Throughout the UC system, dining staff are among the occupational groups most at risk for injury. The high frequency and severity of injury is due to the physical nature of the work that often involves awkward postures, repetitive tasks and forceful exertion.

The following Best Practices are offered to guide those responsible for supervising and/or ensuring the health and safety of dining service workers.

**Best Practices: Large Mixing Bowls**

Large mixing bowls present a hazard to many staff, especially bakers and pot washers. Large mixing bowls can weigh over 40 lbs, even when empty. Train staff to lift these items safely and to transport on carts from bakery to pot washing area.

- Use bowl trucks for moving and pushing bowls; avoid pulling with a kitchen towel or pushing with feet (see product recommendation sheet)
- Remove or reduce floor mats from the bakery area to decrease force needed to move mixing bowl dollies, bowl trucks, and automatic bowl lifters and tippers. Rather than mats, provide anti-fatigue insoles to employees.
- If there is adequate space, use an automatic mixing bowl lifter and tipper (see product recommendation sheet)
- When it is necessary to lift a large bowl without a mechanical bowl lifter, always use 2 people who have been trained in safe lifting to lift and move the bowl (see Safe Manual Material Handling Information sheet, Appendices C and D)
- Ensure that casters/wheels on bowl dollies and trucks are maintained regularly
- Use the golfer stance technique when scooping dough and other food from the large bowls to the baking counter or into smaller bowls, unless the large bowl can be safely lifted (see Safe Manual Material Handling Information sheet, Appendices C and D)
Best Practices: Using Equipment with Casters and Wheels

- Select carts that function well for the intended task. Discuss the following issues with a knowledgeable sales person to make the best selection of materials for the cart and for casters or wheels:
  - the floor surface (tile, cement, mats, ramps, grass, sand)
  - the environment (wet, chemicals, grease, food particles, indoors/outdoors, cooler/freezer)
  - the weight of the load
  - the narrowest aisle width measurement where the cart will be used
- Establish a regular scheduled inspection and cleaning and maintenance program for all equipment (carts, hand trucks, pallet jacks, etc.) that have tires or casters, especially for carts that are used daily. It is recommended this be performed at a minimum once every 3 months.
- Extra force is required to push and pull carts if:
  - they are damaged
  - the tires are under-inflated
  - the casters are not lubricated or cleaned
  - flat spots develop from sitting too long
- Train staff to limit the height a cart or transit can be stacked (no greater than chin height) to avoid awkward positions used to see around the cart while pushing
- Limit the weight to the load rating of the cart. Permanently mark the load rating directly on the cart, in a highly visible location.
- Consider carts that have vertical handles since they will fit a larger number of users. If possible, modify carts by adding vertical handles.
- Select height adjustable spring or scissor carts to allow the user to load/unload at preferred heights
- Place heavier items at the base of tall transits for better stability. This lowers the center of gravity and keeps the transit from tipping over.

Best Practices: Loading Beverage and Frozen Yogurt Containers

Loading heavy items into dispensing machines presents significant risks. For example, 6 gallon milk cartons weigh over 50 lbs and require awkward postures to lift and insert into the dispenser. Space is often limited, further increasing the risk. Regardless of the size and weight of the container, lifting above shoulder height should be avoided.

Soda Syrup Containers

- Arrange to have vendors deliver soda syrup containers to shelves where they will be stored, or staged as close to them as possible to minimize the amount of handling required by staff
- Arrange storage and vending racks so containers are stored on middle shelves, between knee and chest height
- Maintain enough clearance around dispensing rack to allow cart access and sufficient space for staff to disconnect and connect hoses using safe postures
- Train staff to always transport these containers by using carts
- Assign 2 people to this task if one person is not able to do it safely
**Milk Containers and Cartons**

- Arrange to have vendors deliver milk cartons to the cooler where they will be stored, or staged as close to them as possible to minimize the amount of handling required by staff.
- Store milk cartons in cooler on middle shelves, between knee and chest height.
- Train staff to always use carts to transport milk containers.
- Maintain sufficient space in the cooler for safe transfer from shelf to a cart.
- Maintain enough clearance around milk dispenser to allow the worker to:
  - use a cart (and not carry)
  - use a step stool or safety ladder as needed
  - safely disconnect and connect hoses without using awkward postures.
- Use 2 people if one person is not able to do this task safely.
- An alternative option to 6-gallon bagged and boxed milk containers is to use milk delivered in 1 gallon jugs to minimize weight when handling. Milk can be dispensed from the jugs directly by placing them in appropriate small refrigerator on the beverage serving area.

**Soft Serve Frozen Yogurt Products**

- Train staff to use carts to transport frozen yogurt ingredients.
- Maintain enough clearance around frozen yogurt machine to allow the worker to:
  - use cart (and not carry)
  - use a step stool or safety ladder as needed
  - safely disconnect and connect hoses without using awkward postures.
- Avoid placing the machine on risers so that the top of the machine is maintained at a comfortable height to avoid reaching above shoulder height.
- Place the powders and water into 1- or 2-gallon containers to reduce product weight when pouring them into the machine.
- Use 2 people if one person is not able to do this task safely.

**Best Practices: Using Ice**

- Whenever possible, limit the amount of ice that must be collected, transported, loaded and cleaned up to reduce material handling. As a sustainable practice, this conserves water and energy as well.
  - Avoid the use of ice for aesthetic purposes. Refrigerated systems (e.g. salad bars) should have food containers that fit well to avoid the need for additional ice.
  - Use beverage dispensers that have ice-makers attached to them if the ice is able to keep up with demand (**see product recommendation sheet**). Otherwise, use a beverage dispensing machine that does not require loading ice into the top of the machine.
  - Use gravity fed ice making systems that automatically drop ice into totes in carts to reduce material handling (**see product recommendation sheet**). Instruct staff to manually scoop ice when totes are completely filled. This reduces the weight when lifting the tote.
  - Tote systems need to be regularly maintained (replace handles and grips as needed and perform regular preventive maintenance to cart).
- Offer staff a choice of equipment made of acceptable food grade materials to load ice (ice shovels, scoops, etc.)
- Use containers with comfortable grips that hold the ice (grips for crutches can be used). Avoid using thin metal or plastic grips, such as those traditionally found on 5-gallon buckets.
- Instruct staff who load/unload ice to avoid filling containers above 10-15 lbs.
- Use a scissor type lift cart to load and unload ice (see product recommendation sheet) to minimize stooping, reaching and bending.

**Best Practices: Removing Fat, Oil, and Grease (FOG)**

Removing fat, oil, and grease from fryers to outdoor collection containers poses several risks, including burns and injuries to the back, shoulder and arms.

- Contract with a FOG (fat oil grease) removal vendor such as http://www.darlingii.com/UsedOilStorage.aspx that will safely remove used FOG from the fryer to their own collection containers for recycling. This increases staff productivity and reduces potential injury risk to kitchen staff and frees space on the back dock.
- If using a FOG vendor is not an option or a vendor cannot meet all of your used oil removal needs, purchase and use an automatic FOG removal machine.
  - Provide sufficient space (with an electric outlet for recharging) to park it adjacent to where it will be needed

**Equipment**

Selecting the most appropriate equipment is an important decision. Prior to purchasing:

- Contact the campus ergonomist to help with the selection process
- Include dining staff in the selection process
- Arrange for demonstration of product by manufacturer or distributor
- Refer to the Ergonomics Recommended Product Sheet for applications and recommendations
- Pilot the preferred equipment for a minimum two–week trial period

During the pilot period, consider the following:

- Adjustability, size and weight of equipment to accommodate wide range of body types
- Appropriate sized casters and swivel design to allow for easy rolling and maneuverability
- Location of controls and ease of operation
- Storage and transporting needs
- Equipment maintenance and replacement parts
- Battery life and charging time
- Need for back-up equipment

**Training**

Initial training should be provided for new employees within the first 30 days and annually thereafter. Training is best provided in small groups with the involvement of supervisors, leads, ergonomists and vendors.
Training should include:

- Hands-on performance of job tasks and related activities
- Hands-on practice when new tools, equipment, or procedures are introduced to the workforce
- Equipment use, maintenance, storage, safety procedures and use of personal protective equipment (PPE) as required
- Instructions on ergonomic practices focusing on the following:
  - Practicing neutral postures
  - Safe lifting, carrying, and pushing techniques
  - Proper body mechanics
- Verbal and/or written materials to accommodate non-English speaking workers as well as visual aids (e.g., pictures, charts, videos) of actual tasks in the workplace
- Sufficient opportunity for questions

**Work and Staffing Guidelines**

Work and staffing guidelines ensure that employees are adequately trained and assigned reasonable workloads. Guidelines include:

- Staff levels that provide adequate coverage to complete assigned work tasks
- Staff levels to avoid overtime
- Back-up staffing to accommodate unplanned absences
- Use of task and job rotation to limit repetition and fatigue
- Use of teams for heavy lifting and moving tasks
- Pre-shift exercises to warm up muscles to prepare for work
- Frequent rest breaks
- Implementation and support of a work hazard notification system to identify ergonomic problems

**References**


