FLIGHT SAFETY FOUNDATION
HUMAN FACTORS & AVIATION MEDICINE
Vol. 40 No. 3 *For Everyone Concerned with the Safety of Flight* May/June 1993

Airline Crew Members Suffer High Rate of Occupational Injuries

Compensation claims of nearly 2,500 pilots and flight attendants were examined, and sprains and strains topped the list of physical conditions that resulted in lost work days.

by
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A 1992 U.S. report found that the injury rate per 100 full-time workers for U.S. airline employees was 13.0 percent, compared with [a] private-sector average of 8.6 percent, "an indication of the hazardous nature of the airline industry." During the period between 1978 and 1988, the report said there was no significant change in the rate[1]. The report, which examined 1988 statistical data on occupational injuries and illnesses of pilots and flight attendants, said that the lost work-day rate and the injury-severity rate were each nearly double that of the private sector; typical recuperation time in the airline industry was 17 work days per case.

The 1988 data (the most recent year for which data were available) were compiled by the U.S. Bureau of Labor Statistics (BLS) on workers in the "transportation by air" category, and included an analysis of lost work days in workers' compensation claims from 14 states; complete data from other states were not available[2]. The report noted a variety of limitations in the data that prevented descriptions of the injuries and illnesses with "great precision." The data included aircraft crash-related injuries and illnesses, but, because crashes were — and remain — rare, the vast majority of lost work-day cases were caused by everyday on-the-job factors, said the report. The report also said that "the same conditions that cause occupational injuries and illnesses in the airline industry may prove harmful to passengers."

According to the BLS, commercial airlines in 1988 employed 74,700 civilian pilots and most of the estimated 88,000 civilian flight attendants[3].

Sprains and Strains Top the List of Injuries

"Sprains and strains" constituted the greatest number of physical conditions (Table 1, page 2), and data indicated that these accounted for 38 percent of the total pilot

Table 1

U.S. Distribution of Occupational Injury and Illness Cases by Condition

Airline Industry and the Private Sector, 1988

Physical Condition	Private Sector[1]	Transportation by air	
		Pilots	Flight Attendants
Total Cases	906,154	225	2,261
Percent of Total	100	100	100
Amputations	1	—	—
Heat Burns	2	—	—
Chemical Burns	1	—	—
Contusions and Bruises	10	4	10
Cuts and Lacerations	12	6	4
Fractures	9	15	4
Abrasions and Scratches	3	4	—
Sprains and Strains	45	38	46
All Occupational Diseases	6	18	25
All Other Classifiable	6	11	6
Nonclassifiable	5	4	4

[1] Coverage varies somewhat from state to state, depending on workers' compensation laws. Almost all states exclude shipbuilding and water transportation services; some also exclude small farms.

Note: Columns may not add to 100 percent because of rounding. Dashes indicate no data or data that do not meet publication standards.

Source: U.S. Bureau of Labor Statistics, 1988 Supplementary Data System. Fourteen states participated: Arkansas, California, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, Oklahoma, Oregon, and Texas.

cases and 46 percent of the total flight attendant cases. In the private sector, sprains and strains accounted for 45 percent of the total number of injuries and illnesses.

"Fractures," at 15 percent, were the second most common condition of disabling injuries for pilots, while "contusions and bruises," at 10 percent, constituted the second most common condition for flight attendants.

Falls, which often cause sprains, strains, fractures and bruises, are frequently the result of walking on wet, oily or icy surfaces. Preventive procedures for ankle and knee sprains and strains involve wearing proper footwear[4]. In addition, physical fitness practices increase flexibility, conditioning and reaction time, and help prevent injuries[5].

Vehicles Blamed as Source of Most Injuries

At 32 percent, "vehicles" of various kinds were the most common cause of injuries (Table 2) to flight attendants, and most of the 717 cases were caused by nonpowered vehicles such as handcarts (432), followed by contact with the aircraft (233) and highway vehicles (50). Vehicle-related injuries accounted for 22 percent of pilot injuries, and most of the 49 cases were caused by contact with the aircraft (42) and powered highway vehicles (6).

"Air pressure," at 20 percent, was the second most common source of injury to flight attendants (452), and at 8 percent, it was the fourth most common source of injury to pilots (18). Crew members should be cautioned against flying with a head cold or sinus ailment, which can be aggravated by high cabin-pressure altitudes and result in protracted ear blocks, pain or other ailments.

Overexertion Heads Events

"Overexertion" was the predominant event (Table 3, page 3) that led to injury or illness in the private sector (32 percent), and it was the most common event for flight attendants (33 percent) and it was the second most common event for pilots (17 percent). Overexertion injuries

Table 2

U.S. Distribution of Occupational Injury and Illness Cases by Source

Airline Industry and the Private Sector, 1988

Source	Private Sector[1]	Transportation by air	
		Pilots	Flight Attendants
Total Cases	906,154	225	2,261
Percent of Total	100	100	100
Boxes, Barrels and Containers	14	12	16
Chemicals	2	2	—
Hand Tools	7	2	—
Machines	6	—	—
Metal Items	10	1	1
Vehicles	9	22	32
Work Items	4	—	—
Working Surfaces	15	19	8
Air Pressure	—	8	20
All Other Classifiable	32	31	19
Nonclassifiable	3	3	2

[1] Coverage varies somewhat from state to state, depending on workers' compensation laws. Almost all states exclude shipbuilding and water transportation services; some also exclude small farms.

Note: Columns may not add to 100 percent because of rounding. Dashes indicate no data or data that do not meet publication standards.

Source: U.S. Bureau of Labor Statistics, 1988 Supplementary Data System. Fourteen states participated: Arkansas, California, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, Oklahoma, Oregon, and Texas.

to flight attendants were blamed on "pulling or pushing objects" (330) and lifting objects (266), while most such injuries to pilots were blamed on lifting objects (22) and followed by pulling or pushing objects (4).

"Falls" were the most common event for pilots, at 18 percent. Most of these falls involved walkways (19), stairs (5) and vehicles (4). Falls were the third most common event for flight attendants, at 9 percent, and most of the falls involved walkways (111) and stairs (35).

Back Injuries Reported Most Often

For pilots, the body part most often injured (Table 4) was the "trunk" (30 percent), of which 52 of the 67 cases involved the back. Injuries to "lower extremities" (at 23 percent, the second most affected body parts) made up 52 cases, 25 involving the knee and 14 cases involving the ankle.

For flight attendants, trunk injuries tied with "head and neck" at 29 percent for each. In the trunk category, most of the 656 cases involved the back (450) and shoulders (92). Of the 647 head and neck cases, the external ears (466) and neck (69) were the most common. Injuries to lower extremities accounted for 29 percent and most of the 322 cases involved the legs (132) and feet (96).

The report said that data from 11 states showed that 20 percent of the injured pilots were in their first year of employment, and 25 percent were in their second or third year of employment. Perhaps the low seniority of newly hired pilots caused them to be assigned to more arduous schedules and duty times, which increased sleep loss, fatigue and stress and made them more prone to accidents.

The report said that 11 percent of the injured flight attendants were employed less than one year and 22 percent were in their second or third year of employment.

A crew member who is preoccupied by preparation for an upcoming flight, or who has just disembarked following

Table 3
U.S. Distribution of Occupational Injury and Illness Cases by Event or Exposure
Airline Industry and the Private Sector, 1988

Event or Exposure	Private Sector[1]	Transportation by air: Pilots	Transportation by air: Flight Attendants
Total Cases	906,154	225	2,261
Percent of Total	100	100	100
Struck by or Against	25	13	15
Falls	17	18	9
Caught in, Under, Between	6	3	4
Rubbed or Abraded	2	4	—
Bodily Reaction	7	14	5
Overexertion	32	17	33
Contact with Temperature Extremes	2	—	1
Contact with Radiation and Caustics	3	5	2
Motor Vehicle Accident	3	—	2
Transportation Accidents, Other than Motor Vehicle	—	10	8
All Other Classifiable	2	14	19
Nonclassifiable	2	2	2

[1] Coverage varies somewhat from state to state, depending on workers' compensation laws. Almost all states exclude shipbuilding and water transportation services; some also exclude small farms.

Note: Columns may not add to 100 percent because of rounding. Dashes indicate no data or data that do not meet publication standards.

Source: U.S. Bureau of Labor Statistics, 1988 Supplementary Data System. Fourteen states participated: Arkansas, California, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, Oklahoma, Oregon, and Texas.

Table 4
U.S. Distribution of Occupational Injury and Illness Cases by Body Part Affected
Airline Industry and the Private Sector, 1988

Body Part	Private Sector[1]	Transportation by air: Pilots	Transportation by air: Flight Attendants
Total Cases	906,154	225	2,261
Percent of Total	100	100	100
Head and Neck	9	19	29
Upper Extremities	25	12	13
Trunk	36	30	29
Lower Extremities	19	23	14
Multiple Body Parts	8	8	12
Body Systems	3	7	3
Nonclassifiable	1	—	—

[1] Coverage varies somewhat from state to state, depending on workers' compensation laws. Almost all states exclude shipbuilding and water transportation services; some also exclude small farms.

Note: Columns may not add to 100 percent because of rounding. Dashes indicate no data or data that do not meet publication standards.

Source: U.S. Bureau of Labor Statistics, 1988 Supplementary Data System. Fourteen states participated: Arkansas, California, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Michigan, Mississippi, Missouri, Oklahoma, Oregon, and Texas.

a full day (or night) of flying, may, through diminished alertness, be susceptible to an accident.

Inattention, fatigue, haste and poor lighting contribute to accidents. A conscious effort to remain alert during commuting, airport terminal transits, airport ramp and onboard activities should decrease loss of work days caused by injuries and associated illnesses. ♦

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