Standard Operating Procedure

Title: **SOP-007 Hand Tools**

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*Lab Location:* Mayo G217

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**Hazard Identification:**

- **Physical Danger**

**Exposure Assessment:**

- **Motions**
  - **Rotating Motion**
    The hand tool in operation may be a source of rotating motion. Rotating elements could grip loose clothing, gloves, hair, or appendages which could result in severe injury. Rotating elements can also propel poorly secured items across a room.

  - **In-Running Nip Points**
    The hand tool in operation may be a source of in-running nip points. Clothing, hair, or appendages could get caught and pinched in these points resulting in severe injury.

  - **Reciprocating Motion**
    The hand tool in operation may be a source of reciprocating motion. The tool could grip loose clothing, hair, or appendages which could result in severe injury. The hand tool may have sharp or jagged edges which could cause serious harm.

  - **Transverse Motion**
    The hand tool in operation may be a source of transverse motion. This could cause clothing, hair, or appendages to be struck, caught in a pinch, or sheared by the moving hand tool which could cause serious harm.

- **Actions**
  - **Cutting**
    The hand tool in operation may produce a cutting action. The hand tool may be sharp. The cutting action could produce material chips that could be sharp. These chips may be propelled into the air and cause injury.
- **Shearing**
  The hand tool in operation may produce a shearing action. The hand tool may be rough. The shearing action may produce dust and debris. Debris may be propelled into the air and cause serious harm.

- **Punching**
  The hand tool in operation may produce a punching action. The hand tool may be sharp. This punching action could produce material chips that could be sharp. These chips could cause injury.

- **Bending**
  The hand tool in operation may produce a bending action. The point of operation, bending point, where stock is inserted, held, and withdrawn is a hazard. Loose clothing, hair, or appendages could get caught at the point of operation and cause serious injury.

**Control Plan:**
- Be familiar with tool’s designated jobs and operating procedures
- Always use the right tool for the designated job
- Wear safety glasses while using these tools to protect eyes from any dust or debris
- Wear a dust or face mask to prevent the inhalation of dust while operating tool
- Do not wear gloves, necktie, jewelry, or loose clothing, as they could get caught or torn while using tool
- Tie up long hair or wear protective hair covering to prevent hair from getting caught while using tool
- Always clamp, brace, or firmly hold work piece when using tool. Never use tool on loose work.
- Make sure to keep hands away from point of operation when using tool

**Experimental Procedures:**
- Put on all safety equipment and tie back loose hair or clothing before using tool
- Choose tool that best completes the job on work piece desired
- Check to make sure all parts of tool are working and functioning properly
- Clamp or firmly place work piece into desired position
- Use tool appropriately on work piece as desired
- When finished, remove work piece
- Clean tool and area after use and dispose of debris (see Waste Management Procedures)
- Return tool to its appropriate location

For other inquiries, see the tool’s user manual.
**Waste Management Procedures:**
When finished with the tool, always clean the area. There should be no chips filings, or dust on the work table or floor. Dustpan, handbroom, regular broom, paper towels and cleaning solution can be found in G217-09.

Place all raw materials, clamps, and vice grips back in the appropriate place.

**Spill and Accident Procedures:**
If an accident occurs, report immediately to the lab supervisor (G217-05) or other appropriate staff member. If no one is around, dial 911 on the landline phone near the door of G217-09 to reach the campus police. The lab first aid kit is located on the wall near the sink. A first aid pamphlet from DEHS is located in all of the MDC’s first aid kits.