



**BOISE STATE UNIVERSITY**  
ENVIRONMENTAL HEALTH, SAFETY  
AND SUSTAINABILITY

STANDARD OPERATING PROCEDURE

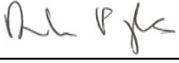
**MANUAL SNOW REMOVAL**

College/Dept: FO&M and Auxiliaries

Division: Campus Operations

Revision: 1.0

**Approval**

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**Overview**

This SOP is written for the safe use and operation of manual snow removal equipment. The recommendations set forth in this document are to be followed while using this piece of equipment on the Boise State University campus.

**Potential Hazards**

- Chemical   
  Thermal   
  Hydraulic   
  Electrical   
  Slip/Trip   
  Biological  
 Mechanical   
 Radiation   
 Pneumatic   
 Fire   
 Fall   
 Other

Hazard Specifics: The most common hazards associated with the manual removal of snow include cold (physical hazard), pushing/pulling, lifting, and slip/fall.

**Personal Protective Equipment (PPE)**

- Safety glasses   
 Safety goggles   
 Face shield & safety glasses   
 Face shield & safety goggles  
 Lab coat   
 Apron   
 Tyvek suit   
 Tyvek sleeves  
 Gloves   
 Leg coverings   
 Hard hat   
 Hearing protection  
 Respirator   
 Shoes   
 Fall protection   
 Other

PPE Description: To reduce the chances of slip/fall injuries employees should only wear boots/shoes with good traction. Anti-slip traction devices may be worn over footwear.

**Additional Safety Information**

Appropriate clothing should be worn during snow removal operations to keep the operator warm and dry. Waterproof shoes/boots with good traction need to be worn. Gloves should also be worn to encourage blood flow to the hands and prevent the loss of feeling. During especially cold periods (temp. near zero or below) care needs to be taken to protect outer extremities such as ears, nose, fingers, and, toes as these are the parts of the body most at risk if frost bite should develop.

# MANUAL SNOW REMOVAL

## Procedure

To reduce the chances of injury it is important to warm up before any physical activity. The routine can be chosen by the operator, but at minimum should include lumbar rotations (FIG. 1), and back/shoulder stretching. Be aware of changing conditions, stay hydrated, and don't over exert.

## Steps

### 1. Preparing for the Job

- **Warm up:** A few minutes of light stretching will go a long ways.
- **Assess the current conditions:** Are there ice patches beneath the snow? Check overhead for snow and ice overhangs. Always, look before you step.

#### Some recommended stretches

**Discontinue stretching if it becomes uncomfortable.**

**Lumbar rotations:** Arms crossed, gently rotate trunk from side to side in a small, pain-free range of motion. Repeat 10 times per set.

**Lower Back:** Sit in chair with knees spread apart. Bend forward to floor. A comfortable stretch should be felt in lower back. Hold 30 seconds.

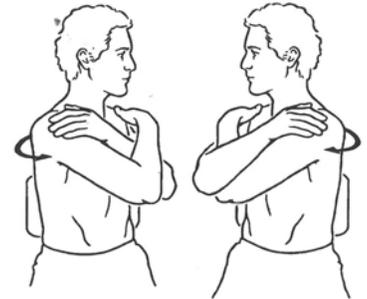
**Hamstring Stretch:** (Standing) Place right foot on stool. Slowly lean forward, keeping back straight, until stretch is felt in back of thigh. Hold 30 seconds. Repeat on left side.

For further stretches and graphics visit: [Mayo Clinic website](#)

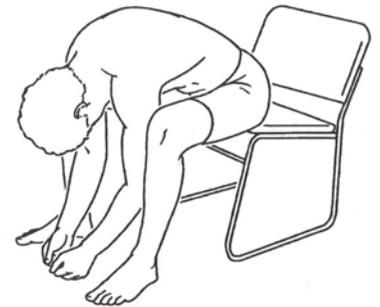
### 2. Choose the Proper Equipment

- a) Use a shovel that is comfortable for your height and strength.
- b) Other equipment such as brooms, pushers, and snow throwers should be considered based on conditions and the size of the job.

Figure 1: Lumbar Rotations



Additional Stretching: Lower Back



### 3. Ice Removal

- Granular Ice melt should be applied 15 to 20 minutes prior to attempting to remove ice.
- Building entry points should be cleared first, then walkways.
- Areas that require special attention include pedestrian walk ways where the sidewalk meets the street and areas where melted water is likely to accumulate.

### 4. Snow Removal

- If possible push snow instead of lifting.
- Space your hands on the shovel to increase leverage.
- Stand with your feet apart, knees bent and back straight.
- Place your front foot close to the shovel.
- Put weight on your front foot. Step forward and use your legs to load a small amount of snow onto the shovel.
- Remember the wetter the snow, the heavier it is.

### 5. Behaviors to avoid

- Do not overexert yourself; take appropriate breaks.
- Do not hold a shovelful of snow with your arms outstretched.
- Do not try to remove heavy deep snow all at once.
- Do not overload the snow shovel.
- Do not throw snow over your shoulder or to the side; this requires a twisting motion that will stress your back.
- Do not use a shovel that is too heavy or too long for you.
- Do not use a shovel that is broken; take it out-of-service.

PROPER TECHNIQUE FOR SHOVELLING SNOW



Keep feet wide apart. Put weight on front foot close to shovel and use leg to push shovel straight ahead.

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Shift weight to rear foot and keep shovel-load close to body. Lift with arms and legs, not back.



Turn feet in the direction of throw and pivot entire body rather than twisting at the waist.