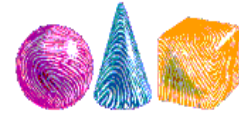




# ETC



ERGONOMIC TECHNOLOGIES CORPORATION  
- Ergonomic Results within Reach

## Airlines Profiting Through Ergonomics

### Overview

In the ETC Laboratory a study conducted by a major airline in 1993 revealed that 592 onboard accidents required a medical visit or a lost day(s), and 360 incidents required both a medical visit with time off. 60% of the accidents occurred in galley-aft, galley-forward and aisles, but aisles made up the largest proportion of the incidents. The nature of the incidents included the following:

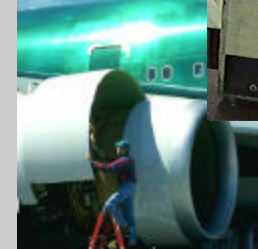
- Overexertion -pushing/pulling and struck against/by
- Abrasions, cuts, bruises, sprains and strains
- Back/spine and arms injuries

Analysis revealed that improper body mechanics and assuming unsafe positions accounted for 41% of the incidents. Other factors included poor physical conditioning, lack of coordination/clumsiness, and using poor judgment while performing the tasks.

The study also showed that meal service equipment accounted for 50% of accidents involving in-flight equipment. All flight attendants surveyed reported symptoms for the hands, wrists, back and shoulders. Service carts were reported as being the most common cause for these symptoms. Additional tasks contributing to symptoms included bending to open drawers, lifting luggage, and overhead reaching to bins. Lack of maintenance of service equipment was reported to be a major factor

### Risk Factors

- Musculoskeletal related - back pain, lifting and moving objects in confined space
- Respiratory related- cough, chest pain, etc
- Reproductive problems
- Increased radiation and ozone exposures
- Frequent changes in cabin pressure
- Continual whole body vibration (WBV)
- Noise
- Cart handling, kneeling and serving (lifting, carrying & bending) most frequent risk factors
  - Flight attendants often use excessive force instead of common sense
  - Other risks factors:
    - Turbulence
    - Lack of personnel onboard
    - Unexpected equipment break-down



CONTACT ETC TO DISCUSS HOW  
YOUR BUSINESS CAN PROFIT  
THROUGH ERGONOMICS:

ERGONOMIC TECHNOLOGIES  
CORPORATION (ETC)  
6851 Jericho Turnpike, Suite 200  
Syosset, NY 11791

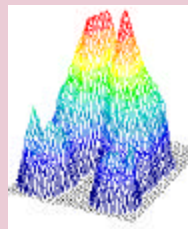
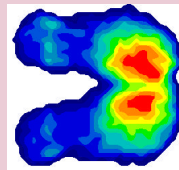
Phone: 516-682-8558

Fax: 516-682-8557

<http://www.ergoworld.com>

### Customer Reference List

- American Airlines
- B/E Aerospace
- Beech Aircraft
- Britax Rumbold
- British Airways
- C & D Aerospace
- Design Acumen
- Franklin Products
- Iacobucci
- Northwest Airlines
- United Airlines



### Benefits of Ergonomics

- Conducting flight attendant injury reviews and analysis
- Proper design and use of service equipment (liquor, food, and folding serving carts; serving trays and coffee pots)
- Modification to the flight attendant in-flight handbook and onboard instruction cards to highlight ergonomically correct methods and postures
- Providing instruction of developed work methods to flight attendants
- Providing training and guidelines for onboard luggage handling (use of overhead bins, flight attendant suitcases)
- Baggage handling guidelines in/out of cargo hold
- First, business and economy class seat dimensions, cushion selection and overall passenger comfort
- Crew rest seat comfort and ergonomics
- Service cart design
- Reduction of work related musculoskeletal injuries and illnesses
- Improved employee health, well being and morale
- Highlight problematic equipment, procedures, and regulations that impact the health and safety of the flight attendants and passengers