

## Contents–Volume 91 January through December 2020

### JANUARY 2020

#### **EDITORIAL**

- 1 New Year/New Challenges**  
*F. Bonato*

#### **PRESIDENT'S PAGE**

- 2 Challenge: Reach for the Stars**  
*H. J. Ortega, Jr.*

#### **RESEARCH ARTICLES**

- 4 Spatial Disorientation Survey Among Military Pilots**  
*H. J. M. Pennings, E. A. P. B. Oprins, H. Wittenberg, M. M. J. Houben, and E. L. Groen*
- 11 Evolution and Preservation of Venous Gas Emboli at Alternating High and Moderate Altitude Exposures**  
*R. Ånell, M. Grönkvist, M. Gennser, and O. Eiken*
- 18 Age, Sex, and Repeated Measures Effects on NASA's "Cognition" Test Battery in STEM Educated Adults**  
*G. Lee, T. M. Moore, M. Basner, J. Nasrini, D. R. Roalf, K. Ruparel, A. M. Port, D. F. Dinges, and R. C. Gur*
- 26 Head Movements and Neck Muscle Activity During Air Combat Maneuvering**  
*R. Sovelius, M. Mäntylä, H. Huhtala, J. Oksa, R. Valtonen, L. Tiitola, and T. Leino*

#### **SHORT COMMUNICATIONS**

- 32 Lack of Significant Audiometric Changes Under Hypobaric Hypoxia at 15,000 ft**  
*M. Lucertini, S. Lancia, F. Sanjust, A. G. Guadagno, L. Lucertini, and R. Sisto*
- 37 Migraine History and Recurrence in Military Pilot Applicants**  
*R. R. Hesselbrock and J. T. Haynes*
- 41 Dose Tracker Application for Collecting Medication Use Data from International Space Station Crew**  
*V. E. Wotring and L. K. Smith*

#### **CASE REPORTS**

- 46 Serious Altitude Illness at the South Pole**  
*J. S. Rose, J. Law, R. Scheuring, M. H. Ramage, and J. J. McKeith*
- 51 G-LOC Due to the Push-Pull Effect in a Fatal F-16 Mishap**  
*M. M. Metzler*

#### **HISTORICAL NOTE**

- 56 The Life of Don Shields: from Atmospheric Nuclear Tests to the Lunar Module**  
*D. B. Douglas and Y. Cagle*

#### **FEATURES**

- 59 You're the Flight Surgeon—M. J. Radigan**
- 62 This Month in Aerospace Medicine History: January—W. W. Dalitsch III**

### FEBRUARY 2020

#### **PRESIDENT'S PAGE**

- 63 Fellowship in Perspective**  
*H. J. Ortega, Jr.*

#### **RESEARCH ARTICLES**

- 65 The Magnitude of the Spatial Disorientation Problem in Transport Airplanes**  
*R. L. Newman and A. H. Rupert*
- 71 Motion Sickness Predictors in College Students and Their First Experience Sailing at Sea**  
*X. Zhang and Y. Sun*
- 79 Medical Cases Adjudicated by the Transportation Appeal Tribunal of Canada: 2000–2018**  
*C. Brooks and C. MacDonald*

- 86 Social Acceptance of Increased Usage of the Ballistic Parachute System in a General Aviation Aircraft**

*J. Kirby*

#### REVIEW ARTICLE

- 91 Optic Nerve Tortuosity on Earth and in Space**

*R. A. Scott, W. J. Tarver, T. J. Brunstetter, and E. Urquieta*

#### SHORT COMMUNICATIONS

- 98 Critical Care Transport Time Differences Between Ground, Helicopter VFR, and Helicopter IFR Transports**

*T. H. Kamine, L. Thomas, C. Davis, and J. Cohen*

- 102 Whole Body Fat Free Mass and  $\dot{V}o_{2\text{peak}}$  in Recreationally Active Men and Women**

*C. P. Lambert*

#### CASE REPORTS

- 106 High-Altitude Decompression Sickness Treated with Hyperbaric Therapy and Extracorporeal Oxygenation**

*J. Siewiera, P. Szalański, D. Tomaszewski, and J. Kot*

- 110 Mild Hypoxia of a Skydiver Making Repeated, Medium-Altitude Aircraft Exits**

*B. S. Bradke and B. R. Everman*

#### FEATURES

- 116 You're the Flight Surgeon—A. M. Flower**

- 119 This Month in Aerospace Medicine History: February—W. W. Dalitsch III**

### MARCH 2020

#### AsMA 91st Annual Scientific Meeting Program and Abstract Issue

**Hyatt Regency Atlanta, Atlanta, GA, USA**

**May 17–22, 2020**

- 121 President's Page**

- 123 Educational Objectives/Credit Hours**

- 124 Annual Lecturers**

- 125 Meeting Abstracts**

- 288 Index to Abstract Authors and Session Chairs**

- 293 Exhibitors and Map**

#### ASMA ASSOCIATION BUSINESS (BLACK BAR)

- 295 Past Presidents of AsMA**

- 296 Council of AsMA**

- 297 Annual Meeting Chairs & Committees**

- 298 Aerospace Medical Association Staff**

- 298 Wing Board of Directors**

- 299 Minutes of the 2019 Business Meeting**

- 301 Bylaws of the Aerospace Medical Association**

- 308 Maps of Meeting Spaces**

- 310 Corporate Members**

- CIII Program at a Glance**

### APRIL 2020

#### PRESIDENT'S PAGE

- 311 Aeromedical Transport—A Niche for Aerospace Medicine**

*H. J. Ortega, Jr.*

#### RESEARCH ARTICLES

- 313 Scopolamine Treatment and Adaptation to Airsickness**

*O. Doron, O. Samuel, D. Karfunkel-Doron, and D. Tal*

- 318 Interpretability of Aviation Weather Information Displays for General Aviation**

*B. L. Blickensderfer, T. A. Guinn, J. M. Lanicci, Y. Ortiz, J. M. King, R. L. Thomas, and N. DeFilippis*

- 326 Vestibulo-Ocular Responses, Visual Field Dependence, and Motion Sickness in Aerobatic Pilots**  
*O. Kuldavletova, S. Tanguy, P. Denise, and G. Quarck*
- 332 Quantification of Medical Risk on the International Space Station Using the Integrated Medical Model**  
*M. E. Walton and E. L. Kerstman*
- 343 Awareness Level of Airline Pilots on Flight-Associated Venous Thromboembolism**  
*B. Kilic and S. Soran*
- 348 Ground-Based Medical Services for In-Flight Emergencies**  
*J. H. Kim and S. Choi-Kwon*
- 352 Recurrent Stroke Risk in Pilots with Atrial Fibrillation**  
*J. Tedford, V. Skaggs, A. Norris, F. Sahiar, and C. Mathers*

#### **SHORT COMMUNICATIONS**

- 358 A Cross-Cultural Anthropometric Analysis in Military Aviation**  
*Y. Al Wardi, S. Jeevarathinam, and S. Al Sabei*
- 363 Aircrew Fatigue Perceptions, Fatigue Mitigation Strategies, and Circadian Typology**  
*M. B. Morris, J. P. Howland, K. M. Amaddio, and G. Gunzelmann*

#### **CASE REPORTS**

- 369 Novel Use of a Synthetic Training Device in the Rehabilitation of Chronic Neck Pain of Rotary Rear Crew**  
*S. Jobges and F. Leaming*
- 373 Headache Attack Similar to Paroxysmal Hemicrania Seen During Flight**  
*A. Koçer*

#### **FEATURES**

- 376 Science & Technology Watch: Stress, Cognition, Drones, and Adaptive Tasks—W. D. Fraser**
- 379 You're the Flight Surgeon—J. Warneke and J. Pavelites**
- 382 This Month in Aerospace Medicine History: March—W. W. Dalitsch III**
- 383 This Month in Aerospace Medicine History: April—W. W. Dalitsch III**

## **MAY 2020**

#### **PRESIDENT'S PAGE**

- 385 Beginnings and Endings on Interstate 10**  
*H. J. Ortega, Jr.*

#### **RESEARCH ARTICLES**

- 387 Accident Rates, Causes, and Occupant Injury Involving High-Performance General Aviation Aircraft**  
*D. D. Boyd and C. Howell*
- 394 Declines in Wavelength Discrimination and Shifts in Unique Hue with Hypoxia**  
*A. Bierman, T. LaPlumm, and M. S. Rea*
- 403 Presbycusis and Fitness to Fly**  
*S. Ballivet de Régloix, L. Genestier, O. Maurin, S. Marty, A. Crambert, and Y. Pons*
- 409 Hand-Held and Wrist-Worn Field-Based PVT Devices vs. the Standardized Laptop PVT**  
*P. Matsangas and N. L. Shattuck*
- 416 Aircraft Passenger Comfort Based on Muscle Activation and Perceived Discomfort During Long Flights**  
*H. Pei, S. Yu, M. Ding, and Z. Bai*
- 422 Isokinetic Force and Work Capacity After Long-Duration Space Station Mir and Short-Term International Space Station Missions**  
*Y. A. Koryak*
- 432 Potential Venous Thromboembolism Risk in Female Astronauts**  
*V. Jain, R. Ploutz-Snyder, M. Young, J. M. Charvat, and V. E. Wotring*
- 440 Fatigue-Related Aviation Mishaps**  
*A. R. Gaines, M. B. Morris, and G. Gunzelmann*

#### **SHORT COMMUNICATION**

- 448 Expanding Knowledge and Exposure to Aerospace Medicine by Creating a Medical Student Curriculum**  
*A. J. Kreykes, E. H. Petersen, and C. L. Lowry*

- COMMENTARY**
- 453 Systemic Corticosteroids for Upper Respiratory Tract Infections in the Flyer**  
*M. Tanael*
- LETTER TO THE EDITOR**
- 455 Letter to the Editor re: Evolution and Preservation of Venous Gas Emboli at Alternating High and Moderate Altitude Exposures**
- FEATURES**
- 456 Erratum**
- 457 Science & Technology Watch: Update on Bioprinting and Biofabrication in Support of Aerospace Missions and the Human Condition—*A. Sobel***
- 459 You're the Flight Surgeon—*J. A. Warneke and J. J. Pavelites***
- 462 Focus on Aerospace Medicine History: Need More Chimp Flights: Medical Drama and Presidential Decision-Making in Project Mercury—*R. T. Jennings and J. B. Charles***
- 465 This Month in Aerospace Medicine History: May—*W. W. Dalitsch III***
- AEROSPACE MEDICAL ASSOCIATION NEWS**
- 466 AsMA Annual Meeting Postponed**
- 466 AsMA Mourns Loss of Two Past Presidents**
- 467 AsMA Scholarships Announced**

**JUNE 2020**

- PRESIDENT'S PAGE**
- 469 What a Way to Start the Year**  
*C. DeJohn*
- RESEARCH ARTICLES**
- 471 Voice Reactivity as a Response to Acute Hypobaric Hypoxia at High Altitude**  
*M. Van Puyvelde, X. Neyt, W. Vanderlinden, M. Van den Bossche, T. Bucovaz, T. De Winne, and N. Pattyn*
- 479 Characterizing Individual Differences in a Dynamic Stabilization Task Using Machine Learning**  
*V. P. Vimal, H. Zheng, P. Hong, L. N. Fakharzadeh, J. R. Lackner, and P. DiZio*
- 489 Attention and Entropy in Simulated Flight with Varying Cognitive Loads**  
*T. Lu, Z. Lou, F. Shao, Y. Li, and X. You*
- 496 Helicopter Hoist Performance in Novice and Experienced Hoist Operators**  
*M. T. King, S. Lenser, D. Rogers, and H. Carnahan*
- 501 In-Flight UV-A Exposure of Commercial Airline Pilots**  
*K. A. Baczyńska, S. Brown, A. C. Chorley, J. B. O'Hagan, M. Khazova, A. Lyachev, and M. Wittlich*
- 511 Pilots' Visual Scanning Behaviors During an Instrument Landing System Approach**  
*Y. Lu, Y. Zheng, Z. Wang, and S. Fu*
- 518 Vigilance Aid Use and Aircraft Carrier Landing Performance in Pilots of Tactical Aircraft**  
*C. S. Schallhorn*
- TECHNICAL NOTE**
- 525 Dynamic Countermeasure Fabrics for Post-Spaceflight Orthostatic Intolerance**  
*R. M. Granberry, K. P. Eschen, A. J. Ross, J. M. Abel, and B. T. Holschuh*
- COMMENTARY**
- 532 Towards the Affective Cognition Approach to Human Performance in Space**  
*N. Mammarella*
- LETTER TO THE EDITOR**
- 535 Letter to the Editor re: Genetic Testing of Pilot Applicants**
- FEATURES**
- 537 Science & Technology Watch: The Role of Artificial Intelligence (AI) in Space Healthcare —*J. Cinelli***
- 540 This Month in Aerospace Medicine History: June—*W. W. Dalitsch III***

JULY 2020

**PRESIDENT'S PAGE**

- 541 Focus on the FAA Civil Aerospace Medical Institute**  
*C. DeJohn*

**REVIEW ARTICLE**

- 543 Gynecologic Risk Mitigation Considerations for Long-Duration Spaceflight**  
*J. G. Steller, R. S. Blue, R. Burns, T. M. Bayuse, E. L. Antonsen, V. Jain, M. M. Blackwell, and R. T. Jennings*

**RESEARCH ARTICLES**

- 565 Body Composition Differences in Military Pilots and Aircrew**  
*Á. Bustamante-Sánchez and V. J. Clemente-Suárez*
- 571 Decompression Sickness Treatment Using a Pressure Suit After Loss of Spacecraft Atmosphere**  
*M. R. Greene and S. E. Jacobs*
- 578 Skin Cooling on Breath-Hold Duration and Predicted Emergency Air Supply Duration During Immersion**  
*V. C. Madu, H. Carnahan, R. Brown, K-A. Ennis, K. S. Tymko, D. M. G. Hurrie, G. K. McDonald, S. M. Cornish, and G. G. Giesbrecht*
- 586 Drug Use Reported by U.S. Pilots, 2009–2014**  
*C. A. DeJohn, R. Greenhaw, R. Lewis, and K. Cliburn*

**SHORT COMMUNICATION**

- 592 Feasibility and Clinical Implications of Remotely Guided Ultrasound Examinations**  
*Q. Dufurrena, K. I. Ullah, E. Taub, C. Leszczuk, and S. Ahmad*

**CASE REPORTS**

- 597 Total Ankle Replacement in a Military Jet Pilot**  
*P. Verde, S. Guardigli, F. Morgagni, S. Roberts, D. Monopoli, and A. Scala*
- 604 Postflight Rash and Skin Sensitivity Following a Year-Long Spaceflight Mission**  
*J. Law, S. Gilmore, and S. Kelly*

**COMMENTARY**

- 608 Comments on the Readership Survey Concerning Bi-Monthly Publication**  
*P.C. Day*

**FEATURES**

- 611 Science & Technology Watch: Aerospace Medicine sans Frontières: Improving Passenger and Personnel Safety**—*T. M. Mathew*
- 615 This Month in Aerospace Medicine History: July**—*W. W. Dalitsch III*

**ASSOCIATION NEWS**

- 616 Constituent Presidents and New Associate Fellows**

AUGUST 2020

**PRESIDENT'S PAGE**

- 619 The U.S. Army Aeromedical Research Laboratory**  
*C. DeJohn*

**RESEARCH ARTICLES**

- 621 Vestibular and Cardiovascular Responses After Long-Duration Spaceflight**  
*N. Deshpande, S. S. Laurie, S. M. C. Lee, C. A. Miller, A. P. Mulavara, B. T. Peters, M. F. Reschke, M. B. Stenger, L. C. Taylor, S. J. Wood, G. R. Clément, and J. J. Bloomberg*
- 628 A Large-Scale European Union Study of Aircrew Fatigue During Long Night and Disruptive Duties**  
*M. Sallinen, H. van Dijk, D. Aeschbach, A. Maij, and T. Åkerstedt*
- 636 The Effect of Using the Lower Limit of Normal 2.5 in Pulmonary Aeromedical Assessments**  
*Y. Q. Wingelaar-Jagt, T. T. Wingelaar, M. Bülbül, P. P. vd Bergh, E. Frijters, and E. Staudt*
- 641 Caffeine, Energy Beverage Consumption, Fitness, and Sleep in U.S. Army Aviation Personnel**  
*A. S. Bukhari, J. A. Caldwell, A. J. DiChiara, E. P. Merrill, A. O Wright, R. E. Cole, A. Hatch-McChesney, S. M. McGraw, and H. R. Lieberman*

**REVIEW ARTICLES**

- 651 Aviation and the Microbiome**  
*J. T. Davis and H. A. Uyhelji*
- 662 Acute Pulmonary Edema in Healthy Subjects**  
*C. Marabotti, D. Cialoni, and A. Pingitore*

**SHORT COMMUNICATION**

- 669 Musculoskeletal Injuries and Automation in Aerial Port Operations**  
*V. F. H. Bylsma, B. J. Webber, R. A. Erich, J. D. Voss*

**CASE REPORTS**

- 674 Lead Intraocular Foreign Body Injury Following Ejection**  
*M. A. Khan, D. Gaur, P. C. Murthy, and A. Pandey*
- 679 Reversible Peripheral Facial Nerve Palsy During Airplane Travel**  
*K. Mikuš, K. I. Tudor, G. Pavliša, and D. Petravić*

**FEATURES**

- 682 Science & Technology Watch: Transcranial Magnetic Stimulation: Foundational Techniques for Aeromedical Research**—*K. A. Fercho, S. S. Critzer, T. J. Bosch, and L. A. Baugh*
- 684 Erratum**
- 685 This Month in Aerospace Medicine History: August**—*W. W. Dalitsch III*

**ASSOCIATION NEWS**

- 686 Scholarship Winners**

**SEPTEMBER 2020****PRESIDENT'S PAGE**

- 687 Focus on: The Sleep/Wake Research Centre, Massey University, New Zealand**  
*C. DeJohn*

**RESEARCH ARTICLES**

- 689 Urinary Calcium for Tracking Bone Loss and Kidney Stone Risk in Space**  
*J. Ren, A. S. Stankovic, D. A. Knaus, S. D. Phillips, D. B. Kynor, and J. C. Buckey*
- 697 Thigh Cuff Effects on Venous Flow Redistribution During 4 Days in Dry Immersion**  
*P. Arbeille, D. Greaves, L. Guillou, and S. Besnard*
- 703 Postural Instability and Seasickness in a Motion-Based Shooting Simulation**  
*K. A. Pettijohn, D. V. Pistone, A. L. Warner, G. J. Roush, and A. T. Biggs*
- 710 Cholinesterase Inhibition and Exposure to Organophosphate Esters in Aircraft Maintenance Workers**  
*J. E. Hardos, M. Rubenstein, S. Pfahler, and T. Sleight*
- 715 Aircraft Cabin Pressurization and Concern for Non-Arteritic Anterior Ischemic Optic Neuropathy**  
*S. Nazarali, H. Liu, M. Syed, T. Wood, S. Asanad, A. A. Sadun, and R. Karanjia*
- 720 Survival Training Effects on Oxidative Stress and Muscle Damage Biomarkers of Naval Cadets**  
*A. Tomczak, E. Jówko, and P. Różański*
- 725 Retrospective Assessment of U.S. Army Aviator Anthropometric Screening Process**  
*A. N. Moczynski, C. A. Weisenbach, and J. S. McGhee*
- 732 Selective Recertification of Pilots Who Have Undergone a Cardiac Transplant**  
*A. Norris, V. Skaggs, D. Kaye, J. DeVoll, and D. McGiffen*

**REVIEW ARTICLE**

- 737 Promoting Tech Transfer Between Space and Global Mental Health**  
*D. D. Chang, E. A. Storch, L. Black, M. Berk, N. Pellis, H. Lavretsky, J. Sutton, K. Ternes, M. Shepanek, E. Smith, R. Abbott, and H. A. Eyre*

**CASE REPORT**

- 746 Vitamin B12 Deficiency Related Syncope in a Young Military Pilot**  
*R. R. Hesselbrock, E. V. Palileo, and E. D. Davenport*

**FEATURES**

- 749 Science & Technology Watch: Custom Earplugs—Faster Delivery to the Warfighter**—*K. Semrud and T. Winningham*  
**751 This Month in Aerospace Medicine History: September**—*W. W. Dalitsch III*

**ASSOCIATION NEWS**

- 752 2020 Award Winners of the Aerospace Medical Association**

**OCTOBER 2020**

**PRESIDENT'S PAGE**

- 765 Aeromedical Research and COVID-19**  
*C. DeJohn*

**RESEARCH ARTICLES**

- 767 Spatial Disorientation Impact on the Precise Approach in Simulated Flight**  
*J. Boril, V. Smrz, E. Blasch, and M. Lone*
- 776 Endurance and Resistance Respiratory Muscle Training and Aerobic Exercise Performance in Hypobaric Hypoxia**  
*C. E. Wheelock, H. W. Hess, B. D. Johnson, Z. J. Schlader, B. M. Clemency, E. St. James, and D. Hostler*
- 785 Psychophysiological Responses of Pilots in Hypoxia Training at 7000 and 7500 m**  
*D. Wen, L. Tu, G. Wang, Z. Gu, W. Shi, and X. Liu*
- 790 Self-Kinematic Training for Flight-Associated Neck Pain: a Randomized Controlled Trial**  
*H. Sarig Bahat, D. German, G. Palomo, H. Gold, and Y. Frankel Nir*
- 798 The Neural Underpinnings of Emotional Conflict Control in Pilots**  
*H. Jiang, K. Xu, X. Chen, Q. Wang, Y. Yang, C. Fu, X. Guo, X. Chen, and J. Yang*
- 806 Diving Accident Evacuations by Helicopter and Immersion Pulmonary Edema**  
*L. Corgie, N. Huiban, J-M. Pontier, F-X. Brocq, J-F. Boulard, and M. Monteil*

**REVIEW ARTICLE**

- 812 Coronary Artery Disease Screening Using CT Coronary Angiography**  
*R. W. L. Cheong, B. See, B. B. C. Tan, and C. H. Koh*

**SHORT COMMUNICATION**

- 818 Physical Performance Among Air Force ROTC Cadets Following Non-Mandatory Training**  
*C. S. Mackey, Q. Johnson, J. J. Dawes, and J. M. DeFreitas*

**CASE REPORTS**

- 824 Migraine Prophylaxis Using Novel Monoclonal Antibody Injections in a Commercial Pilot**  
*M. A. Garber, J. I. Sirven, R. S. Roth, and J. M. Hemphill*
- 826 A Proposed Aeromedical Disposition Flowchart for Systemic Lupus Erythematosus**  
*B. Z. Q. Seah and C. G. Chua*

**FEATURES**

- 833 Science & Technology Watch: Functional Near-Infrared Spectroscopy (fNIRS) in an Aerospace Environment: Challenges and Considerations**—*J. Geeseman, S. Balters, O. F. Cotton, Z. Kiehl, L. Lucia, and C. Tension*
- 835 Statement of Ownership, Management, and Circulation**
- 836 This Month in Aerospace Medicine History: October**—*W. W. Dalitsch III*

**AEROSPACE MEDICAL ASSOCIATION NEWS**

- 766 Fellows Class of 2020**

**NOVEMBER 2020**

**PRESIDENT'S PAGE**

- 837 AsMA's Mid-Term Report**  
*C. DeJohn*

**RESEARCH ARTICLES**

- 839 A Novel Method to Measure Transient Impairments in Cognitive Function During Acute Bouts of Hypoxia**  
*K. Uchida, S. E. Baker, C. C. Wiggins, J. W. Senefeld, J. R. A. Shepherd, M. R. Trencerry, Z. A. Buchholtz, H. R. Clifton, D. R. Holmes, M. J. Joyner, and T. B. Curry*
- 845 Cognitive Impairment During Combined Normobaric vs. Hypobaric and Normoxic vs. Hypoxic Acute Exposure**  
*M. R. Aebi, N. Bourdillon, P. Noser, G. P. Millet, and D. Bron*
- 852 Routine Vestibular Tests May Point Out Vestibular Subtype of Seasickness Only**  
*B. Satar, F. C. Akin Ocal, C. Karacayli, and V. K. Coban*
- 861 Cognition Test Battery Performance Is Associated with Simulated 6df Spacecraft Docking Performance**  
*M. Basner, T. M. Moore, E. Hermosillo, J. Nasrini, D. F. Dinges, R. C. Gur, and B. Johannes*
- 868 Wearable 3-Lead Electrocardiogram Placement Model for Fleet Sizing of Medical Devices**  
*K. Arquilla, S. Leary, A. K. Webb, and A. P. Anderson*
- 876 Autonomous Psychological Support for Isolation and Confinement**  
*K. D. Lyons, R. M. Slaughenhaupt, S. H. Mupparaju, J. S. Lim, A. A. Anderson, A. S. Stankovic, D. R. Cowan, A. M. Fellows, K. A. Binsted, and J. C. Buckey*
- 886 The Impact of hs-CRP on Cardiovascular Risk Stratification in Pilots and Air Traffic Controllers**  
*N. B. Buila, M. L. Ntambwe, D. M. Mupepe, Y. N. Lubenga, J.-M. B. Bantu, T. S. Mvunzi, G. K. Kabanda, F. B. Lepira, P. K. Kayembe, S. M. Ditu, and J.-R. M'Buyamba-Kabangu*

**SHORT COMMUNICATIONS**

- 892 Time Course of Simulator Sickness in Asian Military Pilots**  
*J. E. Q. Loi, M. L. L. Lee, B. B. C. Tan, and B. See*
- 897 Selective Serotonin Reuptake Inhibitor Use Among Army Aviators**  
*A. M. Kelley, K. Bernhardt, M. McPherson, J. L. Persson, and S. J. Gaydos*

**CASE REPORTS**

- 901 Rhabdomyolysis in a Civil Aviation Pilot**  
*X. Liu, X. Meng, C. Zhang, J. Chen, P. Li, X. Wu, and H. Fan*
- 904 Spontaneous Vitreous Hemorrhage in a Naval Aviator**  
*S. A. Wallace*

**FEATURES**

- 908 This Month in Aerospace Medicine History: November—W. W. Dalitsch III**

**DECEMBER 2020****PRESIDENT'S PAGE**

- 909 Pre-Departure Screening for Coronavirus...Part of the Solution for Airlines?**  
*C. DeJohn*

**RESEARCH ARTICLES**

- 911 Fatigue Management Health Education Intervention Effects on Flight Attendants**  
*C.-J. Hu, F.-P. Lee, and R.-M. Hong*
- 918 Chest Compression Duration May Be Improved When Rescuers Breathe Supplemental Oxygen**  
*A. Clebone, K. Reis, A. Tung, M. O'Connor, and K. J. Ruskin*
- 923 The Partial Pressure of Inspired Carbon Dioxide Exposure Levels in the Extravehicular Mobility Unit**  
*K. J. Kim, O. S. Bekdash, J. R. Norcross, J. Conkin, A. Garbino, J. Fricker, M. Young, and A. F. J. Abercromby*
- 932 A Multidimensional Method for Pilot Workload Assessment and Diagnosis**  
*Z. Wang, Y. Lu, and S. Fu*
- 940 Low Back Pain in Commercial Airline Pilots**  
*M. Albermann, M. Lehmann, C. Eiche, J. Schmidt, and J. Protznergeier*
- 948 Verbal Reports' Influence on Pilot Flight Performance and Mental Stress Under Spatial Disorientation**  
*Y. Kang, M. H. Yun, and S. Kim*

**SHORT COMMUNICATIONS**

- 956 Propellant Off-Gassing and Implications for Triage and Rescue**  
*H. Schwertz, L. A. Roth, and D. Woodard*

**962 Evaluation of the Helicopter Emergency Breathing Apparatus on Egress Performance**

*M. King, E. Sanli, K. Mugford, S. Martina, R. Brown, and H. Carnahan*

**CASE REPORTS**

**966 Cognitive Changes in a Commercial Pilot Secondary to an Olfactory Meningioma**

*M. Hong and A. J. Kreykes*

**970 Multiple E-2D Hawkeye Aircrew with Neurocognitive Symptoms During a Single Over-Pressurization Episode**

*S. Y. Ko and G. M. Rice*

**COMMENTARY**

**975 Potential Involvement of the “Ocular Glymphatic System” in Optic Disk Edema in Astronauts**

*P. Wostyn, F. De Winne, C. Stern, T. H. Mader, C. R. Gibson, and P. P. De Deyn*

**FEATURES**

**978 Science & Technology Watch: DrugTalk: Kratom, the “Old” New Kid—K. S. Williamson and P. M. Kemp**

**980 This Month in Aerospace Medicine History: December—W. W. Dalitsch III**

**981 Indexes to Volume 91, January–December 2020**