

Heat Related Burn Injuries in Restaurant Industry workers in Washington State, 2006-2012

Data from the Safety and Health Assessment and Research for Prevention (SHARP) program at the Washington State Department of Labor and Industries

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Introduction

Work-related burn injuries are serious, costly, and can often result in permanent disability. They are also preventable. Heat related burns and scalds are one of the most common causes of burns in restaurants, and occur when skin comes into contact with hot liquids or steam. This report presents data on heat related burns and scalds from several common sources in restaurants in Washington State. Work-related burns from the Washington State Department of Labor & Industries (L&I) workers' compensations claims data from 2006-2012 were analyzed. Claims were restricted to State Fund (SF) workers. For this time period, the State Fund comprises roughly 93% of Fast Food, and 95% of all restaurant hours.

Risk Class

The data in this report presents information by Washington State Risk Class, which classifies establishments by similar processes and exposures for insurance purposes. Washington Risk Classification enumerates 12 different types of restaurants.¹ Work hours (exposure) and burn injuries are heavily concentrated in 3 specific classes. We focus on these classes individually and group the other classes together. The remainder of State Fund classes (exclusive of restaurants) are presented for comparison purposes. The 3 individual classes were: 3905-00 Restaurants, N.O.C., 3905-07 Restaurants serving spirits or hard liquor, or 3905-09 Fast food drive-ins, N.O.C. These do not include taverns, catering services, street vendors and/or route food services. They also do not include certain workers; specifically "entertainment such as musicians, entertainers, disc jockeys or piano players who may be exempt from coverage as an independent contractor. Musicians or entertainers who are considered to be employees of a restaurant are to be reported separately in classification 6605; and entertainers such as dancers who are to be reported separately in classification 6620."

'Restaurants, N.O.C.' refers to establishments "engaged in restaurant operations not covered by another classification (N.O.C.)... 'traditional, family or full service' restaurants that provide sit-down services, or cafeteria or buffet style meals. This classification includes the preparation and service of food and beverages... They are prohibited from selling spirits or hard liquor."

¹ Washington State Legislature, WAC 296-17A-3905: <http://apps.leg.wa.gov/wac/default.aspx?cite=296-17A-3905>

'Restaurants serving spirits or hard liquor' refers to those establishments "engaged in the operation of a restaurant having a license to sell spirits or hard liquor, beer and wine in connection with their food preparation and service. This classification includes the preparation and service of food and beverages at sit down restaurants and lounges including on premises consumption of beer from microbrewery operations in connection with the restaurant." In this report, these restaurants will be referred to as "Class H Restaurants."

'Fast food drive-ins, N.O.C.' refers to "establishments engaged in the operation of fast food drive-ins or restaurants. These establishments serve easily prepared foods quickly and nonalcoholic beverages which can be eaten on the premises or picked up by customers at a counter or a drive through window."

Nature & Source

Nature & Source are classified according to the 2007 Occupational Injury and Illness Classification (OIICS) System. For more on this classification system, refer to the U.S. Department of Labor, Bureau of Labor Statistics website² or the 2007 OIICS Manual.³

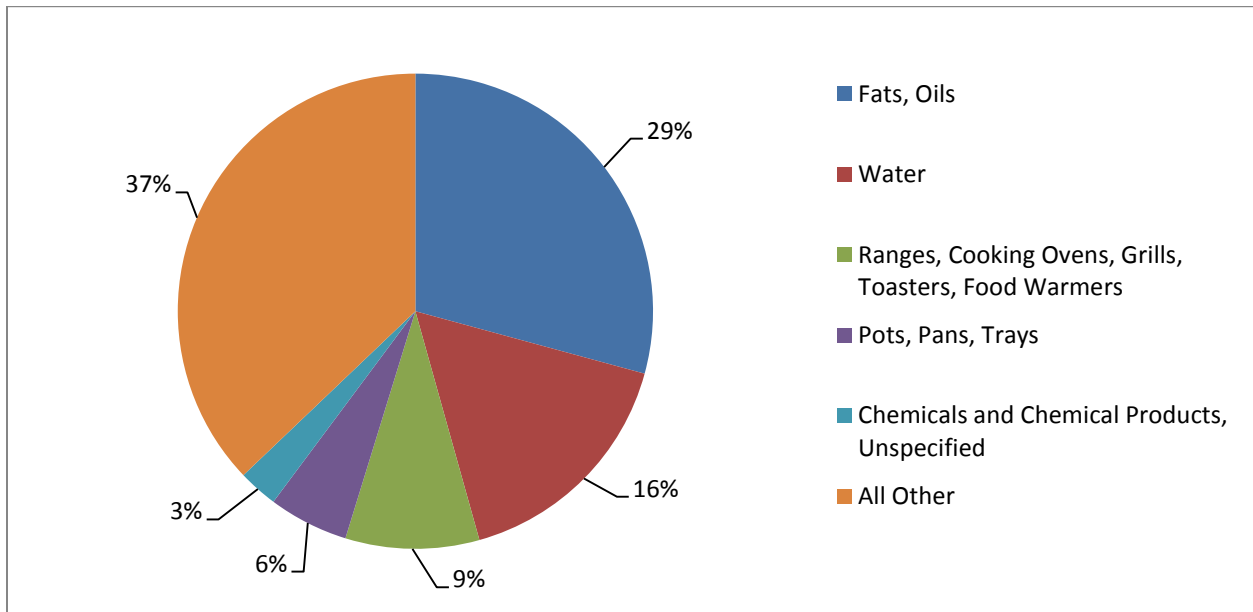
Nature of Injury or Illness: 'Nature' refers to the physical characteristics of the injury or illness. Heat burns - OIICS Code '**053 – Heat burns, scalds**' was used to identify these claims. This nature falls under OIICS Nature code '05* Burns', which includes codes for classifying burns (tissue damage) that result from a variety of sources including "heat, flame, hot substance, lightning, radiation, the corrosive action of chemicals, chemical compounds or fumes, heat, extremely cold objects, and electricity." The **053** code does not include burns that result from a combination of types of burns (such as 'chemical AND heat' burns).

Source of Injury or Illness: 'Source' identifies the object, substance, exposure or other factors which directly produced the identified injury or illness. The OIICS Source of Injury codes included were: 5291 – Fats, Oils; 9261 – Water; 3326 – Ranges, Cooking Ovens, Grills, Toasters, Food Warmers; 117 – Pots, Pans, Trays; and 00 – Chemicals and Chemical Products, Unspecified. These source codes were selected because they were the top 5 most common classified sources for "heat burns, scalds"; and account for roughly 2/3 of these burns in restaurant workers.

² Bureau of Labor Statistics, OIICS website: <http://www.bls.gov/iif/oshoiics.htm>

³ 2007 OIICS Coding Manual: http://www.bls.gov/iif/oiics_manual_2007.pdf

Figure 1. Heat related burn sources in the Restaurant industry: WA SF Accepted claims, 2006-2012.



- The primary sources of heat related burns in Restaurants were: *Fats and Oils; and Water.*

Table 1. Heat Related Burns (OIICS Nature - 053) from All Sources: Washington State Fund Accepted Claims, 2006-2012.

(Risk Class)	(Description)	Hours	Accepted Count	Compensable Count *	TL Days Paid	Avg TL days per Comp Clm	TL Days per 10,000 FTE **	Incur Tot (\$)	Accpt Rate	Accpt Rate Ratio †	Comp Rate	Comp Rate Ratio	Severity Rate (\$)	Svrty Rate Ratio
Restaurants		1,556,264,054	5,097	703	13,000	18.5	167.1	5,167,388	65.5	7.4	9.03	7.7	66,407.6	2.0
390500	Restaurants, N.O.C.	349,144,339	1,156	178	4,093	23.0	234.5	1,488,976	66.2	7.5	10.20	8.7	85,292.9	2.6
390507	Class H Restaurants	569,662,953	1,682	254	4,689	18.5	164.6	1,803,074	59.1	6.7	8.92	7.6	63,303.2	1.9
390509	Fast Food Drive-Ins, N.O.C.	387,765,842	1,727	207	2,449	11.8	126.3	1,300,180	89.1	10.1	10.68	9.1	67,060.1	2.0
*	Other Restaurants	249,690,920	532	64	1,769	27.6	141.7	575,158	42.6	4.8	5.13	4.4	46,069.6	1.4
SF Non Restaurant		20,926,722,182	9,245	1,227	71,104	57.9	68.0	34,281,620	8.8	1.0	1.17	1.0	32,763.5	1.0

* Compensable count is a subset of Accepted Count - it identifies those claims with an indemnity payment - typically for lost time

** All Rates are per 10,000 FTE (1 FTE = 2,000 hours)

† Rate Ratios are comparison to all state fund (exclusive of restaurants). A rate ratio of 60 means that industry has 60 times the rate of another industry.

- Restaurants accounted for 7% of all reported State Fund hours.
- Restaurants accounted for 36% of the accepted state fund claims for heat related burns.

Table 2. Primary Sources of Heat Related Burns (OIICS Nature - 053): Washington State Fund Accepted Claims, 2006-2012.

Risk Class	Description	Fats, Oils	Water	Ranges, Cooking Ovens, Grills, Toasters, Food Warmers	Pots, Pans, Trays	Chemicals and Chemical Products, Unspecified	All Other	Total
Restaurants		1,490	837	464	277	137	1,892	5,097
390500	Restaurants, N.O.C.	312	200	79	76	31	458	1,156
390507	Class H Restaurants	518	242	106	94	54	668	1,682
390509	Fast Food Drive-Ins, N.O.C.	587	243	229	72	40	556	1,727
*	Other Restaurants	73	152	50	35	12	210	532
SF Non Restaurant		329	971	183	216	1,039	6,507	9,245
Total		1,819	1,808	647	493	1,176	8,399	14,342
Restaurant Industry claims as % of heat related burns claims by source		82%	46%	72%	56%	12%	23%	36%

- Restaurants are the primary industry at risk for heat related burns caused by *Fats and Oils; Ranges, Cooking Ovens, Grills, Toaster, Food Warmers; Pots, Pans, Trays; and Water.*

Table 3. Heat Related Burns (OIICS Nature - 053) by Source; Washington State Fund Accepted Claims, 2006-2012.

Source	Risk Class	Description	Hours	Accepted Count	Compensable Count*	TL Days Paid	Avg TL days per Comp Clm	TL Days per 10,000 FTE	Incur Tot (\$)	Accpt. Rate**	Accpt. Rate Ratio†	Comp Rate	Comp Rate Ratio	Severity Rate (\$)	Severity Rate Ratio
FATS, OILS															
Restaurants			1,556,264,054	1,490	251	5,160	21	66.3	2,016,886	19.1	60.9	3.2	75.0	25,919.6	37.6
	390500	Restaurants, N.O.C.	349,144,339	312	69	2,039	30	116.8	749,719	17.9	56.8	4.0	91.9	42,946.1	62.3
	390507	Class H Restaurants	569,662,953	518	99	1,096	11	38.5	482,803	18.2	57.8	3.5	80.8	16,950.5	24.6
	390509	Fast Food Drive-Ins, N.O.C.	387,765,842	587	71	781	11	40.3	479,504	30.3	96.3	3.7	85.1	24,731.6	35.9
		Other Restaurants	249,690,920	73	12	1,244	104	99.6	304,860	5.8	18.6	1.0	22.3	24,419.0	35.4
SF Non Restaurant			20,926,722,182	329	45	2,246	50	2.1	721,006	0.3	1.0	0.0	1.0	689.1	1.0
WATER															
Restaurants			1,556,264,054	837	154	2,227	14	28.6	816,102	10.8	11.6	2.0	12.6	10,488.0	4.8
	390500	Restaurants, N.O.C.	349,144,339	200	33	685	21	39.2	182,193	11.5	12.3	1.9	12.0	10,436.5	4.8
	390507	Class H Restaurants	569,662,953	242	55	765	14	26.9	298,804	8.5	9.2	1.9	12.2	10,490.5	4.8
	390509	Fast Food Drive-Ins, N.O.C.	387,765,842	243	42	568	14	29.3	238,406	12.5	13.5	2.2	13.7	12,296.4	5.7
		Other Restaurants	249,690,920	152	24	209	9	16.7	96,699	12.2	13.1	1.9	12.2	7,745.5	3.6
SF Non Restaurant			20,926,722,182	971	165	5,176	31	4.9	2,266,492	0.9	1.0	0.2	1.0	2,166.1	1.0
RANGES, OVENS, GRILLS															
Restaurants			1,556,264,054	464	54	693	13	8.9	323,641	6.0	34.1	0.7	55.9	4,159.2	43.4
	390500	Restaurants, N.O.C.	349,144,339	79	10	131	13	7.5	70,428	4.5	25.9	0.6	46.1	4,034.3	42.1
	390507	Class H Restaurants	569,662,953	106	14	346	25	12.1	94,330	3.7	21.3	0.5	39.6	3,311.8	34.5
	390509	Fast Food Drive-Ins, N.O.C.	387,765,842	229	28	207	7	10.7	139,890	11.8	67.5	1.4	116.2	7,215.2	75.2
		Other Restaurants	249,690,920	50	2	9	5	0.7	18,993	4.0	22.9	0.2	12.9	1,521.3	15.9
SF Non Restaurant			20,926,722,182	183	13	77	6	0.1	100,360	0.2	1.0	0.0	1.0	95.9	1.0
POTS, PANS, TRAYS															
Restaurants			1,556,264,054	277	15	384	26	4.9	183,092	3.6	17.2	0.2	10.1	2,353.0	14.5
	390500	Restaurants, N.O.C.	349,144,339	76	4	53	13	3.0	45,121	4.4	21.1	0.2	12.0	2,584.6	16.0
	390507	Class H Restaurants	569,662,953	94	6	155	26	5.4	84,634	3.3	16.0	0.2	11.0	2,971.4	18.3
	390509	Fast Food Drive-Ins, N.O.C.	387,765,842	72	2	143	72	7.4	37,505	3.7	18.0	0.1	5.4	1,934.4	11.9
		Other Restaurants	249,690,920	35	3	33	11	2.6	15,833	2.8	13.6	0.2	12.6	1,268.2	7.8
SF Non Restaurant			20,926,722,182	216	20	403	20	0.4	169,439	0.2	1.0	0.0	1.0	161.9	1.0

* Compensable count is a subset of Accepted Count - it identifies those claims with an indemnity payment - typically for lost time

** All Rates are per 10,000 FTE (1 FTE = 2,000 hours)

† Rate Ratios are comparison to all state fund (exclusive of restaurants). A rate ratio of 60 means that industry has 60 times the rate of another industry.

- Table 3 presents count, time loss, and cost data for heat related burns in restaurants in WA between 2006-2012.
- “Fats, Oils” were the leading source of WA SF accepted heat related burns claims and this source was associated with the highest incurred total cost (\$).
 - Fast Food Drive-ins, N.O.C. had the highest number of accepted & compensable claims from ‘Fats, Oils’.
 - The highest # of TL days per 10,000 FTE and the highest severity rate in \$ per 10,000 FTE from ‘Fats, Oils’ was in Restaurants, N.O.C.
- While there were many claims for heat related burns in restaurants, very few resulted in an acute inpatient hospitalization (an acute inpatient hospitalization is one where the claimant is admitted on an inpatient basis for treatment (non-observation admission) within 48 hours of the injury event). There were 56 accepted claims that resulted in an acute inpatient hospitalization, and of these, 51 were compensable (data not shown).
 - For acute inpatient hospitalization claims, the average days of time loss (TL) per compensable claim was 77.3 days.
 - The two leading sources of burns in restaurants that led to acute inpatient hospitalizations were “Broiling and Frying Equipment” and “Fire, Flame”.