



# WINTHROP FORENSICS

## Quarterly

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**Winthrop Forensics**  
is the engineering firm  
specializing in:

**Accident Reconstruction**  
**Biomechanical / Injury Causation Analysis**  
**Premises Liability, Product Defects**  
**Forensic Exhibits and Animations**



This installment of **WFQ** concentrates on statistical injury data. The first article in *The Statistical Edge* presents data for bicycle fatalities spanning 1998 to 2008. The second article in *The Statistical Edge* presents data for product-associated sports injuries for the 1998 year. Getting your automobile ready for the cold weather is the topic of *WINterizing YOUR VEHICLE* (WFQ Vol. 2 No. 1). Lastly, there is some Thanksgiving trivia for your enjoyment.



### THANKSGIVING TRIVIA

- 1) When was the first Thanksgiving celebration?
- 2) How fast can wild turkeys run?  
10, 15, 20, or 25 mph
- 3) Can wild turkeys fly?
- 4) What percentage of American homes eat turkey for Thanksgiving? 30, 50, 70, or 90%
- 5) The first department store to hold a Thanksgiving parade was? A) J.C. Penny's; B) Sears; C) Gimbel's
- 6) Canada celebrates Thanksgiving in what month?
- 7) Did the Pilgrims take beer with them on their voyage?
- 8) Is the real Plymouth Rock cracked?
- 9) Are cranberries native to North America?
- 10) Which President made Thanksgiving a national holiday?



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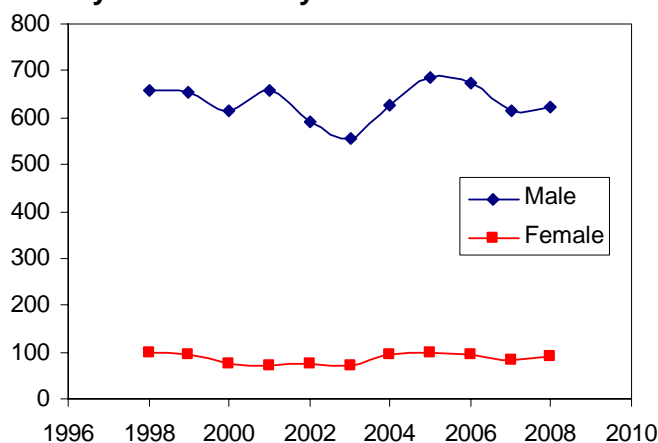
*(Answers on last page)*

# The Statistical Edge

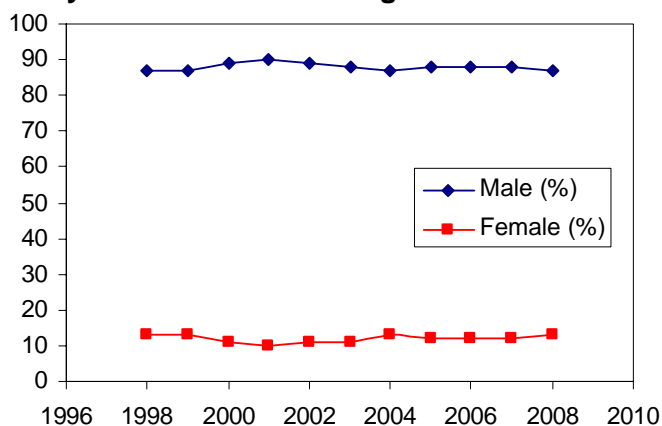
## Bicyclist Fatality Facts 1998-2008

Statistical data for bicycle accidents are discussed below. The following facts are based on analysis of data from the U.S. Department of Transportation's Fatality Analysis Reporting System (FARS).

**Bicyclist Deaths by Gender for 1998-2008**



**Bicyclist Deaths Percentages for 1998-2008**



During the years 1998 to 2008, the least number of bicyclist deaths was for year 2003 with 626. The most deaths occurred during the year 2005 with 784. This represents an increase of 25% in deaths for the year 2005 compared to 2003.

Although the total number of bicyclist deaths fluctuated from year to year, the percentages of male to female deaths remains nearly constant. For example, the percentage of male deaths for the 2003 and 2005 years is equal at 88% despite the increase in total deaths from the year 2003 compared to 2005.

**Bicyclist Deaths for 2008 (by Month)**

Month	Deaths	%
January	42	6
February	41	6
March	38	5
April	64	9
May	70	10
June	63	9
July	68	10
August	76	11
September	89	12
October	78	11
November	48	7
December	37	5
<b>Total</b>	<b>714</b>	<b>100</b>

There were a total of 714 deaths for the 2008 year. The month of September had the greatest number of deaths at 89. This represents 12% of all deaths in that year. December had the least number of deaths at 37, which represents 5% of all deaths in that year.

The highest number of deaths occurred over the three consecutive months of August (76), September (89), and October (78). Although these months accounted for approximately 25% of the days in the year, they accounted for 34% of the total deaths.

**Bicyclist Deaths for 2008 (by Time of Day)**

Time of day	Deaths	%
Midnight-3am	51	7
3am-6am	40	6
6am-9am	80	11
9am-Noon	75	11
Noon-3pm	79	11
3pm-6pm	124	17
6pm-9pm	152	21
9pm-Midnight	109	15
<b>Total</b>	<b>714</b>	<b>100</b>

The time of bicyclist deaths varied throughout the day and night. The least amount of deaths occurred between 3am and 6am with a total of 40 deaths. This represents 6% of all deaths in that year. The greatest amount of deaths occurred between the hours of 6pm to 9pm. During this time, there were a total of 152 deaths, which represents a total of 21% of all deaths in that year.

## ESTIMATES FOR SPORTS INJURIES 1998

This data is derived from *product-associated* injuries treated in hospital emergency rooms participating in the National Electronic Injury Surveillance System (NEISS). There are approximately 100 hospitals participating in the NEISS. The NEISS estimates are calculated from those hospitals which are statistically representative of institutions with emergency treatment departments located within the United States and its territories.

SPORT	CASES	% OF TOTAL
Archery	3,110	0.09
Ball Sports	41,534	1.24
Baseball	180,582	5.39
Basketball	631,186	18.85
Bicycles	577,621	17.25
Bleachers	19,161	0.57
Bowling	23,130	0.69
Boxing	9,183	0.27
Cheerleading	18,858	0.56
Dancing	38,427	1.15
Diving or Diving Boards	11,124	0.33
Exercise w/o Equipment	123,177	3.68
Exercise Equipment	33,320	0.99
Field Hockey	4,666	0.14
Football	355,247	10.61
Golf	46,019	1.37
Gymnastics	31,446	0.94
Hockey	42,285	1.26
Horseback Riding	64,692	1.93
Ice Hockey	22,231	0.66
Ice Skating	33,741	1.01
In-Line Skating	110,783	3.31
Martial Arts	23,018	0.69
Roller Skating	53,681	1.60
Rugby	8,361	0.25
Skateboards	54,532	1.63
Skating (not specified)	27,481	0.82
Snow Skiing	81,787	2.44
Soccer	169,734	5.07
Softball	132,625	3.96
Squash, Racquet Ball	8,984	0.27
Swimming	49,331	1.47
Tennis	22,665	0.68
Track & Field	15,560	0.46
Trampolines	95,239	2.84
Volleyball	66,191	1.98
Water Skiing	14,487	0.43
Weight Lifting	60,039	1.79
Wrestling	43,917	1.31
<b>Total</b>	<b>3,349,155</b>	<b>100.00</b>

### Top 75% of the Total Injuries



**1) Basketball**  
46.4% of 631,186 injuries in age group 15 to 24 years



**2) Bicycles**  
55.0% of 577,621 injuries in age group 5 to 14 years



**3) Football**  
45.0% of 355,247 injuries in age group 5 to 14 years



**4) Baseball**  
50.4% of 180,582 injuries in age group 5 to 14 years



**5) Soccer**  
45.7% of 169,734 injuries in age group 5 to 14 years



**6) Softball**  
30.1% of 132,625 injuries in age group 15 to 24 years



**7) Exercise w/o Equipment**  
30.1% of 123,177 injuries in age group 15 to 24 years



**8) In-Line Skating**  
61.1% of 110,783 injuries in age group 5 to 14 years



**9) Trampolines**  
69.6% of 95,239 injuries in age group 5 to 14 years



**10) Snow Skiing**  
15.9% of 81,787 injuries in age group 15 to 24 years



**11) Volleyball**  
42.6% of 66,191 injuries in age group 15 to 24 years

## **WINTERizing YOUR VEHICLE**

With the temperature dropping and weather getting wet, now is a good time to **WINTERize** your vehicle.

According to a survey performed by the Car Care Council, over 70 percent of motorists admit that they did not have their cars winterized in preparation for inclement weather.

However, several proactive maintenance steps can be performed to prepare your automobile for the winter months. In order to winterize your car, the these checks are recommended:

### **Antifreeze (Coolant)**

Check the level and condition. If coolant needs flushing and refilling, now is a good time.

### **Battery**

Inspect and clean battery posts to insure good connection.

### **Cell phone charger**

Cell phones are prevalent. Keep a dedicated cell phone charger in your car at all times.

### **Oil**

Check the level and condition. Refer to the vehicle manual if lower viscosity "weight" is recommended for cold weather.

### **Tires**

Check for good tread and proper inflation.

### **Wipers**

Inspect the wipers for wear and tear. If wipers are worn/degraded, replace with new blades.

### **Wiper fluid**

Check the wiper fluid level. If low, fill reservoir with vehicle specified wiper fluid.

These suggested maintenance steps can be performed by the Do-It-Yourself method. However, a mechanic can perform these checks. The added benefits of having a mechanic perform these checks is that they can perform extended testing, such as battery testing and charge system checks, and exhaust checks.

To round out the winterization of your car, an emergency kit can be placed in the vehicle as well.

### **Emergency Kit**

Typical items include but not limited to: a flashlight and extra batteries, jumper cables, paper towels, snow brush/scrapper, bottled water and snacks, a blanket and warm clothing. Sand or kitty liter can be used for traction. Lastly, a small tool kit and small shovel can be added as well.



### **Note:**

It is recommended that any person use proper safety gear when performing any maintenance to a vehicle. This includes the use of gloves and protective eye wear.

For further and more detailed winterizing suggestions, visit [Edmunds.com](http://Edmunds.com) or search the internet using the search terms "winterize car".

### **TRIVIA ANSWERS:**

1:1621, 2:25 mph, 3:yes, 4:90%, 5:C, 6:October, 7:yes, 8:yes, 9:yes, 10:Lincoln

## **WINTHROP FORENSICS**

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