

## Food Services: Ergonomics & Service Cart

Workers who prepare, cook, and serve food are exposed to strains and sprains from prolonged standing, working in awkward or static positions, repetitive or prolonged reaching, repetitive motions, and lifting and carrying. Employers should identify strain and sprain hazards in their work areas and find ways to decrease them by applying ergonomic solutions.

### Prolonged Standing

Kitchen workers often continuously stand in one position while cooking or preparing food, causing blood to pool in the lower extremities which in turn causes muscle fatigue, and pain. Prolonged standing on hard work surfaces, such as concrete, can also create contact trauma and pain in the feet. To relieve discomfort from prolonged standing:

- Provide stools or a foot rest bar at work stations. This gives workers an opportunity to shift weight from their feet while still maintaining reach and accessibility.
- Provide anti-fatigue mats. Anti-fatigue mats help contract and expand muscles of the person standing on them increasing blood-flow and reducing fatigue.
- **Wear** shoes with well-cushioned insoles and soles.
- **Instruct employees to frequently move their feet and change positions.**

### Repetitive or Prolonged Reaching

Frequent elevated or extended reaches for supplies can cause back and shoulder injury resulting in muscle strain, bursitis, tendonitis, or [rotator](#) cuff injuries. **Assess work areas and identify ways to decrease the need for reaching.**

- Minimize reaching by organizing the work area so that most cooking and food preparation processes can be completed within easy reach.
- **Reaches should be limited to waist to chest height.**
- Redesign or reposition tasks to allow employee's elbows to remain close to the body. For example, turn boxes over on their side so employees don't have to reach up and over to remove items.
- Store frequently used utensils, dishes, and food between shoulder and hip height, close to where they are needed.
- **Servers should avoid over-reaching across tables. Instruct them to stand** by the person they are serving, rather than reaching across tables and over people.
- **Servers should move** glasses or cups toward them when pouring, rather than over-reaching with a heavy coffee pot or water jug to fill a glass.
- **To limit over-reaching** when placing items into dishwasher racks, employees should fill the near rows first, then rotate the rack to bring the back rows to the front.
- Reduce dishwasher's reach while rinsing dishes by lowering the rinse nozzle to rest at mid-body height.

### Awkward or Static Positions

Awkward postures or static positions can lead to neck and back strains and muscle stiffness for example, if cooks are constantly tilting their heads downward to chop, dice, and mix food. Best practices include:

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- **Providing** height-adjustable workspaces appropriate for the task being performed, so that workers don't need to bend forward, look down, or reach up. Possibilities are to lower countertops, use height-adjustable countertops or stands, or provide work stands for employees.
- Avoiding awkward postures by repositioning tasks in front of workers rather than allowing them to reach above or behind to get supplies.
- **Avoiding** awkward postures when carrying trays, plates, or beverages. Carrying heavy serving trays with elbow and fingers unsupported can increase risk for injury. When carrying trays, servers should hold elbows firmly against their sides and support trays on their flat palms.
- During dishwashing, limit back flexion (forward bending at the waist) by placing an object such as a plastic basin in the bottom of the sink to raise the surface up.

## Repetitive Motions

Performing hand-intensive tasks, such as chopping, stirring, scooping, creates considerable stress on the tendons and can lead to irritation and swelling and potential disorders such as [carpal](#) tunnel syndrome, tendonitis, or tenosynovitis. Look for ways to reduce the need for repetitive motions:

- **Rotate** workers through repetitive tasks.
- Instruct employees to **vary their activities** to space out repetitive tasks; or instruct them to **vary their technique** to use different muscle groups such as alternating between left and right hands.
- **Use** mechanical aids for chopping, dicing, or mixing foods (such as food processors and mixers) rather than hand chopping or mixing.
- **Alternate** carrying tasks from hand to hand.
- **Reduce** the amount of chopping tasks by purchasing ready-made salads, pre-sliced onions and vegetables, and other pre-prepared foods.
- Restructure jobs to reduce repeated motions, forceful hand exertions, and prolonged bending.
- Select ergonomically designed tools. For example, use kitchen scoops that allow the wrist to remain straight and provide ergonomically designed knives that allow the wrist to remain straight.

## Lifting and Carrying

Kitchen and serving work involves a significant amount of lifting and carrying. Workers may not have to lift heavy weights, but the cumulative effect of repeatedly lifting light weights may also cause injury. Consider the following to lighten the load:

- Design and organize the workplace to make manual handling easier. The more cramped a work area, the more difficult it is to move materials.
- **Instruct employees to lift properly and stay fit to help reduce the risk of injury from lifting.**
- Provide serving carts to carry food, rather than requiring workers to carry heavy trays.
- Provide a server's station close to the serving area. This will decrease the distance that items need to be carried.
- Limit the number of plates or items employees can carry by reducing tray size.
- Instruct employees to get help when handling large roasting pans, pots, and kettles.
- **Instruct employees to use** both hands to carry items such as coffee pots or water jugs and carry them with elbows close into the body.
- Provide workers small rather than large containers to carry dirty dishes. This will limit the amount of dirty dishes that can be stacked and carried at one time.
- Provide carts for dirty dishes and heavy bussing containers rather having workers carry them. Choose carts with large wheels that roll easily.

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- **Limit** the size of garbage containers to limit the weight of the load employees can lift and dump.
- Purchase smaller, and therefore lighter, cartons of stock.

## Food Service Carts

The use of carts to transport loads instead of carrying them saves workers a lot of time and effort. However, pushing, pulling, and maneuvering carts still involves some common hazards and creates a few new ones. Key risks from food service carts include: trips, falls, overexertion, strains – lower back/shoulders/arms, fingers/hands being caught between cart and objects, toes/feet bumped or crushed.

Below are a few best practice considerations for using a cart:

- Make sure you the cart is balanced and you can see past the cart. Use 2 people system to move cart when view is obstructed
- Keep speed of cart slow and controllable to ensure frequent maneuvering or patient obstructions are planned for.
- Do not overload cart – keep overall weight to the minimum necessary.
- Ensure items are not hanging over the edge of the cart or that any items can get stuck in wheels.
- Always push carts.
- Push carts with hands on handles behind load (not on side of cart where hands could be struck or crushed).
- Ensure cart tires or properly inflated, wheels are not out-of-round, and casters are not bent, broken or damaged.
- Uneven surfaces (ex. elevators, room thresholds, torn carpet, or damaged flooring) can cause sudden unexpected stops which can cause injury. Review your path to identify if an uneven surface is present.
- Do not push carts on a slippery or uneven floor.
- Keep back straight, use leg muscles and stay close to cart

**Best practices for food service safety meetings:** Kitchen and food service workers should attend weekly safety meetings that emphasize ergonomic issues, safe handling of sharps, fire prevention, and burn prevention. Documented safety inspections of work areas should be completed weekly.

This Tribal First Risk Control Consulting fact sheet is not intended to be exhaustive. The discussion and best practices suggested herein should not be regarded as legal advice. Readers should pursue legal counsel or contact their insurance providers to gain more exhaustive advice. For more information on this topic, please contact Tribal First Risk Control Consulting at (888) 737-4752 or [riskcontrol@tribalfirst.com](mailto:riskcontrol@tribalfirst.com).