

# SOFA Switching Fatality and Severe Injury Update – 2014 Third Quarter

## *PLEASE POST IMMEDIATELY*

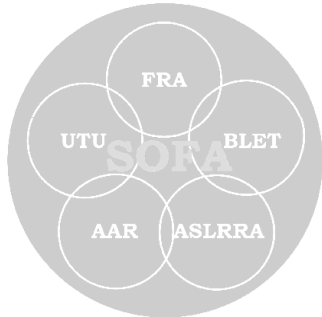
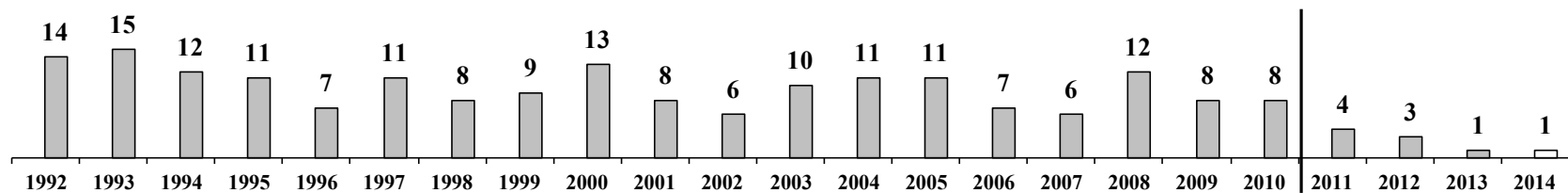
### One Switching Fatality in 2014 through September 16

**June 24 – ABWR – Birmingham, AL:** Employee protecting shoving movement into an industrial track was fatally injured when one of the cars being shoved derailed and collided with cars on an adjacent track

### Achieving the Zero Switching Fatality Goal

Although switching fatalities have declined – particularly since 2011 – each year brings one or more of these tragic events. SOFA’s goal is the elimination of switching fatalities...through education, understanding, and non-punitive interactions among stakeholders. This goal is achievable!

### 196 Fatalities, by year: 1992 through 2013, full year; 2014, part year through September 16



### Switching Operations Fatality Analysis (SOFA)

- A voluntary, non-regulatory, railroad-safety partnership comprised of representatives from AAR, ASLRRR, BLET, FRA, and UTU
- Seeks to prevent switching Fatalities through education based on facts about causes  
SOFA is not part of a rulemaking or regulatory process
- Recognizes that all have responsibility for switching safety: employees, managers, and regulators
- SOFA’s goal is Zero Switching Fatalities achieved through education and non-punitive interactions among stakeholders

# Achieving the Zero Switching Fatality Goal

**SOFA is resolute about achieving zero switching fatalities. Below are relevant quotes from its last two reports:**

## 2004 SOFA Report

*The SWG [SOFA Working Group] believes the goal of Zero Fatalities can be achieved only after the Operating Recommendations [aka Lifesavers] are accepted and become a constant work practice. pg. i. Note: The reference to Operating Recommendations/Lifesavers would seemingly also apply to the five SOFA Safety Advisories published subsequently in the 2011 SOFA Report as well as company safety policies*

*The SWG established a Zero Switching Fatality Goal with no tolerance for any other outcome. pg. xiii*

*In reference to the fatalities that occurred since the publication of the Operating Recommendations/Lifesavers in October 1999, SOFA wrote: Of these 38 fatalities, 17 (45 percent) may have been avoided had the Operating Recommendations been followed. This possibility demonstrates the need for continuing education to reach the goal of Zero Switching Fatalities. pg. 1*

*Because switching fatalities continue to occur, the SWG recognizes additional safety efforts are needed, including those based on the Five Operating Recommendations, to achieve the Zero Switching Fatality Goal. pg. 9*

*The SWG recognizes additional safety efforts are needed to achieve the Zero Switching Fatality Goal. Total commitment to a safety culture based on the life-saving potential of the Five Operating Recommendations is essential. This commitment includes other Special Switching Hazards like close clearances, being struck by mainline trains, and the risk inherent in shoving operations. pg. 15*

## 2011 SOFA Report

*The goal is “Zero Fatalities” and our intent is that no other employee or family will experience this type of tragic event; a lesser goal is not an option. pg. i*

*Safe practices in switching operations are the responsibility of all railroad industry employees. Employees must be able to make decisions on safe actions and be allowed to cease work in the interest of safety. As expressed in many of the railroad’s empowerment statements, when performing safe actions employees should be free from reprisal by discipline, discrimination, or harassment when executing those safe actions. When using discretion to choose safe actions, the employee should use that discretion appropriately. An empowered work environment allows the railroad industry to progress toward attaining the SOFA goal of Zero Fatalities. pg xxiii*

*In writing the 2011 SOFA Report, a team of professional evaluators helped SOFA think about how to effectively implement safety findings to achieve the Zero Switching Fatality Goal. One of their suggestions: Following a clearinghouse model, the SWG would operate as a think-tank and could review successful aspects of safety programs and disseminate them to the railroad industry as “effective practices” for implementation in the railroad industry. Ultimately, the ongoing review meetings of the SWG will promote greater utilization of SOFA findings and promote a railroad safety culture to reach the goal of Zero Fatalities. pg.71*

# **Achieving the Zero Switching Fatality Goal**

**Important issues for achieving the Zero Switching Fatality Goal emerge based on the quotes from the previous page:**

- The ‘Zero Switching Fatality Goal’ is the only possible goal that could be adopted. No tolerance exists for any other. Switching fatalities are tragic events which also affect families**
- Switching fatalities do not occur just by chance, or as random acts of nature. And over and over, the ‘it cannot happen here’ perception has proven incorrect. A fatality happens for a reason. Different fatalities may have different reasons. These reasons can be understood and remedies developed. SOFA has developed reasons and remedies based on review of 191 switching fatalities. These are contained in Operating Recommendations/Lifesavers, SOFA Advisories, and Special Switching Hazards**
- SOFA developed the Operating Recommendations/Lifesavers, Safety Advisories, and Special Switching Hazards to help employees perform work safely. And for the industry to understand safe operating practices. Safety is enhanced when these remedies are used when relevant. Hopefully, these remedies will become known to all through training and education. In particular, new and less experienced employees should be made aware through training, mentoring, and crew resource management interactions. Safety is everyone’s responsibility**
- Implementation of these safety remedies should be achieved systematically, involving all stakeholders. SOFA urges an educational, non-punitive approach. And the effectiveness of implementation should be evaluated**
- SOFA recognizes that just its remedies are not adequate to achieve the Zero Switching Fatality Goal. These remedies do not address all safety issues involved in switching. Company safety policies and practical experience must also be applied**
- And for safety remedies of any type to work, such remedies must always be applied when relevant. Pulling equipment apart, and securing it, before going between equipment, is an example**
- The Zero Switching Fatality Goal is not unrealistic. It can be achieved! In 2013, there was just one switching fatality. Through September 16, there has been just one fatality in 2014**

# SOFA Notes

- Find additional switching safety information on the SOFA Website: <http://www.fra.dot.gov/Page/P0016> [accessed August 30, 2014]
- At its next meeting, SOFA plans to review outstanding fatality cases based on FRA investigations
- SOFA issued a ‘SOFA Alert’ on August 1, 2014, based on the Birmingham, AL, fatality on June 24. And six amputations in 2014, including three within the period of June 24 through July 10:

## SOFA ALERT *PLEASE POST IMMEDIATELY*

**SOFA Fatality, June 24, 2014, Birmingham, Alabama – Employee protecting shoving movement into an industrial track was fatally injured when one of the cars being shoved derailed and collided with cars on an adjacent track**

**6 SOFA Severe Injuries in 2014 resulted in amputations:**

- 3 of the 6 amputations occurred recently: June 24, July 2, and July 10
- 4 of the 6 amputations resulted from employees falling from equipment
- 2 of the 6 amputations resulted from employees working between equipment

**Some remedies for these types of casualty events:**

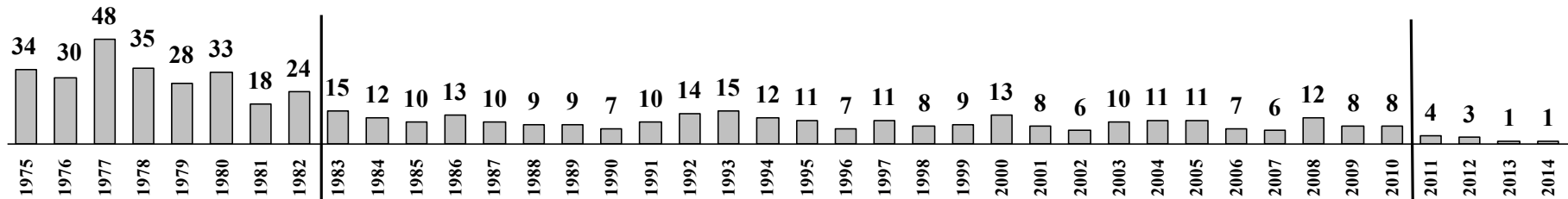
- **SOFA 1: Secure equipment before taking action**
- **SOFA Advisory: Hazards on Industrial Track – Employees should avoid riding equipment within industrial areas, when possible**
- **SOFA Special Switching Hazard: Employee Tripping, Slipping, or Falling – When necessary for an employee to climb or ride on equipment, ensure compliance with relevant railroad safety rules**

## **DATA SECTION – 2014 Third Quarter Update**

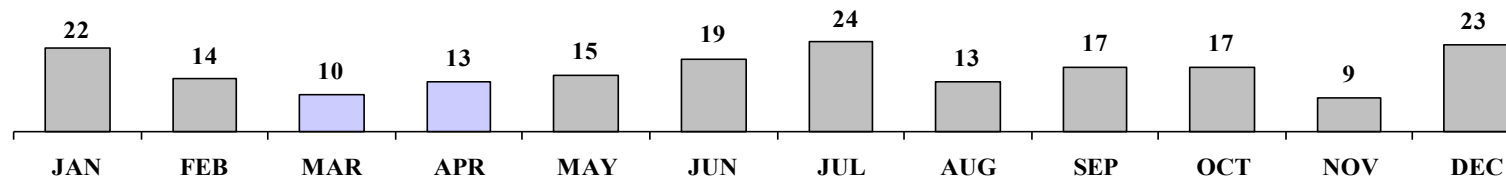
# Switching Fatality History

- 1 fatality in 2014 (Birmingham, AL) through September 16
- 1 fatality in 2013 (Cleveland, OH)
- 3 fatalities in 2012
- 4 fatalities in 2011
- Fatality counts varied from a low of 6 to a high of 15 per year from 2010 back to 1983
- Fatality counts were much higher from 1982 back to 1975

**Annual Switching Fatality Counts, 1975 through 2013, full year; 2014, through September 16**  
 541 fatalities over approximately 39.7 years; fatalities have declined particularly in the last 3.7 years



**196 Switching Fatalities, by month: January 01, 1992 through September 16, 2014**  
 Fatality counts vary by month...there is always risk regardless of the time of year!



# Switching Fatalities since 2011

Four of last nine fatalities involved going between rolling equipment. This safety issue involves SOFA Lifesaver/Recommendation 1, a safety precaution for fouling track between rolling equipment...and was also addressed by *FRA Safety Advisory 2011-02* and *FRA Advisory 2013-03*. Perform precautionary safety steps before going between rolling equipment!

## Switching Fatalities occurring from January 01, 2011 through September 16, 2014

Year	Count	Date	Days between Fatalities	City	State	Reviewed or Preliminary	Brief Description (Risks other than those listed are often involved. Case classification marked 'preliminary' is subject to revision. 'SSH' = Special Switching Hazard)
2011	1	02/08/11	120	Kankakee	IL	reviewed	Advisory 2:Close Clearances (cars left afoul)
	2	07/25/11	167	Bedford Park	IL	reviewed	Lifesaver/Recommendation 1: Going Between Rolling Equipment. SSH: Unsecured Cars
	3	08/15/11	21	Kansas City	KS	reviewed	Lifesaver/Recommendation 1: Going Between Rolling Equipment. SSH: Miscellaneous
	4	09/08/11	24	Botkins	OH	reviewed	Lifesaver/Recommendation 1: Going Between Rolling Equipment. SSH: Unexpected Movement of Railcars
2012	5	01/30/12	144	Gary	IN	preliminary	Shoving was direction of movement
	6	05/28/12	119	Kenmare	ND	preliminary	Advisory 2:Close Clearances (cars left afoul)
	7	07/31/12	64	Mason City	IA	preliminary	Lifesaver/Recommendation 1: Going Between Rolling Equipment
2013	8	02/16/13	200	Cleveland	OH	preliminary	Employee fell from car being shoved
2014	9	06/24/14	493	Birmingham	AL	preliminary	Employee protecting shoving movement into an industrial track was fatally injured when one of the cars being shoved derailed and collided with cars on an adjacent track
<b>84 fatality free days since Birmingham, AL, fatality through September 16, 2014</b>							

## Narratives for Last Two Switching Fatalities

### June 24, 2014 – ABWR – Birmingham, AL

Employee protecting shoving movement into an industrial track was fatally injured when one of the cars being shoved derailed and collided with cars on an adjacent track

### February 16, 2013 – CWRO – Cleveland, OH

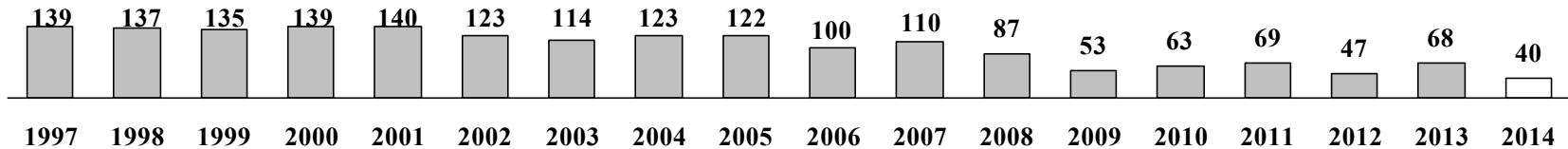
A 50 year-old conductor switching cars inside a steel mill fell from the car he was riding; and was subsequently run over by the equipment. The incident occurred at approximately 5:00 P.M. (local time) on Saturday

# SOFA-defined Severe Injury Update

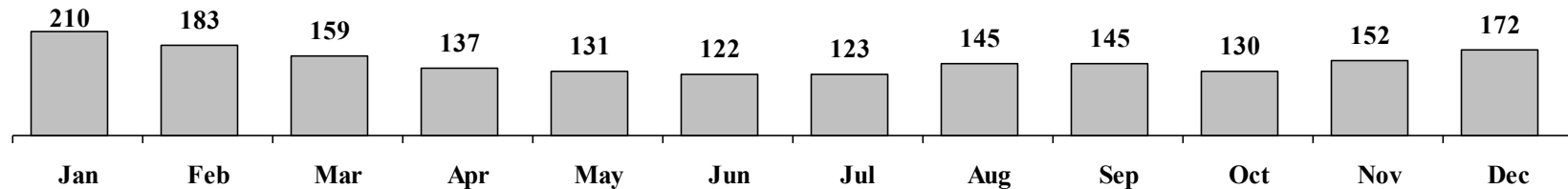
**Definition:** Based on its interests (i.e., potentially involving the same factors as fatalities), *Severe Injuries* are defined by the SOFA Working Group as (1) potentially life threatening; (2) having a high likelihood of permanent loss of function, permanent occupational limitation, or other permanent disability; (3) likely to result in significant work restrictions; and (4) resulting from a high-energy impact to the human body. ‘Severe Injuries’ include amputation, dislocation of the neck, loss of eye, electric shock or burn, and fracture to any bone except the lower arm, fingers, foot, and toes. 1997 is the first year these Injuries to train and engine service employees can be determined as defined by the interest of the SOFA Working Group. For more information, see *Severe Injuries to Train and Engine Service Employees: Data Description and Injury Characteristics*. July 2001. Available electronically at the FRA’s website. Search on ‘SOFA’.

**Note:** The definition of SOFA-defined *Severe Injuries* is not to suggest that other injuries and illnesses resulting from operations are not also ‘severe’ and/or cause hardship to employees.

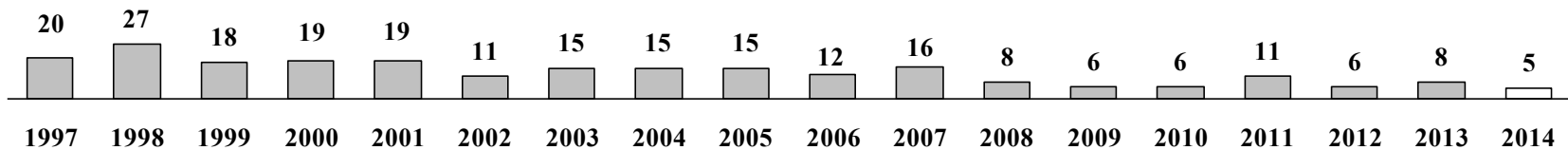
**1,809 SOFA-defined Severe Injuries, by year: 1997 through June 2014**



**1,809 SOFA-defined Severe Injuries, by month, January 1997 through June 2014**



**237 Amputations (counts are included in Severe Injuries), by year: 1997 through June 2014**





# 1,809 SOFA-defined Severe Injuries, by month and year, January 1997 through June 2014

Among *SOFA Updates*, counts previously presented may change based on revisions to FRA data. The latest month available from the FRA lags the calendar month of this *Update* by three months. Publically available FRA data used in this table were accessed on August 29, 2014

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	totals	average
<b>JAN</b>	11	13	16	15	21	12	11	11	20	10	14	13	6	6	8	9	8	6	<b>210</b>	11.7
<b>FEB</b>	17	15	9	9	9	13	17	14	10	6	15	12	4	7	9	2	5	10	<b>183</b>	10.2
<b>MAR</b>	14	12	17	11	10	10	13	10	9	9	11	5	5	4	5	6	3	5	<b>159</b>	8.8
<b>APR</b>	8	10	6	10	12	6	9	13	10	7	8	9	5	7	5	2	4	6	<b>137</b>	7.6
<b>MAY</b>	6	12	8	8	12	14	9	6	6	8	3	7	1	7	8	4	5	7	<b>131</b>	7.3
<b>JUN</b>	9	10	8	11	8	5	10	9	7	11	5	3	6	4	2	6	2	6	<b>122</b>	6.8
<b>To date</b>	<b>65</b>	<b>72</b>	<b>64</b>	<b>64</b>	<b>72</b>	<b>60</b>	<b>69</b>	<b>63</b>	<b>62</b>	<b>51</b>	<b>56</b>	<b>49</b>	<b>27</b>	<b>35</b>	<b>37</b>	<b>29</b>	<b>27</b>	<b>40</b>		<b>52.3</b>
<b>JUL</b>	9	14	10	8	10	7	6	10	5	12	8	1	4	4	5	3	7		<b>123</b>	7.2
<b>AUG</b>	13	10	11	14	8	10	7	14	10	10	13	5	4	5	5	1	5		<b>145</b>	8.5
<b>SEP</b>	10	11	15	10	20	12	5	4	9	6	10	12	5	3	4	5	4		<b>145</b>	8.5
<b>OCT</b>	12	12	16	10	5	11	9	7	11	5	11	4	2	4	4	1	6		<b>130</b>	7.6
<b>NOV</b>	12	9	12	11	13	14	10	10	13	8	6	8	3	6	9	3	5		<b>152</b>	8.9
<b>DEC</b>	18	9	7	22	12	9	8	15	12	8	6	8	8	6	5	5	14		<b>172</b>	10.1
<b>totals</b>	<b>139</b>	<b>137</b>	<b>135</b>	<b>139</b>	<b>140</b>	<b>123</b>	<b>114</b>	<b>123</b>	<b>122</b>	<b>100</b>	<b>110</b>	<b>87</b>	<b>53</b>	<b>63</b>	<b>69</b>	<b>47</b>	<b>68</b>	<b>1,809</b>	<b>102.2</b>	

## 237 Amputations (a type of Severe Injury), by month and year, January 1997 through June 2014

A type of SOFA-defined Severe Injury, Amputations are displayed separately because of the extreme trauma to employees engaged in switching, and the likelihood of permanent occupational and lifestyle limitations. Counts for Amputations are contained in the counts of SOFA-defined Severe Injuries (shown on previous page). Publically available FRA data used in this table were accessed on August 29, 2014

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	totals	average
<b>JAN</b>	1	0	2	1	0	0	2	2	2	0	1	1	1	0	2	0	0	0	<b>15</b>	0.8
<b>FEB</b>	0	1	0	1	0	2	1	2	0	2	1	0	0	1	2	0	1	1	<b>15</b>	0.8
<b>MAR</b>	3	4	3	2	1	1	3	1	2	1	0	1	1	0	0	1	0	1	<b>25</b>	1.4
<b>APR</b>	1	2	0	1	2	0	1	1	2	2	3	3	1	0	1	0	0	0	<b>20</b>	1.1
<b>MAY</b>	1	2	3	0	2	2	2	0	0	1	1	0	0	1	2	0	2	2	<b>21</b>	1.2
<b>JUN</b>	2	1	1	0	1	0	0	1	0	0	1	1	0	0	1	0	0	1	<b>10</b>	0.6
<b>To date</b>	<b>8</b>	<b>10</b>	<b>9</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>9</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>3</b>	<b>2</b>	<b>8</b>	<b>1</b>	<b>3</b>	<b>5</b>		<b>5.9</b>
<b>JUL</b>	1	5	1	0	4	0	1	2	1	2	2	0	1	1	0	0	1		<b>22</b>	1.3
<b>AUG</b>	1	0	1	4	0	1	0	2	2	0	3	0	1	1	0	0	1		<b>17</b>	1.0
<b>SEP</b>	2	4	3	2	5	4	0	0	3	1	1	2	0	1	0	2	0		<b>30</b>	1.8
<b>OCT</b>	2	5	2	2	0	0	2	2	0	0	2	0	0	1	1	1	2		<b>22</b>	1.3
<b>NOV</b>	2	2	2	2	3	0	1	1	2	3	1	0	0	0	1	0	0		<b>20</b>	1.2
<b>DEC</b>	4	1	0	4	1	1	2	1	1	0	0	0	1	0	1	2	1		<b>20</b>	1.2
<b>totals</b>	<b>20</b>	<b>27</b>	<b>18</b>	<b>19</b>	<b>19</b>	<b>11</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>12</b>	<b>16</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>11</b>	<b>6</b>	<b>8</b>		<b>237</b>	<b>13.4</b>

# Switching Fatalities, SOFA-defined Severe Injuries, and Other Reportable Events

Source: Switching fatalities from *SOFA Database*; all other series from FRA, accessed August 29, 2014

Note: Among *SOFA Updates*, counts previously presented may change based on revisions to FRA data

Year	SOFA Switching Fatalities	SOFA-defined Severe Injuries	Amputations (counts are included in SOFA-defined Severe Injuries)	All Employee On-duty Fatalities less SOFA Switching Fatalities	T&E Employee On-duty Fatalities less SOFA Switching Fatalities	All Reportable Employee Casualty to T&E Employees (includes Fatalities and Severe Injuries)	All Accidents	Human Factor Accidents	Highway-Rail Crossing Incidents	Trespasser Incidents (not at crossings)
1992	14	*	*	20	6	6,648	2,359	864	4,910	1,049
1993	15	*	*	32	16	5,649	2,611	865	4,892	1,032
1994	12	*	*	19	9	5,026	2,504	911	4,979	981
1995	11	*	*	23	10	4,215	2,459	944	4,633	955
1996	7	*	*	26	15	3,726	2,443	783	4,257	945
1997	11	139	20	26	10	3,489	2,397	855	3,865	**1,049
1998	8	137	27	19	8	3,642	2,575	971	3,508	**1,049
1999	9	135	18	22	12	3,835	2,768	1,031	3,489	924
2000	13	139	19	11	2	3,893	2,983	1,147	3,502	877
2001	8	140	19	14	6	3,561	3,023	1,035	3,237	915
2002	6	123	11	14	3	3,022	2,738	1,050	3,077	935
2003	10	114	15	9	3	2,935	3,019	1,230	2,977	896
2004	11	123	15	14	9	2,910	3,385	1,353	3,085	**878
2005	11	122	15	14	7	2,817	3,266	1,270	3,066	**878
2006	7	100	12	9	0	2,483	2,998	1,068	2,942	992
2007	6	110	16	11	4	2,520	2,693	1,047	2,778	871
2008	12	87	8	14	4	2,217	2,481	910	2,429	889
2009	8	53	6	8	2	1,972	1,912	656	1,933	760
2010	8	63	6	12	5	1,884	1,903	650	2,051	829
2011	4	69	11	17	11	1,735	2,022	746	2,061	773
2012	3	47	6	13	4	1,537	1,755	661	1,985	835
2013	1	68	8	13	2	1,745	1,802	682	2,097	879
Jan-Jun 2013	1	27	3	2	0	796	896	326	1,022	410
Jan-Jun 2014	1	40	5	2	0	948	839	318	1,130	459
% change	--	--	--	--	--	19.1%	-6.4%	-2.5%	10.6%	12.0%

\*SOFA-defined Severe Injuries are defined only back to 1997

\*\*Counts happened to be identical for these successive years