

# INJURY UPDATE

*A Report to Oklahoma Injury Surveillance Participants\**

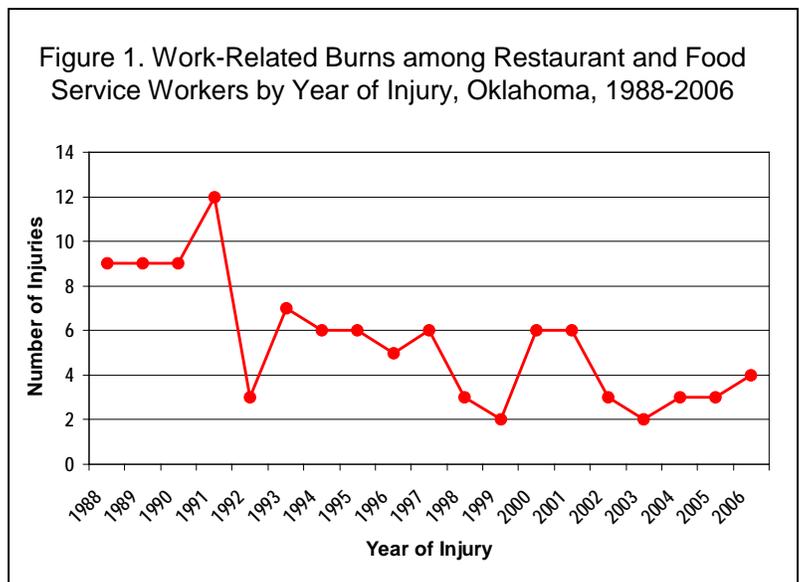
March 6, 2009

## Work-Related Burns among Restaurant and Food Service Workers, Oklahoma, 1988-2006

The restaurant industry, the nation's second largest employer outside of government, had an estimated 13.1 million workers, according to the National Restaurant Association's 2008 Restaurant Industry Forecast. The year 2008 was the 17<sup>th</sup> consecutive year of real sales growth in the restaurant industry. Restaurant industry sales totaled a projected \$558 billion, 4% of the United States (U.S.) gross domestic product, and \$1.5 trillion in overall economic impact in 2008. Nationwide, there are 945,000 restaurant and food service outlets. The National Restaurant Association estimates the number of restaurant industry employees will reach 15.1 million by 2018. In Oklahoma, there were 5,659 eating and drinking establishments in 2007 and an estimated 147,500 workers and \$4.5 billion in sales in 2008. Restaurant and food service jobs represent 9.3% of Oklahoma's total employment and are expected to grow to 15.3% by 2018. With the fast growth in the restaurant industry, prevention of work-related injuries among restaurant and food service workers is very important and also challenging. According to data from the U.S. Bureau of Labor Statistics (BLS), the U.S. rate of work-related injuries and illnesses was 4.3 per 100 full-time workers in eating and drinking establishments in 2006. Restaurant and food service workers had a high incidence of burn injuries.

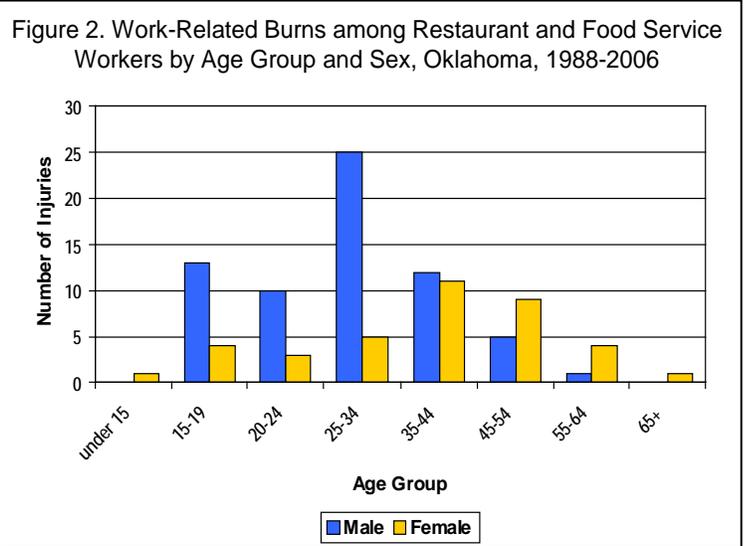
Data were collected from Oklahoma burn centers and analyzed for the years 1988 through 2006 for this report. Cases included restaurant and food service workers who were working at the time of the burn injury. During the 19-year study period, there were 1,440 Oklahoma residents hospitalized (in Oklahoma burn centers) for work-related burn injuries; 7% of all burn injuries were among restaurant and food service workers. Work was defined as activities engaged in for profit or compensation and included usual/full-time occupations, secondary/part-time occupations, and unpaid family members working for a family business. Restaurant and food service workers engaged in cooking activities at home were not considered work-related.

A total of 104 restaurant and food service workers were hospitalized in Oklahoma burn centers for work-related burn injuries from 1988 to 2006. The highest number of burn injuries was in 1991 with 12 (12%) workers, while the lowest occurred in 1999 and 2003, each with two hospitalized workers (Figure 1).

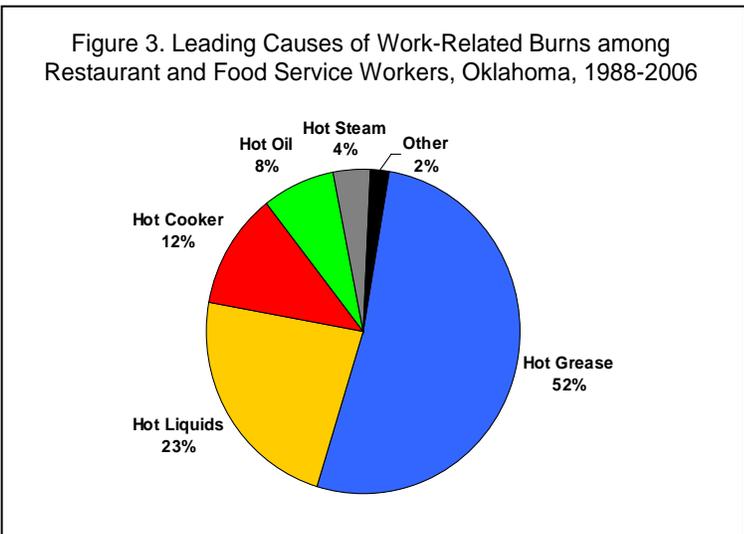


\*The INJURY UPDATE is a report produced by the Injury Prevention Service, Oklahoma State Department of Health. Other issues of the INJURY UPDATE may be obtained from the Injury Prevention Service, Oklahoma State Department of Health, 1000 N.E. 10<sup>th</sup> Street, Oklahoma City, Oklahoma 73117-1299, 405/271-3430 or 1-800-522-0204 (in Oklahoma). INJURY UPDATES and other IPS information are also available at <http://ips.health.ok.gov>.

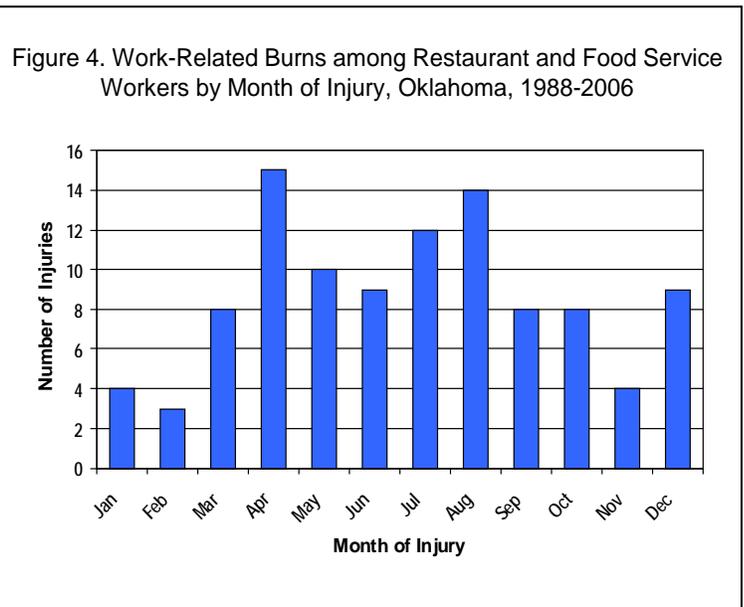
The youngest worker who suffered a burn injury was 13 years old; 18 (17%) workers were under 20 years of age (Figure 2). Nearly two-thirds (n=66) of all burn injured workers were male. For workers under 35 years, the number of injuries was substantially higher among males than females. In the 35-44 year age group, injuries were slightly higher among males. However, female workers' injuries were 1.8 and 4 times higher than males in the 45-54 and 55-64 year age groups, respectively. Seventy-five percent (n=78) of injured workers were white (11% were of Hispanic ethnicity), followed by African American (17%), Asian (3%), Native American (2%), and other (3%).



The leading cause of work-related burn injuries among restaurant workers was hot grease, accounting for just over half (n=54) of all injuries (Figure 3). Hot liquids, which included hot water, hot coffee, hot soup, and heated sauce (e.g. barbecue sauce), were responsible for nearly one-quarter (n=24) of burn injuries. Another one-quarter of burns were caused by hot cookers (e.g. stove, grill, pressure cooker) (n=12), hot oil (n=8), and hot steam (n=4) combined.

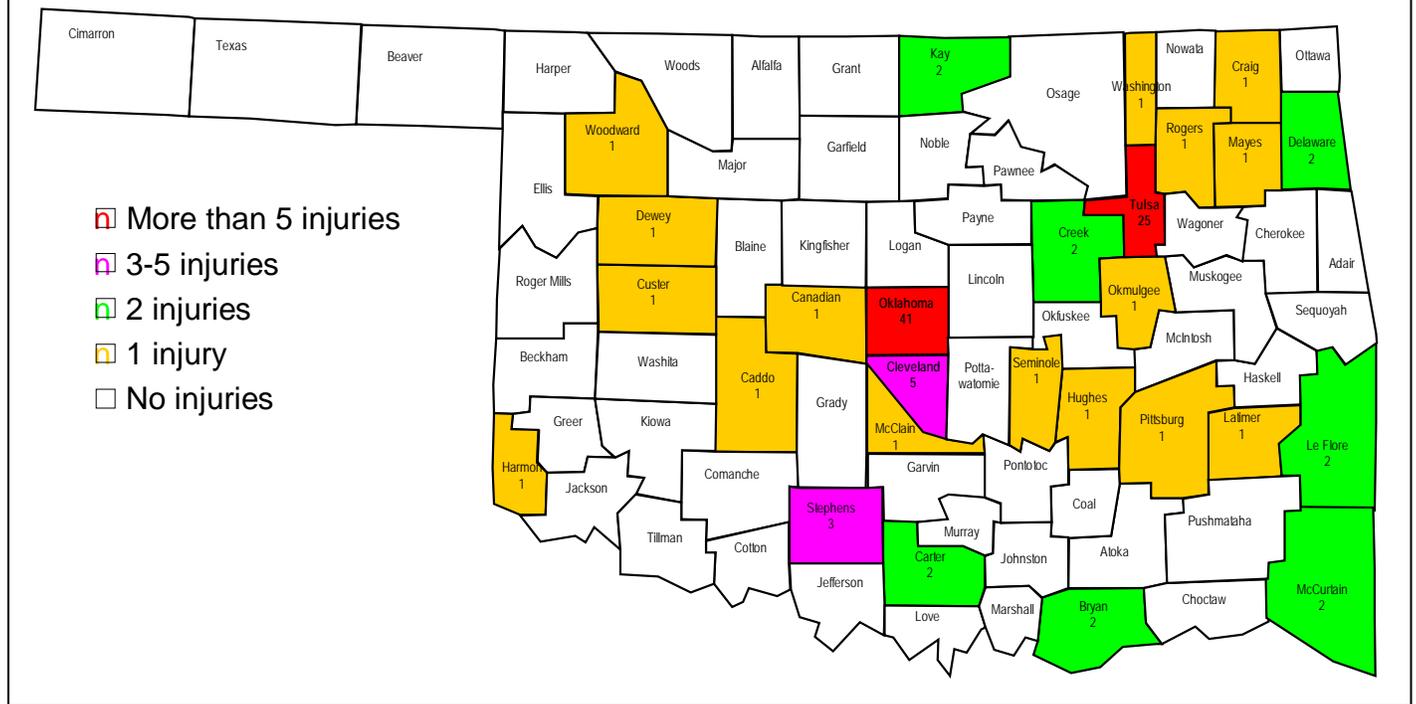


Two-thirds of work-related burn injuries among restaurant and food service workers occurred during spring and summer, March through August, with the largest number in April (Figure 4). Forty-three percent of burn injuries occurred on a Monday or Wednesday. Of those injuries with a known time of occurrence (n=79), 18% occurred at breakfast between 6:01 a.m. and 10:00 a.m., 32% during lunch preparation and lunchtime 10:01 a.m.-4:00 p.m., 41% from the dinner hours of 4:01 p.m. to 10:00 p.m., and 10% on the night shift from 10:01 p.m. to 6:00 a.m.



Forty percent of all burns from 1988 to 2006 occurred in Oklahoma county and nearly one-quarter in Tulsa county (Figure 5). The average total number of days of hospitalization was 11 days. The average total body surface area burned for injured workers was 8%. Forty-four percent of the injuries were 5% or less total body surface area burned and just over one-quarter were between 5.1% and 10% total body surface area burns.

Figure 5. Work-Related Burns among Restaurant and Food Service Workers by County of Injury, Oklahoma, 1988-2006



**CASE BRIEFS**

- A 13-year-old girl was helping at her parents’ restaurant. She tripped, slipped, and spilled hot grease on her body. She was hospitalized for 15 days with third degree burns over 10% of her body.
- A 25-year-old male was working at a barbecue restaurant. He was lighting a propane grill and suffered a flash burn. He had third degree burns over 8% of his body and was treated in the hospital for nine days.
- A 30-year-old male tried to catch the coffee maker as it was falling and was burned by hot coffee. He was hospitalized for five days with partial thickness burns over 5% of his body.
- A 30-year-old male slipped on a piece of ice on the floor while working at a restaurant. His right foot hit the cord on the steamer, which fell on top of him. He received partial thickness burns over 13% of his body and spent 17 days in the hospital.
- A 45-year-old female was working at a steak and barbecue house. She was pulling a pan of briskets out of the top oven when she slipped and fell, pouring hot liquid on herself. She was hospitalized for 58 days with partial thickness burns over 27% of her body.

**PREVENTION**

These 104 burn injuries among restaurant and food service workers are only the tip of the iceberg since injured workers visiting doctor’s offices, clinics, emergency departments, or general acute care hospitals are not included in this report. Work-related injuries are costly for workers, employers, and state and federal governments, and they are preventable. Workers and employers should play major roles in reducing injuries at work. Following are some recommendations for preventing work-related burn injuries in restaurants and other eating and drinking establishments:

**Training:**

- Workers should receive general workplace safety training provided by the employer before beginning work.
- Employers should provide training for safe performance of the specific task that the worker is assigned.
- All employees should have first aid training for burns and other emergencies.

**Workplace:**

- Store a fire extinguisher in the kitchen and train workers on how to operate it properly.
- Install safety devices to prevent burn injuries, such as built-in guard bars for grills and other hot surfaces, automatic food lowering devices and grease disposals for deep fryers, and exhaust systems.
- Keep working surfaces and floors uncluttered, clean, and dry. Use slip-resistant mats or coarse quarry tiles for flooring to prevent slipping.
- Provide first aid supplies in an easily accessible location.

**Personal Protective Equipment (PPE):**

- Wear a close-fitting long-sleeved cotton shirt and long pants and use an appropriate apron.
- Use dry, thick, well-insulated, and heavy duty potholders or oven mitts when checking food on hot surfaces, placing food in boiling oil or water, or removing food from broilers, ovens, or microwaves.
- Wear fitted sturdy non-slip, waterproof shoes. Do not wear open-toed, porous fabric, or high heel shoes.

**Safe Work Practices:**

- Do not leave cooking food unattended.
- Do not store combustible items on the stove (e.g., towels, potholders, paper bags, boxes).
- Do not overfill containers.
- Do not use metal containers, foil, or utensils in the microwave.
- Do not overload electrical outlets.
- Avoid overcrowding on the stovetop.
- Avoid reaching across hot surfaces.
- Keep all pot and pan handles turned in while cooking.
- Heat cooking oil slowly.
- Ask for help when moving heavy hot food, grease, or liquid and watch for surrounding coworkers.
- Clean up spills immediately.
- Report all hazards to a supervisor immediately.

**First Aid:**

- If an incident occurs, assess the burned area. If it is larger than a person's palm or involves the face, hands, feet, or joints, seek emergency medical treatment.
- For small first or second degree burns, cool the area by running cool water over the burned area slowly for 10 to 15 minutes and covering the burn with a clean, dry cloth or bandage carefully.
- Do not use ice, ice water, butter, ointments, home remedies, or sprays on burns.

Many teenagers work in the restaurant industry, particularly in fast food establishments, as their first jobs. According to BLS data, nearly 21% of all workers in food services and drinking places were aged 16 to 19 in 2006, about five times the proportion in all other industries. Because of their lack of experience and training, teenage workers are at a higher risk for work injuries. Burns and scalds may occur while teens are working as fry cooks, preparing or serving hot foods or drinks, cleaning dishes, and even delivering. In order to reduce the chances of young workers being injured on-the-job, teen workers, employers, educators, and parents need to work together to make sure that workplaces are safe and healthy.