducing physical strain. Additional studies are being conducted to make appropriate revisions to the checklist criteria based on quantitative measures of musculoskeletal loading.

**Examples of Definitions**

- **Pinch Grip:** The hand grip that provides maximum precision and accuracy. The tool is shaped between the thumb and the fingertips.

**Best Tool Features**

- Fits the job you are doing.
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