

# Contents–Volume 94

## January through December 2023

### JANUARY 2023

#### EDITORIAL

- 1 Farewell and Welcome!**  
*F. Bonato*

#### PRESIDENT'S PAGE

- 2 Prepping for New Orleans**  
*S. Northrup*

#### RESEARCH ARTICLES

- 3 Cabin Pressure Altitude Effect on Acceleration Atelectasis After Agile Flight Breathing 60% Oxygen**  
*H. Tank, G. Kennedy, R. Pollock, P. Hodkinson, R-A. Sheppard-Hickey, J. Woolford, N. D. C. Green, and A. Stevenson*
- 11 Aviation Decompression Sickness in Aerospace and Hyperbaric Medicine**  
*C. J. Kutz, I. J. Kirby, I. R. Grover, and H. L. Tanaka*
- 18 Test Pilot and Airline Pilot Differences in Facing Unexpected Events**  
*Y. Zheng, Y. Lu, Y. Jie, Z. Zhao, S. Fu*

#### REVIEW ARTICLES

- 25 Spaceflight Maximum Allowable Concentrations for Ethyl Acetate**  
*E. S. Williams and V. E. Ryder*
- 34 Performance Risks During Surface Extravehicular Activity and Potential Mitigation Using Multimodal Displays**  
*J. Y. Zhang and A. P. Anderson*

#### SHORT COMMUNICATION

- 42 Measuring Arterial Oxygen Saturation Using Wearable Devices Under Varying Conditions**  
*E. L. Hearn, J. Byford, C. Wolfe, C. Agyei, P. D. Hodkinson, R. D. Pollock, and T. G. Smith*

#### CASE REPORT

- 48 Implantable Collamer Lens Use in a Spaceflight Participant During Short Duration Spaceflight**  
*C. R. Gibson, T. H. Mader, W. Lipsky, D. M. Brown, R. Jennings, J. Law, A. Sargsyn, T. Brunstetter, S. N. Danilchev, and Y. Maezawa*

#### FEATURES

- 51 This Month in Aerospace Medicine History: January—W. W. Dalitsch III**

#### ASSOCIATION NEWS

- 52 In Memoriam**  
**52 AsMA in the News**

### FEBRUARY 2023

#### PRESIDENT'S PAGE

- 53 American Heart Month**  
*S. Northrup*

#### RESEARCH ARTICLES

- 54 A Comparison Between Three Computer-Based Cone Specific Color Vision Tests**  
*J. Lovell and J. Rabin*
- 59 Cardiorespiratory Responses to Voluntary Hyperventilation During Normobaric Hypoxia**  
*A. Haddon, J. Kanhai, O. Nako, T. G. Smith, P. D. Hodkinson, and R. D. Pollock*
- 66 Using Light to Facilitate Circadian Entrainment from Day to Night Flights**  
*N. L. Shattuck, P. Matsangas, J. Reily, M. McDonough, and K. B. Giles*

## SHORT COMMUNICATIONS

- 74 Residual Sleepiness Risk in Aircrew Members with Obstructive Sleep Apnea Syndrome**  
*J. Monin, E. Rebiere, G. Guiu, S. Bisconte, E. Perrier, and O. Manen*
- 79 Voluntary Urinary Retention Effects on Cognitive Performance**  
*C. A. Griswold, K. A. Vento, and K. J. Blacker*

## CASE REPORTS

- 86 Abdominal Crunch Syndrome Creates a Diagnostic Challenge in Treating a Pilot with Acute Upper Abdominal Pain**  
*A. Kumar and S. Kaistha*
- 90 Pharmacological Relief of Acute Urinary Retention in a Remote Environment**  
*J. Law and V. Cardy*

## LETTER TO THE EDITOR

- 94 Letter to the Editor re: In-Flight Medical Emergencies Management by Anesthetist-Intensivists and Emergency Physicians**

## FEATURES

- 97 Aerospace Medicine Clinic—J. Burchett**
- 100 This Month in Aerospace Medicine History: February—W. W. Dalitsch III**

## MARCH 2023

### PRESIDENT'S PAGE

- 101 Expanding Girls Awareness in Science and Engineering Month**  
*S. Northrup*

### RESEARCH ARTICLES

- 102 Hypoxia Altitude Simulation and Reduction of Cerebral Oxygenation in COPD Patients**  
*L. Dehe, F. Hohendanner, E. Gültekin, G. Werth, A. Wutzler, and T. O. Bender*
- 107 Typical Cockpit Ergonomics Influence on Cervical Motor Control in Healthy Young Male Adults**  
*U. Heggli, J. Swanenburg, L. Hofstetter, M. Häusler, P. Schweinhardt, and D. Bron*
- 113 Temporary Incapacitation Rates and Permanent Loss of Medical License in Commercial Airline Pilots**  
*E. Hohmann and R. Pieterse*

### REVIEW ARTICLE

- 122 Extended Reality Applications for Space Health**  
*M. Ebnali, P. Paladugu, C. Miccile, S. H. Park, B. Burian, S. Yule, and R. D. Dias*

### SHORT COMMUNICATIONS

- 131 A Regional Approach to Aviation Accident Analysis in Hawaii**  
*A. J. de Voogt and J. Brause*
- 135 Lingering Altitude Effects During Piloting and Navigation in a Synthetic Cockpit**  
*J. Beer, B. Morse, T. Dart, S. Adler, and P. Sherman*

### FEATURES

- 142 This Month in Aerospace Medicine History: March—W. W. Dalitsch III**

### AEROSPACE MEDICINE ASSOCIATION NEWS

- 143 Meet AMHP's New Editorial Assistant**
- 143 Fellows Scholarship Winners**
- 144 Member and FAA News**
- 144 Jet Companion Becomes a Corporate Member**

**APRIL 2023**

**AsMA 93rd Annual Scientific Meeting Program and Abstract Issue**  
**Sheraton New Orleans Hotel, New Orleans LA**  
**May 21–25, 2023**

- 145 President's Page**
- 146 Educational Objectives/Credit Hours**
- 147 Workshop Summaries**
- 148 2023 AsMA Annual Lectures**
- 149 Meeting Abstracts**
- 347 Index of Abstract Authors and Session Chairs**

**AsMA Association Business (Black Bar)**

- 352 Past Presidents of AsMA**
- 353 Council of AsMA**
- 354 Annual Meeting Chairs & Committees**
- 355 Aerospace Medical Association Staff**
- 355 Wing Board of Directors**
- 356 Minutes of the 2022 Business Meeting**
- 358 Bylaws of the Aerospace Medical Association**
- 364 Hotel Maps**
- CIII Program at a Glance**

**MAY 2023****PRESIDENT'S PAGE**

- 367 Invitation to a Very Special Armstrong Lecture**  
*S. Northrup*

**RESEARCH ARTICLES**

- 368 Remains Containment Considerations for Death in Low-Earth Orbit**  
*T. Houser, K. N. Lindgren, E. L. Mazuchowski II, M. R. Barratt, D. C. Haines, M. Jayakody, R. S. Blue, J. A. Bytheway, and P. C. Stepaniak*
- 377 Spatial Disorientation Scenarios for the AW159 Helicopter Within a Synthetic Training Environment**  
*A. J. R. Bushby and S. J. Gaydos*
- 384 Gravitational Acceleration Test Results by Lifestyle and Physical Fitness of Air Force Cadets**  
*J-Y. Sung, I-K. Kim, and D-H. Jeong*

**REVIEW ARTICLE**

- 389 Denosumab as a Pharmacological Countermeasure Against Osteopenia in Long Duration Spaceflight**  
*A. Rengel, V. Tran, and L. S. Toh*

**SHORT COMMUNICATION**

- 396 Skin Pathology Prevalence in Deployed Fighter Aircrew Using Custom Molded Hearing Protection**  
*P. A. Strawbridge, L. W. Steinkraus, and R. M. Girsch*

**CASE REPORTS**

- 400 Salzmann's Nodular Degeneration in a Pilot Applicant**  
*J. L. Thorgrimson and D. D. Hessert*
- 404 Transient Facial Nerve Palsy in Aviation**  
*S. L. Bloch, J. Hertz, and M. Klokke*

**TECHNICAL NOTE**

- 409 Cerebral Blood Flow Based Computer Modeling of G<sub>z</sub>-Induced Effects**  
*K. Copeland and J. E. Whinnery*

**FEATURES**

- 415 Aerospace Medicine Clinic**—*J. J. Pavelites, A. J. Lee, and R. Ong*
- 419 This Month in Aerospace Medicine History: April**—*W. W. Dalitsch III*
- 420 This Month in Aerospace Medicine History: May**—*W. W. Dalitsch III*

## JUNE 2023

## PRESIDENT'S PAGE

## 421 A Call to Service

*J. Dervay*

## RESEARCH ARTICLES

## 422 Pilots' Spatial Visualization Ability Assessment Based on Virtual Reality

*M. Zhang, M. Wang, H. Feng, X. Liu, L. Zhai, X. Xu, and Z. Jin*

## 429 Accuracy and Similarity of Team Situation Awareness in Simulated Air Combat

*H. Mansikka, D. Harris, and K. Virtanen*

## 437 Canadian Ultralight Accidents in Water (1990 to 2020)

*C. MacDonald, C. Brooks, R. McGowan, and A. Rosberg*

## REVIEW ARTICLES

## 444 Human Physiological Limitations to Long-Term Spaceflight and Living in Space

*L. H. Winkler*

## 457 A Comprehensive Look Behind Team Composition for Long Duration Spaceflight

*A. Gengeme, B. Simpson, G. G. De La Torre, T. L. Larose, and A. Diaz-Artiles*

## SHORT COMMUNICATION

## 466 Motorized 3D Ultrasound and Jugular Vein Dimension Measurement on the International Space Station

*C. Patterson, D. K. Greaves, A. Robertson, R. Hughson, and P. L. Arbeille*

## CASE REPORTS

## 470 Tolerance of Centrifuge-Simulated Commercial Spaceflight in a Subject with Hemophilia A

*I. A. Reeves, R. S. Blue, S. Auñon-Chancellor, M. F. Harrison, R. Shah, and W. E. Powers*

## 475 Heart Rate Variability of a Student Pilot During Flight Training

*G. Li Volsi, I. P. Monte, A. Aruta, A. Gulizzi, A. Libra, S. Mirulla, G. Panebianco, G. Patti, F. Quattrocchi, V. Bellantone, W. Castorina, S. Arcifa, and F. Papale*

## TECHNICAL NOTES

## 480 A Flight Helmet-Attached Force Gauge for Measuring Isometric Neck Muscle Strength

*P. Nylander, M. Virmavirta, R. Sovellius, H. Kyröläinen, and T. Honkanen*

## 485 HIF-1 Sensor in Detecting Hypoxia Tolerance at High Altitude

*S. Shaharuddin, N. M. A. N. A. Rahman, M. J. Masarudin, M. N. Alamassi, and F. F. A. Saad*

## FEATURES

488 Aerospace Medicine Clinic—*R. Wright and L. Menner*492 This Month in Aerospace Medicine History: June—*W. W. Dalitsch III*

## AEROSPACE MEDICAL ASSOCIATION NEWS

## 493 Constituent Presidents

## 497 Associate Fellows Announced

## 497 In Memoriam

## 498 Scholarship Winners

## JULY 2023

## PRESIDENT'S PAGE

## 499 Our Lifeblood... You!

*J. Dervay*

## RESEARCH ARTICLES

## a 500 A Prospective Cohort Study on Risk Factors for Cervico-Thoracic Pain in Military Aircrew

*M. Tegern, U. Aasa, and H. Larsson*

## 508 Push-out Bond Strength of Fiber Posts in Long-Term Hypobaric Pressure Changes

*S. Ozkan Ata, N. Ata, E. Yazgan, T. Akkor, and R. Ugurlutan*

- 514 **USAFSAM Aeromedical Consultation Service Medical Risk Assessment and Airworthiness Matrix**  
*R. S. Mayes, C. J. Keirns, A. G. Hicks, L. D. Menner, M. S. Lee, J. H. Wagner, and R. L. Baltzer*
- 523 **Metabolic Cost of a Proposed NMES Spaceflight Countermeasure Compared to Walking in Active Adults**  
*T. J. Abitante, M. M. Alemi, D. J. Newman, and K. R. Duda*
- REVIEW ARTICLE**
- 532 **Spaceflight Recovery Considerations for Acute Inhalational Exposure to Hydrazines**  
*B. C. Hanshaw, V. E. Ryder, B. D. Johansen, J. M. Pattarini, H. N. Nguyen, C. D. Nowadly, and R. S. Blue*
- SHORT COMMUNICATION**
- 544 **Revisions to Acute/Off-Nominal Limits for Benzene in Spacecraft Air**  
*V. E. Ryder and E. S. Williams*
- CASE REPORT**
- 546 **Heat Intolerance, Body Size, and Return to Duty**  
*A. Rabotin, Y. Epstein, and I. Ketko*
- TECHNICAL NOTE**
- 550 **Selecting Medical Conditions Relevant to Exploration Spaceflight to Create the IMPACT 1.0 Medical Condition List**  
*A. J. Kreykes, R. Suresh, D. Levin, and D. C. Hilmer*
- FEATURES**
- 557 **Erratum**
- 558 **Aerospace Medicine Clinic**—J. L. Kinard
- 561 **Aerospace Medicine Clinic**—M. B. Dudley
- 565 **Focus on Aerospace Medicine History: U.S. Air Force Manned Orbiting Laboratory Cabin Atmosphere Research Involving Helium**—J. T. Webb, J. B. Charles, and M. R. Campbell
- 568 **This Month in Aerospace Medicine History: July**—W. W. Dalitsch III
- AEROSPACE MEDICAL ASSOCIATION NEWS**
- 569 **AsMA Award Winners for 2023**

## AUGUST 2023

- PRESIDENT'S PAGE**
- 583 **Les bons moments ont roulé à la Nouvelle-Orléans**  
*J. Dervay*
- RESEARCH ARTICLES**
- 584 **Layperson Physiological Tolerance and Operational Performance in Centrifuge-Simulated Spaceflight**  
*R. S. Blue, K. M. Ong, K. Ray, A. Menon, J. Mateus, S. Auñón-Chancellor, R. Shah, and W. Powers*
- 596 **Intravenous Fluid Resuscitation Capabilities in Simulated Reduced Gravity**  
*G. M. Pantalos, J. S. Heidel, I. M. Jain, S. E. Warner, T. L. Barefoot, R. O. Baker, and M. Hailey*
- 604 **Metabolic Syndrome, Hyperlipidemias, and Associated Clinical Markers Among Military Airmen**  
*D. Malpica*
- REVIEW ARTICLE**
- 610 **Artificial Intelligence Applications in Space Medicine**  
*H. C. Cheung, C. De Louche, and M. Komorowski*
- SHORT COMMUNICATION**
- 623 **Sweat Production During Continuous and Interval Aerobic Exercise**  
*J. W. Ryder, J. B. Crowell, H. J. Song, and M. Ewert*
- CASE REPORT**
- 629 **Qualification of Pilots with Aero-Otitis Media After Balloon Eustachian Tuboplasty**  
*M. Zhang, X. Liu, B. Wang, Z. Jin, and X. Xu*

**FEATURES**

- 634 **Symposium Summary: Human Health on the Moon and Beyond and the Results of the Spaceflight for Everybody Symposium**—*V. Schneider, B. Siegel, and J. R. Allen*
- 644 **Book Review**—*C. H. Dukes*
- 645 **Aerospace Medicine Clinic**—*N. Chough, M. Thompson, and B. Johansen*
- 647 **Erratum**
- 648 **Aerospace Medicine Clinic**—*C. J. Blasser and W. D. Smith*
- 651 **Focus on Aerospace Medicine History: The Legacy of the Apollo-Soyuz Test Project**—*A. Nicogossian and M. R. Campbell*
- 654 **This Month in Aerospace Medicine History: August**—*W. W. Dalitsch III*

**AEROSPACE MEDICAL ASSOCIATION NEWS**

- 655 **Abstracts Not Presented**
- 656 **Dervay Installed as AsMA President**
- 657 **Aerospace Medical Association Honors Night Awards**
- 661 **Abridged Minutes of the Annual Business Meeting**
- 662 **Annual Lectures**
- 663 **Scholarship Winners and Receptions**
- 664 **RAM Bowl**

**SEPTEMBER 2023****PRESIDENT'S PAGE**

- 665 **"Honoring the Past – Preparing for the Future"**  
*J. Dervay*

**RESEARCH ARTICLES**

- 666 **Decompression Sickness Risk in Parachutist Dispatchers Exposed Repeatedly to High Altitude**  
*D. M. Connolly, T. J. D'Oyly, S. D. R. Harridge, T. G. Smith, and V. M. Lee*
- 678 **Brain Microstructure and Brain Function Changes in Space Headache by Head-Down-Tilted Bed Rest**  
*M. Goto, Y. Shibata, S. Ishiyama, Y. Matsumaru, and E. Ishikawa*

**REVIEW ARTICLES**

- 686 **Exercise Effect on Mental Health in Isolating or Quarantining Adults**  
*V. Chu and D. G. Newman*
- 696 **Categorization of Select Cockpit Performance Evaluation Techniques**  
*E. M. Brighton and D. M. Klaus*
- 705 **Operational Considerations for Crew Fatality on the International Space Station**  
*P. C. Stepaniak, R. S. Blue, S. Gilmore, G. E. Beven, N. G. Chough, A. Tsung, K. A. McMonigal, E. L. Mazuchowski II, J. A. Bytheway, K. N. Lindgren, and M. R. Barratt*

**CASE REPORTS**

- 715 **Delayed Drowsiness After Normobaric Hypoxia Training in an F/A-18 Hornet Simulator**  
*N. Varis, A. Leinonen, J. Perälä, T. K. Leino, L. Husa, and R. Sovellius*
- 719 **Acute Myocardial Infarction in a Young Bodybuilder Fighter Pilot**  
*S. Jeevarathinam, S. A. Sabei, and Y. A. Wardi*

**HISTORICAL NOTE**

- 723 **An American Perspective on the Legacy of Anatoly I. Grigoriev in Space Medicine**  
*A. E. Nicogossian and C. R. Doarn*

**FEATURES**

- 728 **Aerospace Medicine Clinic**—*S. S. Ahmed and A. Sirek*
- 733 **Aerospace Medicine Clinic**—*M. Hoyt*
- 736 **This Month in Aerospace Medicine History: September**—*W. W. Dalitsch III*

## OCTOBER 2023

## PRESIDENT'S PAGE

- 737 **Congratulations, American Board of Preventive Medicine: 75th Anniversary!**  
*J. Dervay*

## RESEARCH ARTICLES

- 738 **Early Human Pathophysiological Responses to Exertional Hypobaric Decompression Stress**  
*D. M. Connolly, L. A. Madden, V. C. Edwards, T. J. D'Oyly, S. D. R. Harridge, T. G. Smith, and V. M. Lee*
- 8 750 **Daily Caffeine Intake and the Effect of Caffeine on Pilots' Performance After Extended Wakefulness**  
*Y. Q. Wingelaar-Jagt, T. T. Wingelaar, L. de Vrijer, W. J. Riedel, and J. G. Ramaekers*
- 761 **Neuro-Cardiovascular Responses to Sympathetic Stimulation in Fighter Pilots**  
*M. V. dos Santos Rangel, G. B. de Sá, P. Farinatti, and J. P. Borges*
- 770 **Additive Sensory Noise Effects on Operator Performance in a Lunar Landing Simulation**  
*S. O. Sherman, Y-Y. Shen, D. Gutierrez-Mendoza, M. Schlittenhart, C. Watson, T. K. Clark, and A. P. Anderson*
- 780 **+G<sub>z</sub> Standards for the Indian Air Force**  
*A. Kumar*

## SHORT COMMUNICATION

- 786 **X-Ray Imaging in the Simulated Microgravity Environment of Parabolic Flight**  
*D. Lerner, M. Pohlen, A. Wang, J. Walter, M. Cairnie, and S. Gifford*

## CASE REPORT

- 792 **Burnt by His Cellphone During a Parachute Jump**  
*V. des Robert, L. Saint-Jean, S-P. Corcostegui, E. Romary, and C. Derkenne*

## FEATURES

- 796 **Aerospace Medicine Clinic—M. D. Chuidian and K-A. Boucher**
- 800 **Aerospace Medicine Clinic—J. Harris**
- 803 **Statement of Ownership, Management, and Circulation**
- 804 **This Month in Aerospace Medicine History: October—W. W. Dalitsch III**

## NOVEMBER 2023

## PRESIDENT'S PAGE

- 805 **Our Great AsMA Staff—Highlight on the Home Office**  
*J. Dervay*

## RESEARCH ARTICLES

- 807 **Deficient Aeronautical Decision-Making Contributions to Fatal General Aviation Accidents**  
*D. D. Boyd and M. T. Scharf*
- 815 **Obesity and Its Relation to Excessive Daytime Sleepiness in Civilian Pilots**  
*R. S. Brahmanti, B. Sampurna, N. Ibrahim, N. P. Adi, M. Siagian, and R. A. Werdhani*
- 821 **Self-Reported Allergic Rhinitis Prevalence and Risk Factors in Employees of the China National Railway**  
*R-L. Yu, H-Y. Ning, T-F. Lan, H. He, C-B. Zheng, X-Y. Wang, H-T. Wang, and X-Y. Wang*
- 827 **Facial Fracture Injury Criteria from Night Vision Goggle Impact**  
*M. B. Davis, D. Y. Pang, I. P. Herring, and C. R. Bass*
- 835 **Heart Rate Variability Indices of Student Pilots Undergo Modifications During Flight Training**  
*G. Li Volsi, I. P. Monte, A. Aruta, A. Gulizzi, A. Libra, S. Mirulla, G. Panebianco, G. Patti, F. Quattrocchi, V. Bellantone, W. Castorina, S. Arcifa, and F. Papale*

## REVIEW ARTICLES

- 8 843 **Selective Serotonin Reuptake Inhibitors and Other Treatment Modalities for Deep Space Missions**  
*B. B. El-Khoury, K. L. Ray, S. I. Althuler, J. F. Reichard, and C. H. Dukas*

**SHORT COMMUNICATIONS**

- 852 Wire Strikes and In-Air Obstacle Collisions During Agricultural Aviation Operations**  
*H. M. Baumgartner*

**TECHNICAL NOTES**

- 857 A 3D-Printed Portable Sterilizer to Be Used During Surgical Procedures in Spaceflight**  
*E. Kovalski, L. Salazar, D. Levin, and T. H. Kamine*

**FEATURES**

- 861 Aerospace Medicine Clinic**—*C. S. James*  
**864 Aerospace Medicine Clinic**—*I. Yourison*  
**868 Focus on Aerospace Medicine History: The History of Surgical Care in Space Symposia**—*M. R. Campbell*  
**872 This Month in Aerospace Medicine History: November**—*W. W. Dalitsch III*

**DECEMBER 2023****PRESIDENT'S PAGE**

- 873 Aerospace Medicine and Human Performance – A Shining Star of AsMA**  
*J. Dervay*

**RESEARCH ARTICLES**

- 875 A Qualitative Investigation of Space Exploration Medical Evacuation Risks**  
*A. Almand, S. Y. Ko, A. Anderson, R. J. Keller, M. Zero, A. P. Anderson, J. M. Laws, K. Lehnhardt, and B. D. Easter*
- 887 Physiological and Morphometric Differences in Resident Moderate-Altitude vs. Sea-Level Mice**  
*A. E. O'Connor, D. M. Hatzenbiller, L. T. Flom, A-C. Bobadilla, D. R. Bruns, and E. E. Schmitt*
- 894 Initial investigation of a Grating Stimulus as a Visual Endpoint for Human Centrifuge Research**  
*J. Britton, D. M. Connolly, D. E. Hawarden, A. T. Stevenson, S. D. R. Harridge, N. D. C. Green, and R. D. Pollock*
- 902 Astronaut Candidate, Candidate-Like, and Undergraduate Subjects Compared on Retention and Transfer**  
*J. A. Kole, I. Barshi, A. F. Healy, and V. I. Schneider*
- 911 High G Tolerance and Cardiopulmonary Reserve Function in Healthy Air Force Aviators**  
*X. Lan, W. Zhu, J. Du, J. Wang, M. Yang, Y. Xu, and Y. Cao*
- 917 Coronary Artery Disease Management in Military Aircrew**  
*N. Guettler and S. Sammito*

**REVIEW ARTICLE**

- 923 Impact of Exercise-Induced Strains and Nutrition on Bone Mineral Density in Spaceflight and on the Ground**  
*J. Caruso, N. Patel, J. Wellwood, and L. Bollinger*

**SHORT COMMUNICATIONS**

- 934 Preliminary Evaluation of an Osteopathic Manipulative Treatment to Prevent Motion Sickness**  
*V. A. Thomas, A. M. Kelley, A. Lee, T. Fotopoulos, J. Boggs, and J. Campbell*
- 939 Retrospective Analysis of Medical Attrition for Pilot Applicants to the British Army Air Corps**  
*M. S. Adams, C. E. Goldie, and S. J. Gaydos*

**FEATURES**

- 944 Aerospace Medicine Clinic**—*D. R. Sparks et al.*  
**949 Aerospace Medicine Clinic**—*W. T. Timberlake*  
**951 Erratum**  
**952 This Month in Aerospace Medicine History: December**—*W. W. Dalitsch III*  
**953 Association News: Newman Is Incoming Editor-in-Chief**  
**954 Indexes to Volume 94, January–December 2023**