



RESEARCH



Firefighter Injuries on the Fireground

Supporting Tables

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Firefighter Injuries on the Fireground: Supporting Tables

The tables in this document are a companion to the report of the same name. The table topics are listed below.

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The national estimates of fires and losses in this analysis are 2015–2019 annual averages. Estimates were derived from the US Fire Administration’s National Fire Incident Reporting System (NFIRS) and NFPA’s annual fire department experience survey and include proportional shares of unknown or missing data. Fires are rounded to the nearest 10, deaths and injuries are rounded to the nearest one, and property loss is rounded to the nearest million dollars. Property loss was not adjusted for inflation. Percentages were calculated on unrounded estimates. Sums may not equal totals due to rounding errors. The estimates include proportional shares of fires with unknown data. For more information on how these estimates were calculated, please see the [full report](#) and *How NFPA’s National Estimates Are Calculated for Fires*.

Table 1. Firefighter Fireground Injuries by Year, 2005–2019

Year	Number of Injuries
2005	41,950
2006	44,210
2007	38,340
2008	36,590
2009	32,200
2010	32,680
2011	30,500
2012	31,490
2013	29,760
2014	27,020
2015	29,130
2016	24,330
2017	24,500
2018	22,970
2019	23,820

Note: These are national estimates of firefighter injuries reported to US municipal fire departments and so exclude firefighter injuries reported only to federal or state agencies or industrial fire brigades. National estimates of total fireground injuries are made based on data reported by fire departments to the NFPA in its annual fire experience survey. Detailed firefighter casualty information is based on data reported by fire departments participating in NFIRS 5.0. Fireground injuries are rounded to the nearest ten.

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 2. Firefighter Fireground Injuries by Gender, 2015–2019

Gender	Firefighter Injuries	
Male	23,960	(96%)
Female	990	(4%)
Total	24,950	(100%)

Note: These are national estimates of firefighter injuries reported to US municipal fire departments and so exclude firefighter injuries reported only to federal or state agencies or industrial fire brigades. National estimates of total fireground injuries are made based on data reported by fire departments to the NFPA in its annual fire experience survey. Detailed firefighter casualty information is based on data reported by fire departments participating in NFIRS 5.0. Fireground injuries are rounded to the nearest ten.

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 3. Firefighter Fireground Injuries by Victim's Age, 2015–2019

Age	Firefighter Injuries	
Less than 20 years	450	(2%)
20 to 29 years	4,540	(18%)
30 to 39 years	7,580	(30%)
40 to 49 years	7,510	(30%)
50 to 59 years	4,260	(17%)
60 to 69 years	540	(2%)
70 years and older	60	(0%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 4. Fireground Injuries by Cause of Injury, 2015–2019

Cause	Firefighter Injuries	
Exposure to hazard	6,450	(26%)
Overexertion/strain	5,480	(22%)
Slipping or tripping	2,650	(11%)
Contact with object	2,300	(9%)
Falling	2,250	(9%)
Struck or assaulted by person, animal, or object	1,370	(5%)
Jumping	100	(0%)
Unclassified cause	1,830	(7%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 5. Fireground Injuries by Type of Incident, 2015–2019

Type of Incident	Firefighter Injuries	
Structure fire	20,720	(83%)
Vehicle fire	1,310	(5%)
Natural vegetation fire	1,220	(5%)
Outside rubbish fire	700	(3%)
Fire in mobile property used as a fixed structure	400	(2%)
Special outside fire	300	(1%)
Cultivated vegetation, crop fire	30	(0%)
Unclassified fire	280	(1%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 6. Fireground Injuries by Severity of Injury, 2015–2019

Injury Severity	Firefighter Injuries	
Report only, including exposure	9,820	(39%)
Lost time injury, moderate severity	6,880	(28%)
Treated by physician, not a lost time injury	4,500	(18%)
First aid only	3,290	(13%)
Lost time injury, severe	380	(2%)
Lost time injury, life-threatening	80	(0%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 7. Fireground Injuries by Location When Injured, 2015–2019

Injury Location	Firefighter Injuries	
Outside at grade	7,160	(29%)
In structure, excluding attic, roof, or wall	6,670	(27%)
On roof	540	(2%)
In attic or other confined structural space	490	(2%)
On ground ladder	330	(1%)
On steep grade	290	(1%)
On fire escape or outside stairway	190	(1%)
On aerial ladder or in basket	190	(1%)
In motor vehicle	150	(1%)
Unspecified location	1,640	(7%)
Other known location	290	(1%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 8. Fireground Injuries by Activity When Injured, 2015–2019

Activity	Firefighter Injuries	
Extinguishing fire or neutralizing incident	13,950	(56%)
Handling charged hose lines	5,200	(21%)
Using hand tools in extinguishment activity	1,460	(6%)
Other known extinguishing or neutralizing activity	260	(1%)
Unclassified extinguishing fire or neutralizing incident	7,030	(28%)
Suppression support	5,340	(21%)
Overhaul	2,140	(9%)
Ventilation with hand tools	470	(2%)
Forcible entry	450	(2%)
Ventilation with power tools	360	(1%)
Salvage	210	(1%)
Unclassified suppression support	1,710	(7%)
Other incident scene activity	2,000	(8%)
Picking up tools, equipment, or hose on scene	450	(2%)
Moving tools or equipment around scene	440	(2%)
Laying hose	360	(1%)
Catching hydrant	190	(1%)
Unclassified or other incident scene activity	570	(2%)
EMS or rescue	960	(4%)
Searching for victim	500	(2%)
Rescuing fire victim	330	(1%)
Other EMS or rescue activity	140	(1%)
Access or egress	790	(3%)
Climbing ladder	160	(1%)
Other known access or egress activity	310	(1%)
Unclassified access or egress activity	320	(1%)
Operating fire department apparatus	710	(3%)
Operating engine or pumper	540	(2%)
Other operating fire department apparatus	180	(1%)
Driving or riding vehicle	450	(2%)
Getting off fire department vehicle	310	(1%)
Other driving or riding fire department vehicle	140	(1%)
Other known activity	480	(2%)
Incident investigation, during incident	320	(1%)
Incident investigation, after incident	90	(0%)
Other activity	60	(0%)
Unclassified activity	260	(1%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.
Source: NFIRS and NFPA fire experience survey.

Table 9. Fireground Injuries by Primary Symptom, 2015–2019

Primary Symptom	Firefighter Injuries	
Strain or sprain	6,430	(26%)
Smoke inhalation	3,550	(14%)
Pain only	2,960	(12%)
Thermal burns	2,000	(8%)
Cut or laceration	1,470	(6%)
Exhaustion or fatigue, including heat exhaustion	1,310	(5%)
Contusion or bruise, minor trauma	1,070	(4%)
Dizziness, fainting, or weakness	600	(2%)
Swelling	590	(2%)
Breathing difficulty or shortness of breath	440	(2%)
Cardiac symptoms	440	(2%)
Fracture	400	(2%)
Stab or puncture wound, penetrating	360	(1%)
Dehydration	330	(1%)
Hazardous fumes inhalation	320	(1%)
Abrasion	280	(1%)
Eye trauma, avulsion	210	(1%)
Scald burn	210	(1%)
Nausea	180	(1%)
Dislocation	170	(1%)
Crushing	150	(1%)
Electric shock	130	(1%)
Vomiting	100	(0%)
Unclassified sickness	90	(0%)
Internal trauma	80	(0%)
Burns and smoke inhalation	80	(0%)
Numbness or tingling, paresthesia	80	(0%)
Disorientation	70	(0%)
Allergic reaction, including anaphylactic shock	60	(0%)
Chemical burn	50	(0%)
Foreign body obstruction	40	(0%)
Unconscious	40	(0%)
Heat stroke	20	(0%)
Electrical burn	20	(0%)
Frostbite	20	(0%)
Hemorrhaging, bleeding internally	10	(0%)
Emotional or psychological stress	10	(0%)
Shock	10	(0%)
Cardiac arrest	10	(0%)

Table 9. Fireground Injuries by Primary Symptom, 2015–2019 (Continued)

Primary Symptom	Firefighter Injuries	
Other known primary symptom	20	(0%)
Unclassified symptom	550	(2%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 10. Fireground Injuries by Primary Body Part, 2015–2019

Primary Body Part	Firefighter Injuries	
Lower extremities	4,920	(20%)
Knee	2,100	(8%)
Ankle	1,390	(6%)
Leg, lower	640	(3%)
Foot and toes	490	(2%)
Leg, upper	310	(1%)
Upper extremities	4,400	(18%)
Hand and fingers	2,660	(11%)
Wrist	550	(2%)
Elbow	440	(2%)
Arm, lower, not including elbow or wrist	390	(2%)
Arm, upper, not including elbow or shoulder	340	(1%)
Internal	4,190	(17%)
Trachea and lungs	3,570	(14%)
Heart	220	(1%)
Stomach	70	(0%)
Other and unclassified internal	350	(1%)
Neck and shoulders	3,130	(13%)
Shoulder	2,040	(8%)
Neck	1,010	(4%)
Throat	80	(0%)
Head	2,760	(11%)
Ear	640	(3%)
Eye	570	(2%)
Mouth, including lips, teeth, and interior	210	(1%)
Nose	140	(1%)
Unclassified head	1,200	(5%)
Thorax	1,840	(7%)
Back, except spine	1,240	(5%)
Chest	600	(2%)
Multiple body parts	1,860	(7%)
Multiple body parts, whole body	1,340	(5%)
Multiple body parts, upper part of body	440	(2%)
Multiple body parts, lower part of body	80	(0%)
Spine	810	(3%)
Abdominal area	670	(3%)
Hip, lower back, or buttocks	410	(2%)
Abdomen	160	(1%)
Pelvis or groin	100	(0%)

Table 10. Fireground Injuries by Primary Body Part, 2015–2019 (Continued)

Primary Body Part	Firefighter Injuries	
Other body parts	360	(1%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 11. Fireground Injuries by Factors Contributing to Injury, 2015–2019

Injury Factor	Firefighter Injuries	
Fire development	8,090	(32%)
Fire progress, including smoky conditions	6,740	(27%)
Explosion	250	(1%)
Flashover	160	(1%)
Backdraft	10	(0%)
Unclassified fire development	940	(4%)
Slippery or uneven surfaces	4,820	(19%)
Uneven surface, including holes in the ground	1,480	(6%)
Icy surface	1,050	(4%)
Wet surface, including water, soap, and foam, etc.	590	(2%)
Loose material on surface	550	(2%)
Unclassified slippery or uneven surfaces	1,150	(5%)
Collapse or falling object	2,340	(9%)
Falling objects	760	(3%)
Ceiling collapse	590	(2%)
Floor collapse	280	(1%)
Roof collapse	190	(1%)
Wall collapse	90	(0%)
Cave-in (earth)	10	(0%)
Unclassified collapse or falling object	360	(1%)
Holes	650	(3%)
Hole burned through floor	220	(1%)
Unguarded hole in structure	100	(0%)
Hole burned through roof	20	(0%)
Unclassified holes	310	(1%)
Lost, caught, trapped, or confined	390	(2%)
Operating in confined structural areas	270	(1%)
Person physically caught or trapped	60	(0%)
Lost in building	20	(0%)
Operating under water or ice	10	(0%)
Unclassified lost, caught, trapped, or confined	30	(0%)
Vehicle or apparatus	280	(1%)
Firefighter standing on apparatus	90	(0%)
Vehicle collided with another vehicle	10	(0%)
Vehicle collided with non-vehicular object	10	(0%)
Other known vehicle or apparatus	10	(0%)
Unclassified or other known vehicle or apparatus	170	(1%)

**Table 11. Fireground Injuries by Factors Contributing to Injury, 2015–2019
(Continued)**

Injury Factor	Firefighter Injuries	
Other contributing factors	60	(0%)
Hostile acts	60	(0%)
Unclassified factor contributed to injury	2,900	(12%)
None	5,410	(22%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 12. Fireground Injuries by Month, 2015–2019

Month	Firefighter Injuries	
January	2,470	(10%)
February	2,210	(9%)
March	2,200	(9%)
April	2,030	(8%)
May	2,110	(8%)
June	2,060	(8%)
July	2,450	(10%)
August	2,100	(8%)
September	1,780	(7%)
October	1,850	(7%)
November	1,760	(7%)
December	1,930	(8%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 13. Fireground Injuries by Day of Week, 2015–2019

Day of Week	Firefighter Injuries	
Sunday	3,730	(15%)
Monday	3,580	(14%)
Tuesday	3,590	(14%)
Wednesday	3,500	(14%)
Thursday	3,550	(14%)
Friday	3,450	(14%)
Saturday	3,550	(14%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 14. Fireground Injuries by Time of Day, 2015–2019

Time of Day	Firefighter Injuries	
Midnight–12:59 a.m.	990	(4%)
1:00–1:59 a.m.	920	(4%)
2:00–2:59 a.m.	860	(3%)
3:00–3:59 a.m.	1,000	(4%)
4:00–4:59 a.m.	740	(3%)
5:00–5:59 a.m.	860	(3%)
6:00–6:59 a.m.	740	(3%)
7:00–7:59 a.m.	770	(3%)
8:00–8:59 a.m.	820	(3%)
9:00–9:59 a.m.	930	(4%)
10:00–10:59 a.m.	1,020	(4%)
11:00–11:59 a.m.	970	(4%)
12:00–12:59 p.m.	1,120	(4%)
1:00–1:59 p.m.	1,260	(5%)
2:00–2:59 p.m.	1,480	(6%)
3:00–3:59 p.m.	1,400	(6%)
4:00–4:59 p.m.	1,350	(5%)
5:00–5:59 p.m.	1,370	(5%)
6:00–6:59 p.m.	1,270	(5%)
7:00–7:59 p.m.	1,140	(5%)
8:00–8:59 p.m.	1,070	(4%)
9:00–9:59 p.m.	990	(4%)
10:00–10:59 p.m.	980	(4%)
11:00–11:59 p.m.	890	(4%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 15. Fireground Injuries by Affiliation, 2015–2019

Affiliation	Firefighter Injuries	
Career	20,650	(83%)
Volunteer	4,300	(17%)
Total	24,950	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 16. Fireground Injuries by Affiliation and Gender, 2015–2019

Gender	Firefighter Injuries	
Career	20,650	(100%)
Male	20,000	(97%)
Female	650	(3%)
Volunteer	4,300	(100%)
Male	3,980	(93%)
Female	320	(7%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 17A. Career Fireground Injuries by Age, 2015–2019

Age	Firefighter Injuries	
Less than 20 years	150	(1%)
20 to 29 years	3,170	(15%)
30 to 39 years	6,540	(32%)
40 to 49 years	6,790	(33%)
50 to 59 years	3,700	(18%)
60 to 69 years	300	(1%)
70 years and older	10	(0%)
Total	20,650	(100%)

Table 17B. Volunteer Fireground Injuries by Age, 2015–2019

Age	Firefighter Injuries	
Less than 20 years	320	(7%)
20 to 29 years	1,500	(35%)
30 to 39 years	940	(22%)
40 to 49 years	720	(17%)
50 to 59 years	520	(12%)
60 to 69 years	230	(5%)
70 years and older	60	(1%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 18A. Career Firefighter Fireground Injuries by Cause, 2015–2019

Cause of Injury	Firefighter Injuries	
Exposure to hazard	6,670	(32%)
Overexertion/strain	4,930	(24%)
Slipping or tripping	2,380	(12%)
Contact with object	1,980	(10%)
Falling	1,970	(10%)
Struck or assaulted by person, animal, or object	1,180	(6%)
Jumping	90	(0%)
Unclassified cause	1,450	(7%)
Total	20,650	(100%)

Table 18B. Volunteer Firefighter Fireground Injuries by Cause, 2015–2019

Cause of Injury	Firefighter Injuries	
Overexertion/strain	1,100	(26%)
Exposure to hazard	860	(20%)
Contact with object	540	(13%)
Slipping or tripping	500	(12%)
Falling	480	(11%)
Struck or assaulted by person, animal, or object	370	(9%)
Jumping	20	(0%)
Unclassified cause	430	(10%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 19A. Career Firefighter Fireground Injuries by Type of Incident, 2015–2019

Type of Incident	Firefighter Injuries	
Structure fire	17,090	(83%)
Vehicle fire	1,190	(6%)
Natural vegetation fire	910	(4%)
Outside rubbish fire	680	(3%)
Special outside fire	260	(1%)
Fire in mobile property used as a fixed structure	260	(1%)
Cultivated vegetation, crop fire	20	(0%)
Unclassified fire	230	(1%)
Total	20,650	(100%)

Table 19B. Volunteer Firefighter Fireground Injuries by Type of Incident, 2015–2019

Type of Incident	Firefighter Injuries	
Structure fire	3,530	(82%)
Natural vegetation fire	320	(7%)
Vehicle fire	190	(4%)
Fire in mobile property used as a fixed structure	120	(3%)
Outside rubbish fire	70	(2%)
Special outside fire	40	(1%)
Cultivated vegetation, crop fire	10	(0%)
Unclassified fire	30	(1%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 20A. Career Firefighter Fireground Injuries by Severity of Injury, 2015–2019

Injury Severity	Firefighter Injuries	
Report only, including exposure	9,140	(44%)
Lost time injury, moderate severity	6,010	(29%)
Treated by physician, not a lost time injury	2,860	(14%)
First aid only	2,290	(11%)
Lost time injury, severe	310	(1%)
Lost time injury, life-threatening	50	(0%)
Total	20,650	(100%)

Table 20B. Volunteer Firefighter Fireground Injuries by Severity of Injury, 2015–2019

Injury Severity	Firefighter Injuries	
Treated by physician, not a lost time injury	1,630	(38%)
First aid only	1,020	(24%)
Report only, including exposure	800	(19%)
Lost time injury, moderate severity	730	(17%)
Lost time injury, severe	80	(2%)
Lost time injury, life-threatening	30	(1%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 21A. Career Firefighter Fireground Injuries by Location When Injured, 2015–2019

Injury Location	Firefighter Injuries	
In structure, excluding attic, roof, or wall	8,210	(40%)
Outside at grade	7,890	(38%)
On roof	680	(3%)
In attic or other confined structural space	600	(3%)
On ground ladder	320	(2%)
On steep grade	290	(1%)
On fire escape or outside stairway	240	(1%)
On aerial ladder or in basket	230	(1%)
In motor vehicle	170	(1%)
On vertical surface or ledge	110	(1%)
In ditch or trench	100	(0%)
In open pit	20	(0%)
In water	20	(0%)
In ravine	10	(0%)
In boat, ship, or barge	10	(0%)
Unspecified location	1,730	(8%)
Other known location	20	(0%)
Total	20,650	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 21B. Volunteer Firefighter Fireground Injuries by Location When Injured, 2015–2019

Injury Location	Firefighter Injuries	
Outside at grade	2,120	(49%)
In structure, excluding attic, roof, or wall	1,160	(27%)
On ground ladder	100	(2%)
On roof	80	(2%)
On steep grade	80	(2%)
In attic or other confined structural space	70	(2%)
In motor vehicle	60	(1%)
On aerial ladder or in basket	40	(1%)
In ditch or trench	30	(1%)
On vertical surface or ledge	30	(1%)
In ravine	20	(0%)
On fire escape or outside stairway	10	(0%)
Unspecified location	480	(11%)
Other known location	10	(0%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 22A. Career Firefighter Fireground Injuries by Activity When Injured, 2015–2019

Activity	Firefighter Injuries	
Extinguishing fire or neutralizing incident	11,930	(58%)
Handling charged hose lines	3,920	(19%)
Using hand tools in extinguishment activity	1,120	(5%)
Unclassified extinguishing fire or neutralizing incident	6,690	(32%)
Using hand extinguishers	90	(0%)
Operating master steam device	60	(0%)
Shutting off utilities, gas lines, etc.	50	(0%)
Other known extinguishing fire or neutralizing incident	20	(0%)
Suppression support	4,280	(21%)
Overhaul	1,650	(8%)
Forcible entry	390	(2%)
Ventilation with hand tools	390	(2%)
Ventilation with power tools	290	(1%)
Salvage	160	(1%)
Unclassified suppression support	1,410	(7%)
Other incident scene activity	1,490	(7%)
Picking up tools, equipment, or hose on scene	350	(2%)
Moving tools or equipment around scene	310	(2%)
Laying hose	260	(1%)
Catching hydrant	150	(1%)
Unclassified or other incident scene activity	410	(2%)
EMS or rescue	850	(4%)
Searching for victim	430	(2%)
Rescuing fire victim	290	(1%)
Providing EMS care	50	(0%)
Rescuing non-fire victim	40	(0%)
Other or unclassified EMS or rescue activity	40	(0%)
Access or egress	640	(3%)
Climbing ladder	110	(1%)
Raising ground ladder	80	(0%)
Carrying ground ladder	60	(0%)
Escaping fire or hazard	50	(0%)
Unclassified access or egress activity	290	(1%)
Other known access or egress activity	50	(0%)
Operating fire department apparatus	560	(3%)
Operating engine or pumper	420	(2%)
Operating aerial ladder or platform	90	(0%)
Other or unclassified operating fire department apparatus	50	(0%)

Table 22A. Career Firefighter Fireground Injuries by Activity When Injured, 2015–2019 (Continued)

Activity	Firefighter Injuries	
Driving or riding vehicle	310	(2%)
Other known activity	410	(2%)
Incident investigation, during incident	280	(1%)
Incident investigation, after incident	70	(0%)
Administrative, communications, station, or other activity	50	(0%)
Unclassified activity	180	(1%)
Total	20,650	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 22B. Volunteer Firefighter Fireground Injuries by Activity When Injured, 2015–2019

Activity	Firefighter Injuries	
Extinguishing fire or neutralizing incident	2,270	(53%)
Handling charged hose lines	1,240	(29%)
Using hand tools in extinguishment activity	310	(7%)
Other known extinguishing or neutralizing activity	50	(1%)
Unclassified extinguishing fire or neutralizing incident	680	(16%)
Suppression support	920	(22%)
Overhaul	420	(10%)
Ventilation with hand tools	60	(1%)
Ventilation with power tools	60	(1%)
Salvage	50	(1%)
Forcible entry	40	(1%)
Unclassified suppression support	290	(7%)
Operating fire department apparatus	170	(4%)
Operating engine or pumper	120	(3%)
Unclassified operating fire department apparatus	30	(1%)
Other operating fire department apparatus	20	(1%)
Access or egress	130	(3%)
Climbing ladder	40	(1%)
Unclassified access or egress	40	(1%)
Raising ground ladder	20	(0%)
Other known access or egress activity	30	(1%)
Other incident scene activity	460	(11%)
Picking up tools, equipment, or hose on scene	110	(3%)
Moving tools or equipment around scene	110	(3%)
Laying hose	80	(2%)
Catching hydrant	20	(0%)
Other or unclassified incident scene activity	130	(3%)
EMS or rescue	120	(3%)
Searching for victim	60	(1%)
Rescuing fire victim	40	(1%)
Other or unclassified EMS or rescue activity	20	(1%)
Driving or riding vehicle	110	(3%)
Getting off fire department vehicle	70	(2%)
Other or unclassified driving or riding vehicle activity	40	(1%)

Table 22B. Volunteer Firefighter Fireground Injuries by Activity When Injured, 2015–2019 (Continued)

Activity	Firefighter Injuries	
Other known activity	50	(1%)
Incident investigation, during incident	30	(1%)
Administrative, communications, station, or other activity	20	(0%)
Unclassified activity	70	(2%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 23A. Career Firefighter Fireground Injuries by Primary Symptom, 2015–2019

Primary Symptom	Firefighter Injuries	
Strain or sprain	5,610	(27%)
Smoke inhalation	3,780	(18%)
Pain only	2,510	(12%)
Thermal burns	1,510	(7%)
Cut or laceration	1,020	(5%)
Contusion or bruise, minor trauma	830	(4%)
Exhaustion or fatigue, including heat exhaustion	870	(4%)
Swelling	450	(2%)
Dizziness, fainting, or weakness	420	(2%)
Cardiac symptoms	300	(1%)
Breathing difficulty or shortness of breath	290	(1%)
Penetrating stab or puncture wound	280	(1%)
Hazardous fumes inhalation	250	(1%)
Dehydration	250	(1%)
Fracture	230	(1%)
Abrasion	220	(1%)
Eye trauma, avulsion	170	(1%)
Scald burn	170	(1%)
Dislocation	130	(1%)
Crushing	130	(1%)
Nausea	130	(1%)
Electric shock	90	(0%)
Numbness or tingling, paresthesia	70	(0%)
Vomiting	70	(0%)
Internal trauma	60	(0%)
Disorientation	60	(0%)
Unclassified sickness	60	(0%)
Allergic reaction, including anaphylactic shock	50	(0%)
Burns and smoke inhalation	50	(0%)
Chemical burn	30	(0%)
Foreign body obstruction	30	(0%)
Unconscious	20	(0%)
Electrical burn	20	(0%)
Cardiac arrest	10	(0%)
Emotional or psychological stress	10	(0%)
Heat stroke	10	(0%)
Frostbite	10	(0%)
Hemorrhaging, bleeding internally	10	(0%)

Table 23A. Career Firefighter Fireground Injuries by Primary Symptom, 2015–2019 (Continued)

Primary Symptom	Firefighter Injuries	
Unclassified symptom	430	(2%)
Other known symptom	20	(0%)
Total	20,650	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 23B. Volunteer Firefighter Fireground Injuries by Primary Symptom, 2015–2019

Primary Symptom	Firefighter Injuries	
Strain or sprain	630	(15%)
Exhaustion or fatigue, including heat exhaustion	450	(11%)
Cut or laceration	400	(9%)
Thermal burns	390	(9%)
Pain only	350	(8%)
Smoke inhalation	220	(5%)
Contusion or bruise, minor trauma	220	(5%)
Dizziness, fainting, or weakness	210	(5%)
Breathing difficulty or shortness of breath	170	(4%)
Cardiac symptoms	160	(4%)
Fracture	140	(3%)
Swelling	110	(2%)
Dehydration	90	(2%)
Stab or puncture wound, penetrating	80	(2%)
Abrasion	60	(1%)
Nausea	60	(1%)
Eye trauma, avulsion	50	(1%)
Hazardous fumes inhalation	50	(1%)
Dislocation	40	(1%)
Vomiting	40	(1%)
Crushing	40	(1%)
Unclassified sickness	40	(1%)
Electric shock	30	(1%)
Scald burn	30	(1%)
Burns and smoke inhalation	30	(1%)
Disorientation	20	(1%)
Internal trauma	20	(0%)
Unconscious	20	(0%)
Chemical burn	20	(1%)
Allergic reaction, including anaphylactic shock	10	(0%)
Numbness or tingling, paresthesia	10	(0%)
Cardiac arrest	10	(0%)
Heat stroke	10	(0%)
Foreign body obstruction	10	(0%)
Unclassified symptom	70	(2%)
Other known symptom	10	(0%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.
Source: NFIRS and NFPA fire experience survey.

Table 24A. Career Firefighter Fireground Injuries by Primary Body Part, 2015–2019

Primary Body Part	Firefighter Injuries	
Lower extremities	3,910	(19%)
Knee	1,750	(8%)
Ankle	1,060	(5%)
Leg, lower	490	(2%)
Foot and toes	370	(2%)
Leg, upper	250	(1%)
Upper extremities	3,370	(16%)
Hand and fingers	1,960	(10%)
Wrist	420	(2%)
Elbow	380	(2%)
Arm, lower, not including elbow or wrist	300	(1%)
Arm, upper, not including elbow or shoulder	290	(1%)
Unclassified upper extremities	10	(0%)
Internal	4,300	(21%)
Trachea and lungs	3,830	(19%)
Heart	150	(1%)
Stomach	40	(0%)
Other and unclassified internal	280	(1%)
Neck and shoulders	2,630	(13%)
Shoulder	1,730	(8%)
Neck	850	(4%)
Throat	50	(0%)
Head	2,020	(10%)
Ear	500	(2%)
Eye	420	(2%)
Mouth included are lips, teeth, and interior	160	(1%)
Nose	80	(0%)
Unclassified head	850	(4%)
Thorax	1,450	(7%)
Back, except spine	1,040	(5%)
Chest	400	(2%)
Multiple body parts	1,430	(7%)
Multiple body parts, whole body	1,030	(5%)
Multiple body parts, upper part of body	330	(2%)
Multiple body parts, lower part of body	70	(0%)
Spine	740	(4%)

Table 24A. Career Firefighter Fireground Injuries by Primary Body Part, 2015–2019 (Continued)

Primary Body Part	Firefighter Injuries	
Abdominal area	520	(3%)
Hip, lower back, or buttocks	320	(2%)
Abdomen	120	(1%)
Pelvis or groin	70	(0%)
Other body parts	280	(1%)
Total	20,650	(100%)

Totals may not equal sums due to rounding.

Source: NFIRS and NFPA fire experience survey.

Table 24B. Volunteer Firefighter Fireground Injuries by Primary Body Part, 2015–2019

Primary Body Part	Firefighter Injuries	
Upper extremities	950	(22%)
Hand and fingers	640	(15%)
Wrist	110	(3%)
Elbow	40	(1%)
Arm, lower, not including elbow or wrist	90	(2%)
Arm, upper, not including elbow or shoulder	70	(2%)
Lower extremities	850	(20%)
Knee	270	(6%)
Ankle	280	(7%)
Leg, lower	140	(3%)
Foot and toes	110	(3%)
Leg, upper	50	(1%)
Head	640	(15%)
Ear	100	(2%)
Eye	130	(3%)
Mouth, included are lips, teeth, and interior	50	(1%)
Nose	50	(1%)
Unclassified head	320	(7%)
Internal	420	(10%)
Trachea and lungs	240	(6%)
Heart	80	(2%)
Stomach	20	(0%)
Other and unclassified internal	70	(2%)
Neck and shoulders	410	(10%)
Shoulder	240	(6%)
Neck	140	(3%)
Throat	20	(1%)
Multiple body parts	480	(11%)
Multiple body parts, whole body	370	(9%)
Multiple body parts, upper part of body	100	(2%)
Multiple body parts, lower part of body	10	(0%)
Thorax	310	(7%)
Back, except spine	120	(3%)
Chest	180	(4%)

Table 24B. Volunteer Firefighter Fireground Injuries by Primary Body Part, 2015–2019 (Continued)

Primary Body Part	Firefighter Injuries	
Abdominal area	180	(4%)
Hip, lower back, or buttocks	50	(1%)
Abdomen	30	(1%)
Pelvis or groin	20	(0%)
Spine	80	(2%)
Other body parts	70	(2%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 25A. Career Firefighter Fireground Injuries by Factors Contributing to Injury, 2015–2019

Injury Factor	Firefighter Injuries	
Fire development	7,510	(36%)
Fire progress, including smoky conditions	6,470	(31%)
Explosion	190	(1%)
Flashover	110	(1%)
Backdraft	10	(0%)
Unclassified fire development	750	(4%)
Slippery or uneven surfaces	3,840	(19%)
Uneven surface, included are holes in the ground	1,170	(6%)
Icy surface	820	(4%)
Wet surface, included are water/soap/foam, etc.	480	(2%)
Loose material on surface	470	(2%)
Unclassified slippery or uneven surfaces	900	(4%)
Collapse or falling object	1,770	(9%)
Falling objects	570	(3%)
Ceiling collapse	470	(2%)
Floor collapse	210	(1%)
Wall collapse	60	(0%)
Stair collapse	60	(0%)
Unclassified collapse or falling object	270	(1%)
Holes	490	(2%)
Hole burned through floor	180	(1%)
Unguarded hole in structure	90	(0%)
Hole burned through roof	10	(0%)
Unclassified holes	220	(1%)
Lost, caught, trapped, or confined	320	(2%)
Operating in confined structural areas	220	(1%)
Person physically caught or trapped	50	(0%)
Lost in building	20	(0%)
Operating under water or ice	10	(0%)
Unclassified lost, caught, trapped, or confined	20	(0%)
Vehicle or apparatus	200	(1%)
Firefighter standing on apparatus	70	(0%)
Other known vehicle or apparatus	10	(0%)
Unclassified vehicle or apparatus	120	(1%)
Other contributing factors	40	(0%)
Hostile acts	40	(0%)
Unclassified factor	2,100	(10%)
None	4,380	(21%)
Total	20,650	(100%)

Totals may not equal sums due to rounding errors. Source: NFIRS and NFPA fire experience survey.

Table 25B. Volunteer Firefighter Fireground Injuries by Factors Contributing to Injury, 2015–2019

Injury Factor	Firefighter Injuries	
Fire development	830	(19%)
Fire progress, including smoky conditions	580	(14%)
Explosion	80	(2%)
Flashover	30	(1%)
Unclassified fire development	130	(3%)
Slippery or uneven surfaces	780	(18%)
Icy surface	240	(6%)
Uneven surface, included are holes in the ground	240	(6%)
Wet surface, included are water/soap/foam, etc.	90	(2%)
Loose material on surface	60	(2%)
Unclassified slippery or uneven surfaces	140	(3%)
Collapse or falling object	560	(13%)
Falling objects	170	(4%)
Ceiling collapse	120	(3%)
Floor collapse	70	(2%)
Roof collapse	60	(1%)
Wall collapse	30	(1%)
Other known collapse or falling object	10	(0%)
Unclassified collapse or falling object	100	(2%)
Holes	120	(3%)
Hole burned through floor	50	(1%)
Unguarded hole in structure	10	(0%)
Unclassified holes	60	(1%)
Vehicle or apparatus	5	(2%)
Firefighter standing on apparatus	20	(1%)
Other known vehicle or apparatus	10	(0%)
Unclassified vehicle or apparatus	50	(1%)
Lost, caught, trapped, or confined	60	(1%)
Operating in confined structural areas	40	(1%)
Person physically caught or trapped	10	(0%)
Unclassified lost, caught, trapped or confined	10	(0%)
Other contributing factors	20	(1%)
Hostile acts	20	(1%)
Unclassified factor contributed to injury	640	(15%)
None	1,220	(28%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 26A. Career Firefighter Fireground Injuries by Month, 2015–2019

Month	Firefighter Injuries	
January	1,980	(10%)
February	1,790	(9%)
March	1,810	(9%)
April	1,690	(8%)
May	1,740	(8%)
June	1,660	(8%)
July	2,020	(10%)
August	1,750	(8%)
September	1,500	(7%)
October	1,600	(8%)
November	1,490	(7%)
December	1,630	(8%)
Total	20,650	(100%)

Table 26B. Volunteer Firefighter Fireground Injuries by Month, 2015–2019

Month	Firefighter Injuries	
January	460	(11%)
February	420	(10%)
March	410	(10%)
April	350	(8%)
May	370	(9%)
June	330	(8%)
July	480	(11%)
August	370	(9%)
September	280	(7%)
October	260	(6%)
November	260	(6%)
December	300	(7%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 27A. Career Firefighter Fireground Injuries by Day of Week, 2015–2019

Day of Week	Firefighter Injuries	
Sunday	3,000	(15%)
Monday	2,980	(14%)
Tuesday	3,000	(15%)
Wednesday	2,970	(14%)
Thursday	3,030	(15%)
Friday	2,850	(14%)
Saturday	2,840	(14%)
Total	20,650	(100%)

Table 27B. Volunteer Firefighter Fireground Injuries by Day of Week, 2015–2019

Day of Week	Firefighter Injuries	
Sunday	720	(17%)
Monday	560	(13%)
Tuesday	600	(14%)
Wednesday	530	(12%)
Thursday	580	(13%)
Friday	560	(13%)
Saturday	750	(17%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 28A. Career Firefighter Fireground Injuries by Time of Day, 2015–2019

Time of Day	Firefighter Injuries	
Midnight–12:59 a.m.	810	(4%)
1:00–1:59 a.m.	790	(4%)
2:00–2:59 a.m.	730	(4%)
3:00–3:59 a.m.	840	(4%)
4:00–4:59 a.m.	620	(3%)
5:00–5:59 a.m.	720	(3%)
6:00–6:59 a.m.	590	(3%)
7:00–7:59 a.m.	650	(3%)
8:00–8:59 a.m.	710	(3%)
9:00–9:59 a.m.	840	(4%)
10:00–10:59 a.m.	890	(4%)
11:00–11:59 a.m.	790	(4%)
12:00–12:59 p.m.	940	(5%)
1:00–1:59 p.m.	1,080	(5%)
2:00–2:59 p.m.	1,230	(6%)
3:00–3:59 p.m.	1,070	(5%)
4:00–4:59 p.m.	1,110	(5%)
5:00–5:59 p.m.	1,080	(5%)
6:00–6:59 p.m.	1,070	(5%)
7:00–7:59 p.m.	900	(4%)
8:00–8:59 p.m.	800	(4%)
9:00–9:59 p.m.	800	(4%)
10:00–10:59 p.m.	820	(4%)
11:00–11:59 p.m.	760	(4%)
Total	20,650	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

Table 28B. Volunteer Firefighter Fireground Injuries by Time of Day, 2015–2019

Time of Day	Firefighter Injuries	
Midnight–12:59 a.m.	190	(4%)
1:00–1:59 a.m.	130	(3%)
2:00–2:59 a.m.	120	(3%)
3:00–3:59 a.m.	140	(3%)
4:00–4:59 a.m.	90	(2%)
5:00–5:59 a.m.	130	(3%)
6:00–6:59 a.m.	100	(2%)
7:00–7:59 a.m.	90	(2%)
8:00–8:59 a.m.	110	(3%)
9:00–9:59 a.m.	90	(2%)
10:00–10:59 a.m.	170	(4%)
11:00–11:59 a.m.	170	(4%)
12:00–12:59 p.m.	200	(5%)
1:00–1:59 p.m.	230	(5%)
2:00–2:59 p.m.	270	(6%)
3:00–3:59 p.m.	280	(6%)
4:00–4:59 p.m.	260	(6%)
5:00–5:59 p.m.	250	(6%)
6:00–6:59 p.m.	230	(5%)
7:00–7:59 p.m.	260	(6%)
8:00–8:59 p.m.	250	(6%)
9:00–9:59 p.m.	200	(5%)
10:00–10:59 p.m.	210	(5%)
11:00–11:59 p.m.	140	(3%)
Total	4,300	(100%)

Totals may not equal sums due to rounding errors.

Source: NFIRS and NFPA fire experience survey.

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