



Ergonomic Technologies Corp.

Ergonomic Risk Assessment & Workplace Injury Prevention Solutions

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Airline Industry

Profiting Through Ergonomics

The airline industry faces a unique set of ergonomic challenges: from confined cabin environments to physically demanding service operations. ETC helps airlines protect their workforce, reduce injury costs, and improve operational performance.

OVERVIEW

Industry research consistently shows that onboard accidents are a significant source of worker injury in airline operations. Studies across major carriers reveal that the majority of incidents occur in galley and aisle areas, with the most common injury types including:

- Overexertion from pushing, pulling, and repetitive motion
- Abrasions, cuts, bruises, sprains, and strains
- Back, spine, and upper extremity injuries

Analysis of these incidents shows that improper body mechanics and unsafe working positions account for a significant proportion of injuries, factors that are directly addressable through ergonomic intervention. Additional contributors include inadequate equipment design, lack of ergonomic training, and high physical workload in constrained spaces.

Meal service equipment and service carts are consistently identified as leading contributors to musculoskeletal symptoms among flight attendants, particularly affecting hands, wrists, back, and shoulders. Additional high-risk tasks include bending to open drawers, lifting passenger luggage, and overhead bin access. Equipment maintenance failures compound these risks.

RISK FACTORS

- Musculoskeletal strain, back pain, lifting and moving objects in confined spaces
- Respiratory risks, cough, chest pain, and air quality concerns
- Reproductive health concerns from occupational exposures
- Increased radiation and ozone exposure at altitude
- Frequent and rapid changes in cabin pressure
- Continual whole-body vibration (WBV) during flight
- Elevated noise levels in the cabin environment
- Cart handling, kneeling, and serving, lifting, carrying, and bending are the most frequent risk factors

- Flight attendants routinely apply excessive physical force due to inadequate equipment ergonomics
- Additional risk factors:
 - Turbulence during service operations
 - Insufficient crew staffing levels
 - Unexpected or poorly maintained onboard equipment

BENEFITS OF ERGONOMICS

- Flight attendant injury review, root cause analysis, and trend reporting
- Proper design and evaluation of service equipment, liquor carts, food carts, folding serving carts, serving trays, and coffee pots
- Revision of flight attendant in-flight handbooks and onboard instruction cards to embed ergonomically correct methods and postures
- Delivery of developed work method instruction to active flight attendant teams
- Training and practical guidelines for onboard luggage handling, overhead bins and flight attendant baggage
- Baggage handling guidelines for cargo hold operations
- First, business, and economy class seat dimension analysis, cushion selection, and overall passenger comfort optimization
- Crew rest seat comfort and ergonomic assessment
- Service cart redesign and specification
- Measurable reduction in work-related musculoskeletal injuries and illnesses
- Improved employee health, well-being, and morale
- Identification of problematic equipment, procedures, and regulations impacting flight attendants and passenger health and safety

TRUSTED BY LEADING AIRLINES & AEROSPACE COMPANIES

ETC has partnered with major carriers and aerospace suppliers to deliver ergonomic solutions that protect crews and improve operations:

American Airlines
Archer
B/E Aerospace
Britax Rumbold
British Airways
C & D Aerospace
Design Acumen

Franklin Products
General Atomics
Gulfstream
Iacobucci
Northwest Airlines
United Airlines
Qantas

Contact ETC to Discuss How Your Business Can Profit Through Ergonomics

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